

U.S. DEPARTMENT OF THE INTERIOR

U.S. GEOLOGICAL SURVEY

# USGS PERMO-CARBONIFEROUS FOSSIL LOCALITY REGISTER

## PART 2: KANSAS *PC-FILES*

by

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Open-File Report 93-549

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# USGS PERMO-CARBONIFEROUS FOSSIL LOCALITY REGISTER

## PART 2: KANSAS *PC-FILES*

### INTRODUCTION

This Open-File Report is the second in a series of reports in which locality and age data are presented for upper Paleozoic invertebrate fossil collections of the U.S. Geological Survey (USGS). These locality and age data are derived from the Permo-Carboniferous<sup>1</sup> Fossil Locality Register (PC-Register) and have been entered in a computerized database referred to as *PC-FILES*<sup>2</sup>. dBASE IV™ has been used to enter and access records.

In the present report, locality and age data are presented for collections from the State of Kansas. These data are provided in text form in Appendix 1 and distributed as a dBASE file, *KSPCFILE.dbf*, on the accompanying diskette. This report also contains a brief introduction to the *PC-FILES* database and its specific application to the Kansas database.

*PC-FILES* is a part of the National Paleontological Data Base (NPDB), a thematic geologic database mandated by the National Geologic Mapping Act of 1992 (P.L. 102-285). When completed, *PC-FILES* will comprise more than 45,000 discrete invertebrate fossil locality records from upper Paleozoic sections (Mississippian through Permian) from all states from which USGS collections have been made.

#### Introduction to the *PC-FILES* Series

Part 1 of this Open-File Report series (Henry, Williams, and Holroyd, 1993) is the introduction to the PC-Fossil Locality and the computerized databases, *PC-FILES*. That report describes the purpose of the database and the protocols (standards) used for *PC-FILES*. The Part 1 report contains listings of the other USGS paleontologic databases used by the Branch of Paleontology and Stratigraphy of the USGS, the sites of repository for the various collections, and a detailed discussion of the USGS Permo-Carboniferous Fossil Locality Register. That report includes sections on the procedure for assignment of the PC-Numbers, record keeping, limitations of the files, protocols for data entry (including abbreviations used in the records), systems requirements, procedures used in updating the records, and structure of the computerized PC-Fossil Locality Register (*PC-FILES*). Information critical for the use of *KSPCFILE.dbf* is repeated in the current text. However, the user should obtain USGS Open-File Report 93-513 for more detailed discussions and for examples of using dBASE in manipulation of the information in *PC-FILES*.

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<sup>1</sup> The term "Permo-Carboniferous" has been applied to this database since its beginning in the 1880's. It is a term informally used in reference to the upper Paleozoic geologic systems (i.e., the Mississippian, Pennsylvanian, and Permian) and particularly to the invertebrate fossil locality register (PC-Register) for the upper Paleozoic.

<sup>2</sup> The original cards that make up the PC-Register are 4- by 5-inch and 5- by 7-inch library cards on which pertinent information for a given fossil collection has been typed or entered by hand. The entire set of card files for the upper Paleozoic fossil collections is referred to as the PC-Register.

## Components of Subsequent *PC-FILES* Reports

The current report for the State of Kansas and all subsequent reports in this series present the fossil locality data by State or region in dBASE. The database files included on the diskettes are keyed to the appropriate State by their U.S. Postal Service abbreviation. For example, the database accompanying the current report for Kansas is *KSPCFILE.dbf*. All of the State database files are provided as read-only files in order to protect the integrity of the distributed data.

The diskettes accompanying this and subsequent reports in this series also will contain an ASCII file, *ABBREV.doc*, that lists all abbreviations used in *PC-FILES*. These abbreviations are for directions, location, measurements, miscellaneous surveying, highways and roads, natural geographic features, lithologic and stratigraphic terminology, rock color, textural and bedding features, organizations, and fossil types. These tables can be converted from ASCII text into any one of several word processing systems or printed out directly from the ASCII file (*ABBREV.doc*) itself.

## SYSTEMS REQUIREMENTS

### Hardware and Software

Because the data in *PC-FILES* are provided as dBASE™ records, the hardware requirements are the same as for dBASE IV™--i.e., an IBM-PC, -XT, -AT, or compatible computer. A hard-disk drive with a minimum of 3.5 MB free is required to use dBASE IV. A minimum of 640 K RAM with at least 450 K available to run files is needed. Also, a floppy disk drive capable of accessing high-density (1.2 MB) 5¼-inch or 3½-inch diskettes is necessary to access the files distributed on diskette.

The minimum software requirements are: (1) any DOS version 2.2 or higher; and (2) dBASE IV, version 1.1 or higher. The *PC-FILES* can also be accessed through dBASE III Plus, but we recommend using dBASE IV. Additionally, a word-processing system capable of handling ASCII files is strongly recommended.

### *PC-FILES* Diskettes

Either 5½-inch high-density diskettes or 3½-inch disks are used to distribute State *PC-FILES*. The data are not compressed. Some databases will exceed standard diskette capacity and will be released on more than one diskette. *KSPCFILE.dbf* is released on a single diskette.

## LIMITATIONS OF *PC-FILES*

Few databases are error-free. The following precautions must be kept in mind when using the Kansas State *PC-FILES* database (*KSPCFILE.dbf*). The following quotation is from Henry, Holroyd, and Williams (1993, p. 4-5).

The PC-Register has been kept by approximately four generations of geologists and technicians. The oldest records date to the early 1880's, a few years after the Survey was founded. For nearly 40 years, ending in 1987, Harold T. Saunders, employed by the USGS at the National Museum of Natural History, faithfully kept up the locality data for the PC-Register. It is the largest database for upper Paleozoic fossil invertebrates in the world. However, the PC-Register cannot be regarded as a static entity, because the information contained in it is subject to error and reinterpretation. Areas in which such error and/or reinterpretation affect the data found in the register are discussed below.

Although carefully maintained and appended, the PC-Register is not error-free. Some mistakes certainly occur within the computerized files. These are understandably ascribable to any one or a combination of the following sources: (1) mistakes may have been made in the field by the original geologist or collector; (2) errors may have been introduced in transcription or interpretation of the information from the field label and/or collector's notebook into the locality register itself; (3) subsequent "corrections" or attempts to update information in the PC-Register by any of dozens of research geologists or technicians may have introduced errors, although an attempt has been made to clearly distinguish between "original" information and updated information; (4) transcription errors may have been introduced when the card information was entered into the computerized database. On many of the older PC-Register cards, information has been recorded in an elegant, classically Victorian handwriting. However, the information on some cards is virtually indecipherable due to the poor quality of the handwriting or poor preservation of this handwriting. Poor preservation is particularly a problem for some records in the GR-subregister files in which the ink has been smudged or faded with time and on many of the older BL-subregister cards on which data were entered with a hard lead pencil. For example, George H. Girty had impeccable penmanship. However, his penciled entries, particularly in his field notebooks, were made with a sharp 4-H lead pencil in tiny script and are at best difficult to read.

Stratigraphic information and age interpretation in particular are based on the current understanding of stratigraphic relationships and subject to change. This is particularly true for determinations made from preliminary or reconnaissance field work. Further, simply because something is set in a data field in a computer (or on a file card) does not mean that another geologist would necessarily agree to its veracity or that the original collector might not change his mind and reinterpret an item of stratigraphic information. As an example, one of the PC-records in Arkansas reads "Pitkin Limestone, Mississippian". The collector thought that it was this formation and age, and the data were entered on the PC-card accordingly. Subsequent examination of the faunule by a paleontologist came up with an Early Pennsylvanian age, and a publication was released with the correct revised age, but the original PC-record was never modified to reflect this. Not only was the age wrong on the card, so was the formation.

Thus, the user should be aware of the limitations of the PC-Register and *PC-FILES*. However, limitations inherent in the database do not mean that the file is useless -- quite the contrary. To repeat, the PC-Register is the largest upper Paleozoic invertebrate fossil file in the world. Like any other geologic or scientific database, the PC-Register or *PC-FILES* should be used with reason and care.

A database, irrespective of how carefully and conscientiously constructed, may contain errors. The larger the database, the greater the likelihood that errors will occur. Do not blindly believe all information provided in a database. Critically examine its components.

## STRUCTURE OF dBASE FOR *PC-FILES* AND *KSPCFILE.dbf*

The software for this database is dBASE IV™. Table 1 shows the dBASE structure for *KSPCFILE.dbf* and for most of the State files that subsequently will be released. The 25 fields comprise six subsets of information: (1) PC catalogue number fields, (2) geographic fields, (3) stratigraphic and age fields, (4) collector and related information fields, (5) type of fossil field, and (6) miscellaneous fields (comments). Note that all entries are made in upper case letters. The fields and the type of data that they contain are discussed at length in Part 1 of this series (Henry, Williams, and Holroyd, 1993); however, a brief explanation is provided below, with details specific to *KSPCFILE.dbf*. The database file, *KSPCFILE.dbf*, contains nearly 1,300 discrete records, occupying slightly more

than 1 MB. The earliest collections in Kansas were made in about 1890, the latest in the spring of 1993. It is our intent to periodically update and re-release *KSPCFILE.dbf*.

TABLE 1. -- dBASE IV structure of fields for USGS Permo-Carboniferous fossil locality register (*PC-FILES*).  
See text for explanation of field entries.

Field Contents	Field Name	Type	Width	Dec.
PC Catalogue Number				
PREFIX	PX	Character	2	0
NUMBER	NUMBER	Numeric	7	
SUFFIX	SX	Character	5	
Geographic Fields				
STATE	ST	Character	2	4
COUNTY	COUNTY	Character	15	
QUADRANGLE	QUADRANGLE	Character	20	
QUAD. SERIES	QDSER	Character	6	
ORIGINAL MAP	ORIGMAP	Character	20	
LATITUDE	LATITUDE	Numeric	7	
LONGITUDE	LONGITUDE	Numeric	8	
QUARTER	QUARTER	Character	20	
SECTION	SEC	Numeric	2	
TOWNSHIP	TNSP	Character	4	
RANGE	RNGE	Character	4	
Stratigraphic and Age Fields				
SYSTEM	SYS	Character	5	
SERIES	SERIES	Character	10	
GROUP	GROUP	Character	20	
FORMATION	FORMATION	Character	20	
MEMBER	MEMBER	Character	20	
Collector and Related Information Fields				
PROJECT CHIEF	PROJCHIEF	Character	12	
COLLECTOR	COLL	Character	18	
DATE COLLECTED	DATECOLL	Character	10	
Type of Fossils Field				
FOSSILS	FOSSIL	Character	50	
Miscellaneous Fields				
COMMENTS	COMMENTS	Character	254	
COMMENTS2	COMMENTS2	Character	254	

## PC-Catalogue Number Fields

The main PC-Register is subdivided into two subregisters, the "Blue" and "Green" subregisters. The complete PC-catalogue number consists of three dBASE fields: the *PREFIX*, consisting of two letters, either "GR" (for the "Green" subregister) or "BL" (for the "Blue subregister); the *NUMBER*; and the *SUFFIX* (either an "A", "B", etc., or "A1", "A2", "B1", etc.) for the set. Thus, collection GR1886 is different than BL1886, and collection BL1234 is different than BL1234A.<sup>3</sup> *KSPCFILE.dbf* contains 30 "Green" records and 1,261 "Blue" records.

## Geographic Fields

The first of the geographic fields is *STATE*. All entries for this field in *KSPCFILE.dbf* are, of course, "KS" for Kansas. When additional State databases are released, these files can be merged in their entirety or in part; hence, the field *STATE* is retained.

The next geographic field is the *COUNTY* field. Most of the eastern third of Kansas has outcropping Pennsylvanian or Permian rocks; only the extreme southeastern corner contains outcropping Mississippian strata (Jewett, 1964). Figure 1 shows the 33 counties in which "Permo-Carboniferous" collections of invertebrate fossils have been made by the USGS. Table 2 lists these counties; the number in parentheses indicates the number of records for that county.

TABLE 2.--Alphabetical listing of counties in Kansas in which USGS invertebrate fossil collections have been made. Number of collections in each county shown in parentheses; tally includes queried ("?") counts as well as unqueried ones.

---

ANDERSON (9)	DOUGLAS (15)	MONTGOMERY (4)
BROWN (20)	ELK (37)	MORRIS (39)
BUTLER (15)	GEARY (20)	NEMAHA (18)
CHASE (92)	GREENWOOD (63)	OSAGE (46)
CHAUTAUQUA (16)	JACKSON (20)	POTTAWATOMIE (70)
CHEROKEE (59)	JEFFERSON (5)	RILEY (71)
COFFEY (129)	JOHNSON (3)	SHAWNEE (35)
COWLEY (82)	LABETTE (66)	WABAUNSEE (81)
CRAWFORD (62)	LINN (1)	WILSON (6)
DICKINSON (8)	LYON (49)	WOODSON (35)
DONIPHAN (13)	MARION (36)	WYANDOTTE (1)

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The *QUADRANGLE* field gives the name of the map on which the collection is located, and the field *QDSER* (Quadrangle Series) shows the scale or series of the map. For *KSPCFILE.dbf*, collections are located on the 7½-minute quadrangles listed in Table 3. No abbreviations are used for the quadrangle names.

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<sup>3</sup> Although not included in the database structure of *PC-FILES*, to complete the number, a *terminal suffix* "-PC" (signifying Permo-Carboniferous) is understood to succeed the number (e.g., GR2331-PC, GR2331A-PC, BL26789-PC, BL26789A-PC) and is shown by the listings of Appendix 1. This terminal suffix differentiates these numbers from entries in the Silurian-Devonian ("-SD") or Cambro-Ordovician ("-CO") registers.

Figure 1. Kansas map and map showing counties in eastern Kansas. Counties shaded in gray are those in which the upper Paleozoic fossil localities recorded in PC-FILES occur. The number appearing in the lower right hand corner of each county represents the number of collections known to have been made in that county.

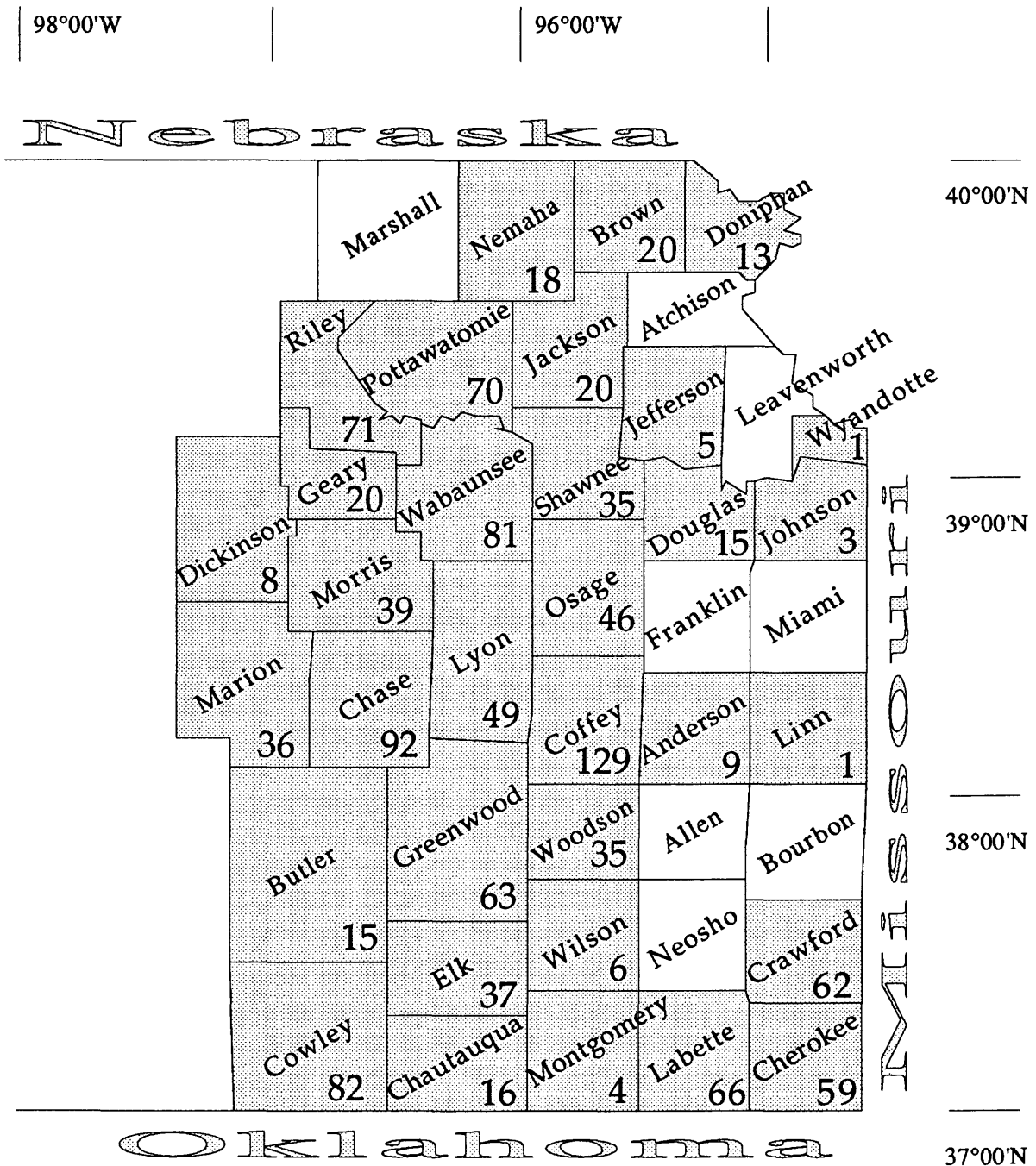
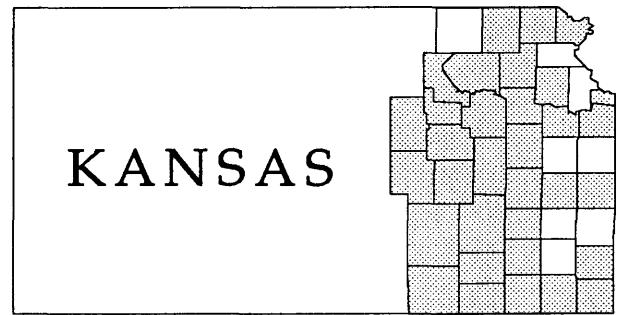




Table 3. -- Alphabetical list of 7 1/2-minute quadrangles from which USGS collections of invertebrate fossils have been made.

ABILENE	GEARY	PARSONS
ADMIRE	GIRARD	PARSONS E
AKRON	GRAND SUMMIT	PEORIA
ALICEVILLE	GRAND SUMMIT?	PERRY
ALLEN	GRANTVILLE	PIEDMONT NE
ALLEN SE	GRENOLA	PIEDMONT NW
ALMA	GRIDLEY SE	PIEDMONT SW
ALTA VISTA	GRINDSTONE CK	PIQUA
AMERICUS	GROVE	PITTSBURG
ARKANSAS CITY	HALLOWELL	PLYMOUTH
ARMA	HAMILTON	QUINCY
AUBURN	HARRIS	RADLEY
BAILEYVILLE	HARVEYVILLE	RANDOLF
BALA	HAVENSVILLE	REECE
BARTLETT	HIAWATHA	RESERVE
BAXTER SPGS	HOLLOWELL	RICHLAND
BAXTER SPGS?	HOMESTEAD?	RILEY
BELVUE	HOWARD NW	ROSALIA
BERN	HYMER	ROSSVILLE
BOLTON	HYMER?	SAFFORDVILLE
BURDICK	JOHN REDMOND DM	SEDAN
BURLINGTON	JOPLIN SPECIAL	SEVERY
BURNS	JUNCTION CITY	SHAW CREEK
CAMBRIDGE	JUNCTION CITY?	SILVER LAKE
CAMBRIDGE NE	KEENE	SILVERDALE
CASSODAY	KIRKWOOD	SKIDDY
CATO	LABETTE	SOLDIER CK NW
CEDAR POINT	LACLEDE	SOLDIER CK SW
CEDAR VALE WEST	LAKE KAHOLA	ST BENEDICT
CHAPMAN	LAKE WABAUNSEE	ST GEORGE
CHEROKEE	LANG	ST MARYS
CHETOPA	LASITA	STRONG CITY
COLUMBUS	LATHAM SE	SYCAMORE
COLUMBUS	LEBO	TETERVILLE
COSSODAY	LEBO NW	THRALL
COTTONWOOD FALL	LINCOLNVILLE SW	TOPEKA
COUNCIL GROVE	LOUISVILLE	TORONTO NE
COUNCIL GRVE LK	MADISON	TUTTLE CK DAM
CRESTLINE	MADISON SW	UDALL
DE GRAFF	MANHATTAN	VIRGIL
DEXTER	MAPLE HILL	VOLLAND?
DEXTER NE	MARION	W MINERAL
DEXTER SW	MATFIELD GREEN	WAKARUSA
DIAMOND SPRINGS	MATFIELD GRN SE	WAMEGO
DOUGLAS	MCCUNE	WAMEGO SW
DOVER	MCFARLAND	WAVERLY
DWIGHT	MELROSE	WAVERLY NW
EL DORADO SW	MERIDEN	WAVERLY SE
ELGIN NE	MILFORD	WESTMORELAND NE
ELK FALLS?	MILLER	WESTPHALIA
ELMDALE	MORRILL	WHEATON
ELMO	MOUND CITY	WILLARD
ELMONT	MULBERRY	WILSEY
EMMETT	NEUTRAL	WILSEY SE
EMPORIA	NEW STRAWN	WINFIELD
ESKRIDGE	OGDEN	WONSEVU
EUREKA	OLPE	WREFORD
EUREKA NE	OLSBURG	
FAIRVIEW	OLSBURG NW	
FLORENCE	OLSBURG SW	
FLORENCE SE	ONAGA	
FLUSH	ONAGA NE	
FORT RILEY NE	OSAGE CITY	
FORT SCOTT	OSAGE CITY SE	
FT RILEY NE	OSWEGO	
	OTTUMWA	

The geographic fields also provide *LATITUDE* and *LONGITUDE* for some localities, principally those collected in recent years. Data entered in these two fields are expressed as **false-decimals** rather than degrees, minutes, and seconds. For example, 37.3859 is the entry for 38° 38' 59". Where *LATITUDE* and *LONGITUDE* are not recorded, these numeric fields will be filled with zeros ("00.0000" and "000.000", respectively). The geographic coordinates of choice for most Kansas records are *QUARTER*, *SEC* (Section), *TNSP* (Township), and *RANGE* (Range).

### Stratigraphic and Age Fields

As mentioned earlier, Mississippian rocks are exposed only in the extreme southeastern corner of the state (Cherokee County; see fig. 1). Of the 1,293 records from Kansas, only a few USGS Mississippian collections have been made. In the *SYS* (System) field, "MISS" (27 records), "PENN" (605 records), and "PERM" (551 records) appear. For 110 records, no entry has been made in the *SYS* field. Realize that the Pennsylvanian-Permian boundary in Kansas has been moved with almost every author and that no stratotype has been established. Thus, in entering data in the *SYS* field, Zeller (1968) has been followed.

*SERIES* entries for Kansas consist of abbreviations for North American Midcontinent Provincial Series names. These are restricted to "LEON" for Leonardian, "WOLF" for Wolfcampian, "VIRG" for Virgilian, "MSSR" for Missourian, "DESM" for Desmoinesian, "ATOK" for Atokan, "MORR" for Morrowan, "MERA" for Meramecian, and "OSAG" for Osagean. There are no Chesterian or Kinderhookian entries in *PC-FILES* for Kansas.

Terminology below the series level (i.e., for group, formation, and member) generally follows that of the Kansas Geological Survey (KGS) (Zeller, 1968). Most of this usage is compatible with that found in MacLachlan and others (1992). Entries appearing in the fields *GROUP*, *FORMATION*, and *MEMBER* in *KSPCFILE.dbf* are given in Tables 4-6, respectively. Zeller (1968) provided concise discussions of the history and usage of the older stratigraphic nomenclature. Exceptions have been made in the *FORMATION* field for older terms like "'FUSULINA' LS", "BOONE FM", and "MAYES FM", particularly where it is unclear what modern formation equivalent is applicable. Furthermore, several entries in *FORMATION* and *MEMBER* give stratigraphic nomenclature employed by Mudge and Yochelson (1962) in their study of the invertebrate faunas from strata in proximity to the Pennsylvanian-Permian boundary. Terminology found in *KSPCFILE.dbf* does differ from that of the KGS in that the lithostratigraphic category subgroup is not used, and application of series and stage differ. For example, the KGS would restrict the application of series terminology to the Middle Pennsylvanian Series, the Lower Permian Series, etc., and would refer what is generally called the Midcontinent Provincial Series as stages (e.g., the Desmoinesian Stage, the Atokan Stage, Virgilian Stage, etc.). The Permian "stages" (Gearyan, Cimmaronian, and Custerian) used by the KGS are not employed in *KSPCFILE.dbf*.

TABLE 4.--Stratigraphic nomenclature used in the *GROUP* field in *KSPCFILE.dbf*, listed alphabetically.

---

ADMIRE	LANSING
CHASE	MARMATON
CHEROKEE	PLEASANTON
COUNCIL GROVE	SHAWNEE
DOUGLAS	WABAUNSEE
KANSAS CITY	

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TABLE 5.--Stratigraphic names used in the *FORMATION* field in *KSPCFIELD.dbf*, presented alphabetically.

---

ALTAMONT LS	FORAKER LS	PAWNEE LS
AUBURN SH	FORT SCOTT LS	PILSBURY SH
BADER LS	"FUSULINA" LS?	PLATTSBURG LS
BARNESTON LS	GARRISON SH	RED EAGLE LS
BEATTIE LS	GRENOLA LS	ROCA SH
BERN LS	HOWARD LS	ROOT SH
BOONE FM	JANESVILLE SH	SCRANTON SH
CABINESS FM	JOHNSON SH	SEVERY SH?
CALHOUN SH	KANWAKA SH	SPEISER SH
CANEYVILLE FM	KREBS FM	STANTON LS
CHEROKEE SH	LABETTE SH	STOTLER LS
CROUSE LS?	LAWRENCE FM	STRANGER FM
DEER CREEK LS	LECOMPTON LS	TECUMSEH SH
DOYLE SH	MARION FM	TOPEKA LS
DRUM LS	MARMATON FM	WELLINGTON FM
ELMDALE SH	MATFIELD SH	WILLARD SH
EMPIRE OOL	MAYES FM	WINFIELD LS
EMPORIA LS	NOLANS LS	WOOD SIDING FM
ENTERPRISE FM	ONAGA SH	WREFORD LS
ESKRIDGE SH	OREAD LS	ZEANDALE LS

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Table 6 --Names used in *MEMBER* field in *KSPCFILE.dbf*, presented alphabetically.

AARDE SH	HAMLIN SH	SILVER LAKE SH
AMAZONIA LS	HARTFORD LS	SNYDERVILLE SH
AMERICUS LS	HASKELL LS	SOUTH BEND LS
ASPINWALL LS	HAVENSVILLE SH	STONER LS
AVOCA LS	HEEBNER SH	STULL SH
BACHELOR CREEK LS	HERINGTON LS	TARKIO LS
BAXTER SPRINGS	HEUMADER SH	THREEMILE LS
BEIL LS	HIGGINSVILLE LS	TIAWHA LS
BENNETT SH	HOWE LS	TORONTO LS
BIG SPRINGS LS	HUGHES CREEK SH	'TONOVAY' LS
BLACKJACK CREEK LS	JACKSON PARK SH	TOWLE SH
BLUE JACKET SS	JIM CREEK LS	TURNER CREEK SH
BLUE SPRINGS SH	JONES POINT	UTOPIA LS
BREEZY HILL LS	KEREFORD LS	VINELAND SH
BROWNVILLE LS	KING HILL SH	WAKARUSA LS
BURR LS	LAKE NEOSHO SH	WATHENA SH
CAPTAIN CREEK LS	LARSH-BURROAK SH	WEST BRANCH SH
CHURCH LS	LEAVENWORTH LS	WESTON SH
CLAY CREEK LS?	LEGION LS	WESTPHALIA LS
COAL CREEK LS	LONG CREEK LS	WINZELER SH
COTTONWOOD LS	LUTA LS	WYMORE SH
CRESSWELL LS	MAPLE HILL LS	
CROUSE LS	MATFIELD SH	
CURZON LS	MERRIAM LS	
DONIPHAN SH	MIDDLEBURG LS	
DOVER LS	NEBRASKA CITY LS	
DRY SHALE	NEVA LS	
DUBOIS LS	OKETO SH	
EISS LS	OSKALOOSA SH	
ELMONT LS	OZAWKIE LS	
ERVINE CREEK LS	PADDOCK SH	
EUDORA SH	PIERSON POINT SH	
FALLS CITY LS	PIQUA	
FIVE POINT LS	PLATTSMOUTH LS	
FLORENA SH	PLUMB SH	
FLORENCE LS	PONY CREEK SH	
FORT RILEY LS	PRODUCTID LS	
FRENCH CREEK SH	'QUEEN HILL' SH	
FRIEDRICH SH	RICH HILL LS	
GAGE SH	ROCK BLUFF LS	
GLEN ROCK LS	RULO LS	
GRAND FALL	SALEM POINT SH	
GRAND FALLS CHERT	SALLYARDS LS	
GRANDHAVEN LS	SCHROYER LS	
GRANT SH	SHELDON LS	
GRAYHORSE LS	SHORT CREEK CH	

## Collector and Related Fields

For the field *PROJCHIEF* (Project Chief) for *KSPCFILE.dbf*, only two listings have been made. These are "KANCOGEO" for the cooperative U.S. Geological Survey-Kansas Geological Survey COGEO MAP project and "PIERCE WG", whose name is listed as a "Project Chief" on a number of the PC-Register cards but who was not necessarily the collector.

Table 7 lists names that appear in the *COLLECTOR* field. Most but not all of these people were affiliated with the USGS. In some instances, we do not know the complete name of the collector or collectors. If a plus appears after the name, it indicates that more than one collector was involved, and the reader should refer to one of the two comments fields (*COMMENTS* or *COMMENTS2*) for additional information.

The *DATECOLL* (Date Collected) field, a character field (not a dBASE date field), uses the American system of presenting these data in order of month, day, and year (mm/dd/yyyy). An entry of "12/06/1910" simply translates to December 6, 1910. However, if a record appears like "12/00/1910", it was collected in December 1910, but the exact day may not be known. Those entered without month or date (00/00/1910) indicates that it was collected sometime in 1910, perhaps at one or more times, or perhaps during the "Winter 1910". If the date collected is unknown, an entry of "00/00/0000" will appear. An asterisk (\*) in this field refers the user to one of the two comments (*COMMENTS* or *COMMENTS2*) fields for additional information.

TABLE 7.--List of names found in *KSPCFILE.dbf* in the *COLLECTOR* field, presented alphabetically. Affiliation at time of collection (if known) is also shown.

COLLECTOR	(Affiliation)	COLLECTOR	(Affiliation)
ADAMS GI	(USGS)	JOHNSON WD	(USGS)
ADDISON CC	(USGS?)	KOESTER EA	
ADKISON WL	(USGS)	MAPLES CG	(Kan. Geol. Surv.)
ARGABRITE W		MASON SC	
BABCOCK L	(Univ. Kan.)	MCKNIGHT ET	(USGS)
BASS JW	(USGS)	MUDGE MR	(USGS)
BEEDE JW	(USGS)	OSGOOD MISS	
BYRNE FE	(USGS)	PALMER EJ	(Mo. Geol. Surv.?)
COLEMAN		PIERCE WG	(USGS)
COURTIER WH		PROSSER CS	
DUNCAN H	(USGS)	ROUNDY PV	(USGS)
FATH AE		SIEBENTHAL C	(USGS)
FINNEY M		STRAUB CE	(USGS?)
GIRTY GH	(USGS)	WAGNER HC	(USGS)
GOULD CN	(Okla. Geol. Survey)	WEST RR	(Kan. State Univ.)
GRIFFIN EL		WHITE D	(USGS)
HAASE FM		WILLIAMS JS	(USGS)
HENBEST LG	(USGS)	WILSHIRE LM	(USGS)
HENRY TW	(USGS)	WORTHINGTON	
JENNEY WP	(USGS?)	YOCHELSON EL	(USGS)
JOHNSON D			

## Type of Fossils Field

The field *FOSSIL* utilizes the standardized abbreviations of invertebrate fossils presented in a table in Appendix 2 of Henry, Williams, and Holroyd (1993) and included on the accompanying diskette in the file *ABBREV.doc*. In general, for *KSPCFIELD.dbf*, the fossils in the individual collections are not listed unless they are cited on the original PC-card. Even then, the fossils listed are generally given at the level of phylum, class, or type (e.g., brachiopods, fusulinids, crinoids, etc.) and rarely at the generic or specific level. Potentially, *FOSSIL* is a valuable data field. Unfortunately, the majority of PC-records lack detailed information on what kinds of fossils are included in the individual collections, and it is not feasible to identify and classify the entire collection from Kansas. As these collections are studied or restudied, this information will be added to the individual records.

## Miscellaneous Fields

Watch for the asterisks (\*) in the database fields of *KSPCFIELD.dbf*. The two miscellaneous fields, *COMMENTS* and *COMMENTS2*, provide for an overflow for information that cannot be contained elsewhere in the dBASE structure of *PC-FILES*, information that must be qualified, and other useful data that accompany or amplify the location of a collection, its geographic or stratigraphic position, etc. Asterisks (\*) are placed to refer the user to the miscellaneous fields for additional information. Abbreviations are widely employed in these two fields. *COMMENTS2* is an immediate continuation of the *COMMENTS*. Searches for specific information in these fields can be made using dBASE string (\$) commands, although the process may be quite time-consuming on slower computers. Examples of string searches in the *COMMENTS* fields are given in Appendix 3 of Henry, Williams, and Holroyd (1993).

## REFERENCES CITED<sup>4</sup>

- Gordon, Mackenzie, Jr., [1965], Carboniferous cephalopods of Arkansas: U.S. Geological Survey Professional Paper 460, 96 p.
- Henry, T.W., Williams, O.L., and Holroyd, P.A., 1993, USGS Permo-Carboniferous Fossil Locality Register; Part 1: Introduction to *PC-FILES*: U.S. Geological Survey Open-File Report 93-513, 38 p., 2 figs., 1 tbls., 1 appendix.
- Jewett, J.M., 1964, Geologic Map of Kansas: University of Kansas and Kansas Geological Survey, scale 1:500,000.
- MacLachlan, M.E., Bryant, W.A., Judkins, T.W., Koosmin, E.D., Orndorff, R.C., Hubert, M.L., Murdock, C.R., Starratt, S.W., and Le Compte, J.R., 1992, Stratigraphic nomenclature databases for the United States, its possessions, and territories: U.S. Geological Survey Digital Data Series DDS-6.
- Mudge, M.R., and Yochelson, E.L., 1962, Stratigraphy and paleontology of the uppermost Pennsylvanian and lowermost Permian rocks in Kansas: U.S. Geological Survey professional Paper 323, 213 p., 17 pls., 36 figs., 6 tbls.
- Zeller, D.E. (ed.), 1968, The stratigraphic succession in Kansas: Kansas Geological Survey Bulletin 189, 81 p., 1 pl., 13 figs. 3 tbls.

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<sup>4</sup> Note: The References Cited section also includes published sources (citations) listed in Appendix 1, the printout of *KSPCFIELD.dbf*.

## APPENDIX 1:

### PRINTOUT OF *PC-FILES* FOR KANSAS (*KSPCFILE.dbf*)

The printout of information from the 1,291 records entered to date from the PC-Register for the State of Kansas is presented on the following pages. This information is also provided in the dBASE file, *KSPCFILE.dbf*, on the diskette accompanying this report. The records from the "Blue" subregister (those with the *PREFIX* listing "BL") are presented first (1,261 records); the records from the "Green" subregister follow (30 records).

The earliest collections from Kansas date from 1890; the most recent were made in the spring of 1993. The data entered on the card files that constitute the PC-Register were more or less standardized in the late 1940's and early 1950's to incorporate a minimum set of geographic and stratigraphic data about fossil invertebrate collections made primarily by Federal geologists in the course of their field investigations. In spite of this standardization, the quality of the data within the information fields varies from collection to collection. We have tried to update this information wherever reasonable.

Most of the USGS collections of invertebrate fossil from the State of Kansas reside at the Denver Federal Center, Lakewood, Colorado. Following the policy of the Branch of Paleontology and Stratigraphy of the USGS, type and figured specimens have been accessioned to the Paleobiologic Collections of the National Museum of Natural History (Smithsonian Institution, Washington, D.C.) upon formal publication by USGS personnel (e.g., the type specimens of Mudge and Yochelson, 1968)<sup>5</sup>. Such specimens bear National Museum of Natural History catalogue numbers, identified by the prefix "USNM". Unfortunately, most of the pertinent PC-Records do not contain the specific USNM numbers for the accessioned specimens. However, references to these publications generally are cited in either the *COMMENTS* or *COMMENTS2* field for specific records of *KSPCFILE.dbf*. These references are listed in the current report in the preceding section, "References Cited".

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<sup>5</sup> USGS specimens cited in publication by non-USGS personnel are also accessioned to the Smithsonian.

(BL)51-PC

CHEROKEE CO, KS  
SERIES: KIND  
FM: UNASSIGNED  
SYSTEM: MISS  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: BAXTER SPGS 7.5  
SEC 0 TNSP 34 S RNGE 25 E  
DATE: 00/00/1910  
COLL: SIEBENTHAL C  
PROB SEC 35 OR 36. SEE HIS LETTER OF 06/10/1910. SUPPOSED  
KINDERHOOK FROM HARTFORD SHAFT, 2 MI S OF GALENA. COLL  
CE SIEBENTHAL.

(BL)52-PC

CHEROKEE CO, KS  
SERIES: KIND  
FM: UNASSIGNED  
SYSTEM: MISS  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: BAXTER SPGS 7.5  
SEC 0 TNSP RNGE  
DATE: 00/00/1910  
COLL: SIEBENTHAL C  
SEE HIS LETTER OF 5/23/1910. WILCOX SHAFT--SUPPOSED  
KINDERHOOK. EMPIRE. [8/1989-EMPIRE WAS NW OF GALENA  
APPROX 0.5 MI. PROB SEC 11, 14, 15, OR 10.]

(BL)55-PC

UNASSIGNED CO, KS  
SERIES: UNASSIGNED  
FM: UNASSIGNED  
SYSTEM: UNASSIGNED  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 00/00/1910  
COLL: SIEBENTHAL C  
COLEMAN BROS & SCOTT (NO. 4 DRILL CO.) [11/1988-ONLY INFO  
ON CARD IS FIELDNUM & COMMENTS. ALL OTHER INFO  
SEPCULATION BASED ON SEQUENCE OF CARDS.]

(BL)56-PC

UNASSIGNED CO, KS  
SERIES: UNASSIGNED  
FM: UNASSIGNED  
SYSTEM: UNASSIGNED  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 00/00/1910  
COLL: SIEBENTHAL C  
SEE HIS LETTER OF 05/23/1910. HERALD SHAFT.

(BL)57A-PC

SERIES: UNASSIGNED  
FM: UNASSIGNED  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: BAXTER SPGS 7.5  
SEC 0 TNSP 34 S RNGE 25 E  
DATE: 00/00/1910  
COLL: SIEBENTHAL C  
NORTH OF GALENA, KS. SOUTH ORE-DUMP. [11/1988-COMMENTS  
& FIELDNUM ONLY INFO ON CARD--ALL OTHER SPECULATION  
BASED ON SEQUENCE OF CARDS. PROB SEC 11, 12, OR 14.]

(BL)57B-PC

SERIES: UNASSIGNED  
FM: UNASSIGNED  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: BAXTER SPGS 7.5  
SEC 0 TNSP 34 S RNGE 25 E  
DATE: 00/00/1910  
COLL: SIEBENTHAL C  
[11/1988-ONLY INFO ON CARD FIELDNUM. ALL OTHER IS  
SPECULATION BASED ON SEQUENCE OF CARDS.]

(BL)731-PC

CHEROKEE CO, KS  
SERIES: MERA  
FM: BOONE\*  
SYSTEM: MISS  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: BAXTER SPGS 7.5  
SEC 0 TNSP 35 S RNGE 25 E  
DATE: 06/21/1905  
COLL: BAINE HF\*  
LOOSE CHERT ALONG RD APPROX 4 MI E OF BAXTER SPRINGS,  
KS. COLL BAIN AND GH GIRTY. (NOTEBOOK PROB GIRTY'S.)  
[6/1989-PROB SEC 3. \*FM PROB NAME OF NEARBY TOWN; NO  
SUCH MBR OR FM IN KS GEOL SURVEY BULL 189, 1968.]

(BL)732-PC

CHEROKEE CO, KS  
SERIES: UNASSIGNED  
FM: UNASSIGNED  
SYSTEM: MISS  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: BAXTER SPGS 7.5  
SEC 0 TNSP 35 S RNGE 24 E  
DATE: 06/22/1905  
COLL: GIRTY GH  
S PART OF BAXTER SPRINGS. LS EXPOSED IN LITTLE CREEK,  
WHICH IS JUST ACROSS FROM PARK WHERE SPRINGS ARE. SEC  
11 OR 12.

(BL)934-PC

CHEROKEE CO, KS  
SERIES: UNASSIGNED  
FM: BOONE\*  
SYSTEM: MISS  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: BAXTER SPGS 7.5  
SEC 0 TNSP 34 S RNGE 25 E  
DATE: 06/08/1905  
COLL: BAINE HF\*  
QUARRY ALONG RR & APPROX 20 FT ABOVE TRACK, SW PART  
EMPIRE. CRINOID CAME FROM LOWER BEDS ALONG TRACK.  
COLL BAIN & GH GIRTY. NOTEBOOK PROB GIRTY'S. [6/1989-PROB  
SEC 11, 14, OR 15.] \*FM NOT LISTED IN KS GEOL SURVEY BULL  
189, 1968.

(BL)936-PC

SERIES: UNASSIGNED  
FM: UNASSIGNED  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: BAXTER SPGS 7.5  
SEC 0 TNSP 34 S RNGE 25 E  
DATE: 06/08/1905  
COLL: BAINE HF\*  
N SIDE OF CREEK JUST E OF BRIDGE ON RD FROM GALENA TO  
EMPIRE. COLL BAIN & GH GIRTY. NOTEBOOK PROB GIRTY'S.  
PROB SEC 14. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189,  
1968.

(BL)937-PC

CHEROKEE CO, KS  
SERIES: UNASSIGNED  
FM: BOONE\*  
SYSTEM: MISS  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: BAXTER SPGS 7.5  
SEC 0 TNSP RNGE  
DATE: 06/08/1905  
COLL: BAINE HF\*  
TOP OF HILL JUST N OF STA 17, IN SW CORNER OF EMPIRE. COLL  
BAIN & GH GIRTY. NOTEBOOK PROB GIRTY'S. PROB SEC 14 OR 15.  
\*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)1049-PC

SERIES: UNASSIGNED  
FM: UNASSIGNED  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: BAXTER SPGS 7.5  
SEC 0 TNSP 34 S RNGE 25 E  
DATE: 06/08/1905  
COLL: BAINE HF\*  
JUST W OF BRIDGE ACROSS SPRING RIVER, APPROX 2 MI NW OF  
EMPIRE. COLL BAIN & GH GIRTY. NOTEBOOK PROB GIRTY'S. SEC  
3 OR 9.

(BL)1405-PC

UNASSIGNED CO, KS  
SERIES: UNASSIGNED  
FM: UNASSIGNED  
SYSTEM: UNASSIGNED  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 08/27/0000  
COLL: ECKES CR  
KANSAS LINE, ONE MILE SOUTH AND ONE EAST OF CANEY(?) KS.

(BL)1405A-PC

UNASSIGNED CO, KS  
SERIES: UNASSIGNED  
FM: UNASSIGNED  
SYSTEM: UNASSIGNED  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE:  
COLL:  
NO LABEL--PROB PART OF (BL)1405-PC.



(BL)1479-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: CAMBRIDGE NE 7.5  
SEC 4 TNSP 31S RNGE 8E  
DATE: 08/23/1909      COLL: GIRTY GH  
1.5 MI E OF GRAND SUMMIT. CUT ON SANTA FE RR. PERMO  
CARBONIFEROUS. SE SEC 4.

(BL)1480-PC

ELK CO, KS      SYSTEM: PERM  
SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: GRENOLA 7.5  
SEC 0 TNSP 31S RNGE \*  
DATE: 08/20/1909      COLL: GIRTY GH  
BED OF STREAM ON SANTA FE RR A LITTLE OVER A MI W OF  
GRENOLA(?) KS. NOTEBOOK: GR-21. [6/1989-LOC IS SW SEC 18  
T31S R9E OR SE SEC 13 T31S R8E.]

(BL)1480A-PC

ELK CO, KS      SYSTEM: PERM  
SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: GRENOLA 7.5  
SEC 0 TNSP 31S RNGE \*  
DATE: 08/20/1909      COLL: GIRTY GH  
BED OF STREAM APPROX 0.25 (OR LESS) MI ABOVE FIELDNUM  
310, BUT SAME HOR. 1 MI W OF GRENOLA. SEE NOTE WITH LOC  
CARD

(BL)1479-PC. [6/1989-LOC IS SW 18 T31S R9E OR SE SEC 13 T31S  
R8E.]

(BL)1481-PC

COWLEY CO, KS      SYSTEM: PERM  
SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: CAMBRIDGE 7.5  
SEC 31 TNSP 31S RNGE 7E  
DATE: 08/23/1909      COLL: GIRTY GH  
2.5 MI E OF BURDEN. CUT ON SANTA FE RR. PERMO  
CARBONIFEROUS.

(BL)1482-PC

ELK CO, KS      SYSTEM: PERM  
SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: GRENOLA 7.5  
SEC 18 TNSP 31S RNGE 9E  
DATE: 08/20/1909      COLL: GIRTY GH  
STREAM BANK ALONG SANTA FE RR. 0.5 MI W OF GRENOLA.  
[6/1989-STREAM IS CANEY RIVER OR BRANCH THEREOF.]

(BL)1483-PC

ELK CO, KS      SYSTEM: PERM  
SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: GRENOLA 7.5  
SEC 0 TNSP 31S RNGE 8E  
DATE: 08/21/1909      COLL: GIRTY GH  
ALONG SANTA FE IN STREAM 3.5 MI OR A LITTLE LESS E OF  
GRAND SUMMIT. 0.25 MI E OF 313. [6/1989-PROB SEC 11.]

(BL)1484-PC

COWLEY CO, KS      SYSTEM: PERM  
SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: CAMBRIDGE NE 7.5  
SEC 0 TNSP RNGE  
DATE: 08/21/1909      COLL: GIRTY GH  
CUT ON SANTA FE RR ABOUT 1.5 MI E OF GRAND SUMMIT. UPPER  
PART OF EXPOSURE. SEE NOTE WITH LOC CARD

(BL)1479-PC.

(BL)2535-PC

BUTLER CO, KS      SYSTEM: PERM  
SERIES: WOLF      GROUP: CHASE  
FM: WINFIELD LS      MEMBER: UNASSIGNED  
QUAD: EL DORADO SW 7.5  
SEC 24 TNSP 25 S RNGE 04 E  
DATE: 02/20/1918      COLL: FATH AE  
ELDORADO OIL FIELD. NWCORNER SW 1/4 SEC 24. [5/1989-LOCATION  
IS ACTUALLY NORTH OF ELDORADO OIL FIELD.]

(BL)2536-PC

BUTLER CO, KS      SYSTEM: PERM  
SERIES: LOWER      GROUP: CHASE  
FM: MATFIELD SH      MEMBER: UNASSIGNED  
QUAD: SEE COMMENTS 7.5  
SEC 36 TNSP 26 S RNGE 05 E  
DATE: 03/04/1918      COLL: FATH AE  
ELDORADO OIL FIELD. CREEK BED IN NE 1/4 NE 1/4 SEC 36.  
FLORENCE FLINT. S OF STA LZ2. QUAD MAP IS LEON OR EL  
DORADO.

(BL)2537-PC

BUTLER CO, KS      SYSTEM: PERM  
SERIES: LOWER      GROUP: UNASSIGNED  
FM: DOYLE SH      MEMBER: UNASSIGNED  
QUAD: EL DORADO SW 7.5  
SEC 19 TNSP 25 S RNGE 05 E  
DATE: 04/03/1918      COLL: FATH AE  
ELDORADO OIL FIELD. RR CUT IN NE 1/4 NW 1/4 SEC 19. TRANSITION  
BEDS BTWN DOYLE & WINFIELD.

(BL)2538-PC

BUTLER CO, KS      SYSTEM: PERM  
SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: MARION\*      MEMBER: UNASSIGNED  
QUAD: EL DORADO SW 7.5  
SEC 12 TNSP 25 S RNGE 04 E  
DATE: 04/17/1918      COLL: FATH AE  
ELDORADO OIL FIELD. E SI SE 1/4 SEC 12. LS APPROX 50 FT ABOVE  
BASE OF MARION FM. THE LS HERE ALSO CONTAINS CHERT &  
CHALCIDORIC? CONCRETIONS. \*FM NOT LISTED IN KS GEOL  
SURVEY BULL 189, 1968.

(BL)2539-PC

BUTLER CO, KS      SYSTEM: PERM  
SERIES: LOWER      GROUP: CHASE  
FM: BARNESTON LS      MEMBER: UNASSIGNED  
QUAD: EL DORADO SW 7.5  
SEC 22 TNSP 26 S RNGE 05 E  
DATE: 04/12/1918      COLL: FATH AE  
ELDORADO OIL FIELD, SE 1/4 SEC 22. NEAR STA KB4 ON N SI OF  
VALLEY. RESIDUAL ON TOP LOWER BENCH FORMING BED OF  
UPPER FT RILEY.

(BL)2540-PC

BUTLER CO, KS      SYSTEM: PERM  
SERIES: LOWER      GROUP: CHASE  
FM: MATFIELD SH      MEMBER: UNASSIGNED  
QUAD: EL DORADO SW 7.5  
SEC 20 TNSP 26 S RNGE 05 E  
DATE: 04/13/1918      COLL: FATH AE  
ELDORADO OIL FIELD. S SI OF CREEK.

(BL)2552-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: GRENOLA 7.5  
SEC 0 TNSP 31S RNGE 9E  
DATE: 08/20/1909      COLL: GIRTY GH  
EXPOSURE ALONG SANTA FE RR. 1 MI W OF GRENOLA. THE  
SEDA(?) PROB BELONGS HERE BUT MAY BELONG WITH 2573 THE  
NEXT LOT WITH WHICH IT WAS FOUND. [6/1989-PROB SW SEC 18  
T31S R9E BUT MAY BE SE SEC 13 T31S R8E.]

(BL)2554-PC

UNASSIGNED CO, KS  
SERIES: UNASSIGNED  
FM: UNASSIGNED  
DATE: \_\_\_\_\_  
SEC 0 TNSP RANGE  
COLL: \_\_\_\_\_  
SYSTEM: UNASSIGNED  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

(BL)2555-PC

ELK CO, KS  
SERIES: UNASSIGNED  
FM: UNASSIGNED  
DATE: 08/19/1909  
ALONG SANTA FE RR A LITTLE LESS THAN 3.5 MI W OF GRENOLA.  
[6/1989-PROB SEC 11. QUAD MAP IS PROB GRAND SUMMIT BUT  
MAY BE GRENOLA.]  
QUAD: GRAND SUMMIT 7.5  
SEC 0 TNSP 31S RANGE 8E  
COLL: GIRTY GH

(BL)2556-PC

SERIES: UNASSIGNED  
FM: UNASSIGNED  
DATE: 08/20/1909  
LONG LOW CUT ALONG SANTA FE RR, 3.5 MI W OF GRENOLA.  
STRAT ABOVE FIELDNUM 312. [6/1989-PROB SEC 11. QUAD IS  
PROB GRAND SUMMIT BUT MAY BE GRENOLA.]  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: GRAND SUMMIT 7.5  
SEC 0 TNSP 31S RANGE 8E  
COLL: GIRTY GH

(BL)2558A-PC

SERIES: UNASSIGNED  
FM: FUSULINA LS?  
DATE: 08/21/1909  
CUT ON SANTA FE RR APPROX 2.5 MI E OF GRAND SUMMIT.  
FUSULINA LS, PERHAPS NOT IN PLACE. [6/1989-PROB SEC 10.]  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: GRAND SUMMIT 7.5  
SEC 0 TNSP 31S RANGE 8E  
COLL: GIRTY GH

(BL)2559-PC

SERIES: UNASSIGNED  
FM: UNASSIGNED  
DATE: 08/21/1909  
CUT ON SANTA FE RR, A LITTLE LESS THAN 2.5 MI E OF GRAND  
SUMMIT. SEVERAL HORIZONS. [6/1989-SEC 3 OR 10.]  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: GRAND SUMMIT 7.5  
SEC 0 TNSP 31S RANGE 8E  
COLL: GIRTY GH

(BL)2561-PC

SERIES: UNASSIGNED  
FM: UNASSIGNED  
DATE: 08/21/1909  
CUT ON SANTA FE RR, APPROX 3 MI E OF GRAND SUMMIT. NEAR  
TOP OF EXPOSURE BELOW HEAVY LS. [6/1989-QUAD MAP IS PROB  
GRAND SUMMIT, BUT MAY BE GRENOLA.]  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: GRAND SUMMIT 7.5  
SEC 3 TNSP 31S RANGE 8E  
COLL: GIRTY GH

(BL)2562-PC

SERIES: UNASSIGNED  
FM: UNASSIGNED  
DATE: 08/21/1909  
CUT ON SANTA FE RR APPROX 1.5 MI E OF GRAND SUMMIT.  
[6/1989-PROB SEC 3 IN ELK CO OR SEC 4 IN COWLEY CO.]  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: CAMBRIDGE NE 7.5  
SEC 3 TNSP 31S RANGE 8E  
COLL: GIRTY GH

(BL)2564-PC

SERIES: UNASSIGNED  
FM: UNASSIGNED  
DATE: 08/21/1909  
CUT ON SANTA FE RR, APPROX 1 MI E OF GRAND SUMMIT.  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: CAMBRIDGE NE 7.5  
SEC 4 TNSP 31S RANGE 8E  
COLL: GIRTY GH

(BL)2565-PC

COWLEY CO, KS  
SERIES: UNASSIGNED  
FM: UNASSIGNED  
DATE: 08/21/1909  
CUT ON SANTA FE RR, 0.333 MI E OF GRAND SUMMIT. NW SEC 9.  
SYSTEM: PERM  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: GRAND SUMMIT 7.5  
SEC 9 TNSP 31S RANGE 8E  
COLL: GIRTY GH

(BL)2565-PC

COWLEY CO, KS  
SERIES: UNASSIGNED  
FM: UNASSIGNED  
DATE: 08/22/1909  
CUT ON SANTA FE RR, 3.5 MI W OF GRAND SUMMIT. [6/1989-PROB  
IN SEC 19.]  
SYSTEM: PERM  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: GRAND SUMMIT 7.5  
SEC 0 TNSP 31S RANGE 8E  
COLL: GIRTY GH

(BL)2566-PC

SERIES: UNASSIGNED  
FM: UNASSIGNED  
DATE: 08/22/1909  
CUT ON SANTA FE RR, 3.5 MI W OF GRAND SUMMIT. [6/1989-PROB  
IN SEC 19.]  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: GRAND SUMMIT 7.5  
SEC 0 TNSP 31S RANGE 8E  
COLL: GIRTY GH

(BL)2567-PC

COWLEY CO, KS  
SERIES: UNASSIGNED  
FM: UNASSIGNED  
DATE: 08/22/1909  
GUTTER BESIDE SANTA FE RR, NOT QUITE 4 MI W OF GRAND  
SUMMIT. (PROB IN SEC 30)  
SYSTEM: PERM  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: GRAND SUMMIT 7.5  
SEC 0 TNSP 31S RANGE 8E  
COLL: GIRTY GH

(BL)2570-PC

SERIES: UNASSIGNED  
FM: UNASSIGNED  
DATE: 08/23/1909  
CUT ON SANTA FE RR & HILLSIDE BELOW.  
[6/1989-PROB SEC 32.]  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: CAMBRIDGE 7.5  
SEC 0 TNSP 31S RANGE 7E  
COLL: GIRTY GH

(BL)2571-PC

SERIES: UNASSIGNED  
FM: UNASSIGNED  
DATE: 08/20/1909  
CUT ON SANTE FE RR, 2.75 MI E OF BURDEN. [6/1989-PROB SEC 31.]  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: CAMBRIDGE 7.5  
SEC 0 TNSP 31S RANGE 7E  
COLL: GIRTY GH

(BL)2572-PC

SERIES: UNASSIGNED  
FM: UNASSIGNED  
DATE: 08/23/1909  
CUT ON SANTA FE RR, 2 MI E OF BURDEN. [6/1989-PROB SEC 36.]  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: CAMBRIDGE 7.5  
SEC 0 TNSP 31S RANGE 6E  
COLL: GIRTY GH

(BL)2573-PC

SERIES: UNASSIGNED  
FM: UNASSIGNED  
DATE: 08/23/1909  
CUT ON SANTA FE RR, 2 MI E OF BURDEN. (MAY BE PARTLY  
MIXED WITH FIELDNUM 331.) [6/1989-PROB SEC 36.]  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: CAMBRIDGE 7.5  
SEC 0 TNSP 31S RANGE 6E  
COLL: GIRTY GH

(BL)2576-PC

UNASSIGNED CO, KS                    SYSTEM: UNASSIGNED  
SERIES: UNASSIGNED                  GROUP: UNASSIGNED  
FM: UNASSIGNED                    MEMBER: UNASSIGNED  
SEC 0 TNSP RANGE  
DATE: 08/20/1909                   COLL: GIRTY GH  
[11/1988-NO CARD, ALL INFO SPECULATIVE BASED ON NUMBERS  
IN SEQUENCE.]

(BL)2577-PC

SERIES: UNASSIGNED                  GROUP: UNASSIGNED  
FM: UNASSIGNED                    MEMBER: UNASSIGNED  
QUAD: SEE COMMENTS 7.5  
SEC 0 TNSP 33S RANGE 7E  
DATE: 08/25/1909                   COLL: GIRTY GH  
CUT ON MISSOURI PACIFIC RR, APPROX 0.5 MI E OF HOOSER.  
[6/1989-7.5 MIN QUAD IS DEXTER OR DEXTER NE. LOC IS SE SEC 35  
OR SW SEC 36.]

(BL)2578-PC

COWLEY CO, KS                    SYSTEM: PERM  
SERIES: UNASSIGNED                  GROUP: UNASSIGNED  
FM: UNASSIGNED                    MEMBER: UNASSIGNED  
QUAD: DEXTER 7.5  
SEC 0 TNSP 33S RANGE 7E  
DATE: 08/25/1909                   COLL: GIRTY GH  
CUT ON MISSOURI PACIFIC RR, 2 MI E OF DEXTER. [6/1989-PROB  
SEC 29 OR 30.]

(BL)2579-PC

SERIES: UNASSIGNED                  GROUP: UNASSIGNED  
FM: UNASSIGNED                    MEMBER: UNASSIGNED  
QUAD: CEDAR VALE WEST 7.5  
SEC 0 TNSP 33S RANGE 8E?  
DATE: 08/25/1909                   COLL: GIRTY GH  
CUT ON MISSOURI PACIFIC RR, 3 MI E OF HOOSER. [6/1989-MAY  
BE SEC 12.]

(BL)2581-PC

COWLEY CO, KS                    SYSTEM: PERM  
SERIES: UNASSIGNED                  GROUP: UNASSIGNED  
FM: UNASSIGNED                    MEMBER: UNASSIGNED  
QUAD: DEXTER 7.5  
SEC 0 TNSP 33S RANGE 6E?  
DATE: 08/26/1909                   COLL: GIRTY GH  
CUT ON MISSOURI PACIFIC RR 0.333 MI E OF DEXTER. [6/1989-MAY  
BE SEC 24 WHICH IS SOUTH OF DEXTER.]

(BL)2582-PC

SERIES: UNASSIGNED                  GROUP: UNASSIGNED  
FM: UNASSIGNED                    MEMBER: UNASSIGNED  
SEC 0 TNSP RANGE  
DATE: 08/26/1909                   COLL: GIRTY GH  
[11/1988-NO CARD, ALL INFO SPECULATION BASED ON NUMBERS  
IN SEQUENCE.]

(BL)2583-PC

COWLEY CO, KS                    SYSTEM: PERM  
SERIES: UNASSIGNED                  GROUP: UNASSIGNED  
FM: UNASSIGNED                    MEMBER: UNASSIGNED  
QUAD: DEXTER 7.5  
SEC 0 TNSP 33S RANGE 7E  
DATE: 08/26/1909                   COLL: GIRTY GH  
CUT ON MISSOURI PACIFIC RR, APPROX 1.25 MI E OF DEXTER.  
(PROB SEC 19)

(BL)2584-PC

COWLEY CO, KS                    SYSTEM: PERM  
SERIES: UNASSIGNED                  GROUP: UNASSIGNED  
FM: UNASSIGNED                    MEMBER: UNASSIGNED  
QUAD: DEXTER 7.5  
SEC 0 TNSP 33S RANGE 7E  
DATE: 08/27/1909                   COLL: GIRTY GH  
BESIDE MISSOURI PACIFIC RR, APPROX 2.5 MI W OF HOOSER.  
[6/1989-PROB SEC 28.]

(BL)2585-PC

SERIES: UNASSIGNED                  GROUP: UNASSIGNED  
FM: UNASSIGNED                    MEMBER: UNASSIGNED  
QUAD: DEXTER 7.5  
SEC 0 TNSP 31S RANGE 6E  
DATE: 08/27/1909                   COLL: GIRTY GH  
HILLSIDE ALONG RD S & W OF MISSOURI PACIFIC RR, APPROX  
1.25 MI W OF DEXTER. [6/1989-PROB SEC 23 OR 24.]

(BL)2793-PC

CHAUTAUQUA CO, KS                  SYSTEM: PENN  
SERIES: VIRG                    GROUP: SHAWNEE  
FM: OREAD LS                    MEMBER: UNASSIGNED  
QUAD: SEDAN 7.5  
SEC 34 TNSP 33 S RANGE 11 E  
DATE: 10/23/1918                   COLL: ROUNDY PV\*  
NW 1/4SEC34. 0.5 MI N OF SEDAN. 71 FT BELOW TOP OREAD LS.  
COLL PVR & W G ARGABRITE.

(BL)2796-PC

SERIES: UNASSIGNED                  GROUP: UNASSIGNED  
FM: UNASSIGNED                    MEMBER: UNASSIGNED  
QUAD: ELGIN NE 7.5  
SEC 24 TNSP 33 RANGE 10  
DATE: 10/27/1918                   COLL: ARGABRITE W\*  
NW1/4NE1/4NW1/4SEC24. APPROX 5 MI W & 3 MI N OF SEDAN.  
JUST ABOVE LECOMPTON LS. JUST BELOW FIELDNUM RY30 ( (BL)2795-PC.) COLL WG ARGABRITE & PV ROUNDY.

(BL)2797-PC

CHAUTAUQUA CO, KS                  SYSTEM: PENN  
SERIES: VIRG                    GROUP: SHAWNEE  
FM: LECOMPTON LS                    MEMBER: UNASSIGNED  
QUAD: ELGIN NE 7.5  
SEC 24 TNSP 33 S RANGE 10 E  
DATE: 10/27/1918                   COLL: ROUNDY PV\*  
NWNW1/4SEC24. 5 MI W & 3 MI N OF SEDAN. FIELDNUMS RY30,  
RY31, RY32 ARE ALL FROM SAME SLOPE.

(BL)2801-PC

CHAUTAUQUA CO, KS                  SYSTEM: PENN  
SERIES: VIRG                    GROUP: SHAWNEE  
FM: UNASSIGNED                    MEMBER: UNASSIGNED  
QUAD: ELGIN NE 7.5  
SEC 23 TNSP 33 N RANGE 10 E  
DATE: 10/03/1918                   COLL: ROUNDY PV  
6 MI NW OF SEDAN. LS 5 FT ABOVE TOP OF LECOMPTON.

(BL)2802-PC

SERIES: UNASSIGNED                  GROUP: UNASSIGNED  
FM: UNASSIGNED                    MEMBER: UNASSIGNED  
QUAD: ELGIN NE 7.5  
SEC 2 TNSP 33 S RANGE 10 E  
DATE: 10/01/1918                   COLL: ROUNDY PV\*  
6 MI W OF SEDAN. PLANETABLE STA 261. A THIN STRAY LIME  
ABOVE DEER CREEK LS. COLL PVR & WG ARGABRITE. [6/1989-  
LOCATION GIVEN IS ACTUALLY 7.5 MI NW OF SEDAN.]

(BL)3018-PC

UNASSIGNED CO, KS                  SYSTEM: UNASSIGNED  
SERIES: UNASSIGNED                  GROUP: UNASSIGNED  
FM: UNASSIGNED                    MEMBER: UNASSIGNED  
SEC 0 TNSP RANGE  
DATE:                    COLL:

(BL)3326-PC

CHASE CO, KS  
SERIES: LOWER  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: SAFFORDVILLE 7.5  
SEC 11 TNSP 19S RNGE 8E  
DATE: COLL: PROSSER CS  
LAMELLIBRANCH FAUNA ABOVE COTTONWOOD STONE, FROM  
SW1/4SEC11. 3 MI NE OF STRONG. FM ORIG DESCRIBED AS  
'GARRISON'. PROSSER CALLED SEC FROM BASE OF FLORENA SH  
MBR TO TOP OF SPEISER SH FM THE GARRISON FM.

(BL)3326A-PC

CHASE CO, KS  
SERIES: WOLF  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: STRONG CITY 7.5  
SEC 0 TNSP 19S RNGE 8E  
DATE: 06/24/1894 COLL: PROSSER CS  
LAMELLIBRANCH FAUNA ABOVE COTTONWOOD STONE, FROM  
HILL 1 MI E OF STRONG. FM ORIG DESCRIBED AS 'GARRISON'.  
PROSSER CALLED SEC FROM BASE OF FLORENA SH MBR TO TOP  
OF SPEISER SH FM THE GARRISON FM.

(BL)3327-PC

CHASE CO, KS  
SERIES: LOWER  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: STRONG CITY 7.5  
SEC 0 TNSP 19S? RNGE 8E?  
DATE: 03/17/1894 COLL: PROSSER CS  
SHALY LS ON CRUSHER HILL W OF STRONG. [5/1989-CRUSHER  
HILL MAY REFER TO A HILL WITH A QUARRY ON NE SEC 18 19S  
8E, ABOUT 1.5 MILES WNW OF STRONG CITY.] FM ORIG  
DESCRIBED AS 'GARRISON'. PROSSER CALLED SEC FROM BASE  
OF FLORENA SH MBR TO TOP OF SPEISER SH FM THE GARRISON  
FM.

(BL)3327A-PC

CHASE CO, KS  
SERIES: LOWER  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: STRONG CITY 7.5  
SEC 0 TNSP 19S? RNGE 8E?  
DATE: 05/17/1894 COLL: PROSSER CS  
YELLOWISH SHALE BELOW LOWEST LAYER OF 'FLINT'. CRUSHER  
HILL, STRONG. [5/1989-CRUSHER HILL MAY REFER TO A HILL  
WITH A QUARRY IN NE SEC 18 19S 8E, ABOUT 1.5 MILES WNW OF  
STRONG CITY.] FM ORIG DESCRIBED AS 'GARRISON'. PROSSER  
CALLED SEC FROM BASE OF FLORENA SH MBR TO TOP OF  
SPEISER SH FM THE GARRISON FM.

(BL)3329-PC

CHASE CO, KS  
SERIES: LOWER  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: SEE COMMENTS 7.5  
SEC 22 TNSP 20S RNGE 6E  
DATE: 05/19/1894 COLL: PROSSER CS  
SHALEY LS WITH PSEUDOMONOTIS. 1/2 MI W OF CLEMENTS.  
ELMDALE OR CEDAR POINT QUAD. FM ORIG DESCRIBED AS  
'GARRISON'. PROSSER CALLED SEC FROM BASE OF FLORENA SH  
MBR TO TOP OF SPEISER SH FM THE GARRISON FM.

(BL)3330-PC

SERIES: UNASSIGNED  
FM: UNASSIGNED  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: ELMDALE 7.5  
SEC 0 TNSP 21S RNGE 6E  
DATE: 06/30/1894 COLL: PROSSER CS  
LAMELLIBRANCH FAUNA UNDER STRONG FLINT, 4 MI UP COYNE  
BRANCH FROM CLEMENTS.

(BL)3331-PC

CHASE CO, KS  
SERIES: LOWER  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: ELMDALE 7.5  
SEC 0 TNSP 20S RNGE 6E  
DATE: 06/27/1894 COLL: PROSSER CS  
LAMELLIBRANCH FAUNA OVER COTTONWOOD, N OF CLEMENTS,  
OPPOSITE S RD LEADING INTO THE VILLAGE. PROB SEC 14. FM  
ORIG DESCRIBED AS 'GARRISON'. PROSSER CALLED SEC FROM  
BASE OF FLORENA SH MBR TO TOP OF SPEISER SH FM THE  
GARRISON FM.

(BL)3332-PC

CHASE CO, KS  
SERIES: WOLF  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: HYMER 7.5  
SEC 3 TNSP 19S RNGE 7E  
DATE: 06/23/1894 COLL: PROSSER CS  
RR CUT 0.16 MI SE OF ROCKLAND, ABOVE GANNON CREEK. FM  
ORIG DESCRIBED AS 'GARRISON'. PROSSER CALLED SEC FROM  
BASE OF FLORENA SH MBR TO TOP OF SPEISER SH FM THE  
GARRISON FM.

(BL)3333-PC

CHASE CO, KS  
SERIES: LOWER  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR  
QUAD: SEE NOTE 7.5  
SEC 0 TNSP RNGE  
DATE: COLL: PROSSER CS  
BRANCH RR 1 MI ABOVE GANNON CREEK. HYMER OR STRONG  
CITY QUAD. FM ORIG DESCRIBED AS 'GARRISON'. PROSSER  
CALLED SEC FROM BASE OF FLORENA SH MBR TO TOP OF  
SPEISER SH FM THE GARRISON FM.

(BL)3334-PC

RILEY CO, KS  
SERIES: LOWER  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: RILEY 7.5  
SEC 0 TNSP 10 S RNGE 8E?  
DATE: COLL: PROSSER CS  
SHALES OVER MANHATTAN STONE, MANHATTAN, KS. NO. 14. FM  
ORIG DESCRIBED AS 'GARRISON'. PROSSER CALLED SEC FROM  
BASE OF FLORENA SH MBR TO TOP OF SPEISER SH FM THE  
GARRISON FM.

(BL)3335-PC

CHASE CO, KS  
SERIES: LOWER  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: COTTONWOOD FALL 7.5  
SEC 0 TNSP 19S RNGE 8E  
DATE: 05/19/1894 COLL: PROSSER CS  
SHALEY LS WITH PSEUDOMONOTIS ON HILL 2 MI W OF  
COTTONWOOD FALLS. SEC 30 OR 31? FM ORIG DESCRIBED AS  
'GARRISON'. PROSSER CALLED SEC FROM BASE OF FLORENA SH  
MBR TO TOP OF SPEISER SH FM THE GARRISON FM.

(BL)3336-PC

MORRIS CO, KS  
SERIES: WOLF  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: COUNCIL GROVE 7.5  
SEC 0 TNSP 16 S RNGE 9 E  
DATE: 08/20/1894 COLL: PROSSER CS  
YELLOW SHALE BELOW BASE OF FLINT AT LIME KILN, 2 MI NE OF  
COUNCIL GROVE, KS. FM ORIG DESCRIBED AS 'GARRISON'.  
PROSSER CALLED SEC FROM BASE OF FLORENA SH MBR TO TOP  
OF SPEISER SH FM THE GARRISON FM.

(BL)3337-PC

MORRIS CO, KS  
SERIES: WOLF  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: COUNCIL GROVE 7.5  
SEC 0 TNSP 16 S RNGE 8 E  
DATE: 08/21/1894  
COLL: PROSSER CS  
BELOW THE FLINT, W PART OF COUNCIL GROVE, KS, FROM  
BLUFF UNDER 'STEM PIPE' FM ORIG DESCRIBED AS 'GARRISON'.  
PROSSER CALLED SEC FROM BASE OF FLORENA SH MBR TO TOP  
OF SPEISER SH FM THE GARRISON FM.

(BL)3338-PC

GEARY? CO, KS  
SERIES: LOWER  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: JUNCTION CITY 7.5  
SEC 0 TNSP 16 S RNGE 8 E  
DATE: 09/03/1894  
COLL: PROSSER CS  
YELLOWISH SHALES JUST BELOW BASE OF FLINT AT W END OF  
QUARTERMASTER'S BRIDGE, FT RILEY. FM ORIG DESCRIBED AS  
'GARRISON'. PROSSER CALLED SEC FROM BASE OF FLORENA SH  
MBR TO TOP OF SPEISER SH FM THE GARRISON FM.

(BL)3339A-PC

RILEY CO, KS  
SERIES: LOWER  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: OGDEN 7.5  
SEC 0 TNSP 11 S RNGE 6 E  
DATE: 04/02/1894  
COLL: PROSSER CS  
LOWER PART OF BLUFF, W OF OGDEN. [11/1988-INFO (WITH  
EXCEPTION OF FOSS) FROM CARD FOR  
(BL)3339-PC.] FOSS EDMONDIA, PSEUDOMONOTIS,  
PLEUROPHORUS. FIELDNUM? P304. [8/1989-PROB SEC 1 OR 12.] FM  
ORIG DESCRIBED AS 'GARRISON'. PROSSER CALLED SEC FROM  
BASE OF FLORENA SH MBR TO TOP OF SPEISER SH FM THE  
GARRISON FM.

(BL)3341-PC

CHASE? CO, KS  
SERIES: LOWER  
FM: MATFIELD SH?  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: MATFIELD GRN SE 7.5  
SEC 29 TNSP 22 S RNGE 8 E  
DATE: 07/04/1894  
COLL: PROSSER CS  
ON RD UP SOUTH FORK, S PART OF SEC29. BELOW FLINT.  
MATFIELD GREEN? GARRISON FM; PROB MATFIELD SH. [4/1989-  
SOUTH FORK MAY REFER TO SOUTH FORK COTTONWOOD RIVER.  
TP & RG ARE BASED ON DESCRIPTION GIVEN ON CARD AND ARE  
QUESTIONABLE.] [09/1990-\*FIELD LBLMAY SAY GRENOLA SH.]

(BL)3343-PC

CHASE CO, KS  
SERIES: WOLF  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: HYMER? 0.0  
SEC 0 TNSP 16S RNGE 7E  
DATE: 08/24/1894  
COLL: PROSSER CS  
RUN ON W SIDE OF BLUFF N OF HYMER(?). HYMER OR  
PARKERVILLE QUAD. PROB SEC 7. FM ORIG DESCRIBED AS  
'GARRISON?'. PROSSER CALLED SEC FROM BASE OF FLORENA SH  
MBR TO TOP OF SPEISER SH FM THE GARRISON FM.

(BL)3344-PC

CHASE CO, KS  
SERIES: WOLF  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: COTTONWOOD FALL 7.5  
SEC 32 TNSP 19S RNGE 8E  
DATE: 07/16/1894  
COLL: PROSSER CS  
QUARRY ON S PART OF SEC32. FALLS TP ON W SIDE OF BUCKEYE  
CRK. FM ORIG DESCRIBED AS 'GARRISON?'. PROSSER CALLED  
SEC FROM BASE OF FLORENA SH MBR TO TOP OF SPEISER SH FM  
THE GARRISON FM.

(BL)3345-PC

SEE COMMENTS CO, KS  
SERIES: LOWER  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 08/17/1893  
COLL: PROSSER CS  
W OF DIAMOND CREEK ABOVE LEDGE OF COTTONWOOD STONE.  
CHASE OR MORRIS COUNTY. FM ORIG DESCRIBED AS 'GARRISON'.  
PROSSER CALLED SEC FROM BASE OF FLORENA SH MBR TO TOP  
OF SPEISER SH FM THE GARRISON FM.

(BL)3346-PC

CHASE? CO, KS  
SERIES: LOWER  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: THIN LS OVER COTTONWOOD. COLL: PROSSER CS  
DESCRIBED AS 'GARRISON'. PROSSER CALLED SEC FROM BASE  
OF FLORENA SH MBR TO TOP OF SPEISER SH FM THE GARRISON  
FM.

(BL)3347-PC

RILEY CO, KS  
SERIES: LOWER  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: FORT RILEY NE 7.5  
SEC 0 TNSP RNGE  
DATE: 04/02/1894  
COLL: PROSSER CS  
FROM W BRANCH OF THREE MILE CREEK, MATFIELD GREEN HOR.  
[8/1989-10 OR 11 S AND 5 OR 6 E (LOC OF THREE MILE CK.) FM  
ORIG DESCRIBED AS 'GARRISON'. PROSSER CALLED SEC FROM  
BASE OF FLORENA SH MBR TO TOP OF SPEISER SH FM THE  
GARRISON FM.

(BL)3348-PC

CHASE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: MATFIELD GREEN 7.5  
SEC 0 TNSP \* RNGE  
DATE: 07/03/1894  
COLL: PROSSER CS  
SHALEY LS BY SIDE OF RD, 0.75 MI N OF MATFIELD GREEN, KS.  
LOC IS SEC 6 22S 8E OR SEC 31 21S 8E.

(BL)3348A-PC

CHASE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: MATFIELD GREEN 7.5  
SEC 6 TNSP 22S RNGE 8E  
DATE: 08/12/1883  
COLL: PROSSER CS  
FROM SHALEY LS BY ROADSIDE, 0.5 MI N OF MATFIELD GREEN,  
ABOVE COTTONWOOD STONE.

(BL)3349-PC

CHASE CO, KS  
SERIES: WOLF  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: MATFIELD GREEN 7.5  
SEC 0 TNSP 22S RNGE 8E  
DATE: 08/14/1893  
COLL: PROSSER CS  
SHALEY LS IN SOUTH FORK AT MATFIELD GREEN, KS. FM ORIG  
DESCRIBED AS 'GARRISON'. PROSSER CALLED SEC FROM BASE  
OF FLORENA SH MBR TO TOP OF SPEISER SH FM THE GARRISON  
FM.

(BL)3350-PC

CHASE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: MATFIELD GREEN 7.5  
SEC 0 TNSP RNGE  
DATE: 07/04/1894  
COLL: PROSSER CS  
TOP OF MSSV LS IN RR CUT, 1.5 MI ABOVE MATFIELD GREEN, KS.

(BL)3351-PC

CHASE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: MATFIELD GREEN 7.5  
SEC 0 TNSP 22S RNGE 8E  
DATE: COLL: PROSSER CS  
NEOSHO FM, MATFIELD GREEN, KS.

(BL)3352-PC

CHASE CO, KS  
SERIES: LOWER  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR  
QUAD: STRONG CITY 7.5  
SEC 0 TNSP 19S RNGE 8E  
DATE: 07/18/1893 COLL: PROSSER CS  
LANTRY'S FOX CREEK QUARRIES, 0.5 MI W OF STRONG CITY.  
FROM LOWER SHALES, ABOVE THE 'DIMENSION STONE'. PROB  
SEC 17. FM ORIG DESCRIBED AS 'GARRISON'. PROSSER CALLED  
SEC FROM BASE OF FLORENA SH MBR TO TOP OF SPEISER SH FM  
THE GARRISON FM.

(BL)3353-PC

CHASE CO, KS  
SERIES: LOWER  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR  
QUAD: SEE COMMENTS 7.5  
SEC 0 TNSP RNGE  
DATE: 07/20/1893 COLL: PROSSER CS  
SHALES ON TOP OF MAIN QUARRY STONE (COTTONWOOD STONE)  
BTWN STRONG & ELLINOR, KS. SAFFORDVILLE OR STRONG CITY  
QUAD. FM ORIG DESCRIBED AS 'GARRISON'. PROSSER CALLED  
SEC FROM BASE OF FLORENA SH MBR TO TOP OF SPEISER SH FM  
THE GARRISON FM.

(BL)3354-PC

CHASE CO, KS  
SERIES: LOWER  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR  
QUAD: STRONG CITY 7.5  
SEC 0 TNSP RNGE  
DATE: 08/17/1893 COLL: PROSSER CS  
FROM ON TOP OF COTTONWOOD STONE, NEAR MT RYAN, 4(?)  
MI(?) W OF STRONG. FM ORIG DESCRIBED AS 'GARRISON'.  
PROSSER CALLED SEC FROM BASE OF FLORENA SH MBR TO TOP  
OF SPEISER SH FM THE GARRISON FM.

(BL)3355-PC

RILEY CO, KS  
SERIES: LOWER  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR  
QUAD: MANHATTAN 7.5  
SEC 0 TNSP 10 S RNGE 7 E  
DATE: 08/21/1893 COLL: PROSSER CS  
FROM SHALES ON TOP OF MANHATTAN STONE, 2.5 MI SW OF  
MANHATTAN, KS. PROB SEC 26. FM ORIG DESCRIBED AS  
'GARRISON'. PROSSER CALLED SEC FROM BASE OF FLORENA SH  
MBR TO TOP OF SPEISER SH FM THE GARRISON FM.

(BL)3356-PC

RILEY CO, KS  
SERIES: LOWER  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR  
QUAD: MANHATTAN 7.5  
SEC 0 TNSP RNGE  
DATE: 03/31/1894 COLL: PROSSER CS  
PROSPECT MOUNTAIN, MANHATTAN KS. SHALES ON TOP OF  
MANHATTAN STONE. [8/1989-CANNOT FIND PROSPECT MTN.] FM  
ORIG DESCRIBED AS 'GARRISON'. PROSSER CALLED SEC FROM  
BASE OF FLORENA SH MBR TO TOP OF SPEISER SH FM THE  
GARRISON FM.

(BL)3357-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: UNASSIGNED  
FLORENA SH MBR  
QUAD: ESKRIDGE 7.5  
SEC 0 TNSP 14 S RNGE 12 E  
DATE: 07/15/1894 COLL: PROSSER CS  
SHALE OVER COTONWOOD STONE IN RR CUT AT ESKRIDGE.  
PROB SEC 5.

(BL)3358-PC

CHASE CO, KS  
SERIES: WOLF  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR  
SEC 14 TNSP RNGE  
DATE: COLL: PROSSER CS  
SHALES OVER COTTONWOOD STONE ABOVE GEORGE MCNEE'S;  
MIDDLE CREEK. [8/1989-THE MIDDLE CK REFERRED TO MAY BE  
THE MIDDLE CK IN CHASE AND MARION COUNTIES.] FM ORIG  
DESCRIBED AS 'GARRISON'. PROSSER CALLED SEC FROM BASE  
OF FLORENA SH MBR TO TOP OF SPEISER SH FM THE GARRISON  
FM.

(BL)3359-PC

CHASE CO, KS  
SERIES: WOLF  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR  
QUAD: ELMDALE 7.5  
SEC 0 TNSP 19S RNGE 7E  
DATE: COLL: PROSSER CS  
SHALE OVER COTTONWOOD STONE, ON HILL 2.5 MI W OF  
ELMDALE. FM ORIG DESCRIBED AS 'GARRISON'. PROSSER  
CALLED SEC FROM BASE OF FLORENA SH MBR TO TOP OF  
SPEISER SH FM THE GARRISON FM.

(BL)3360-PC

LYON CO, KS  
SERIES: WOLF  
FM: UPPER\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR  
QUAD: LAKE KAHOLA 7.5  
SEC 3 TNSP 17S? RNGE 9E?  
DATE: 06/31/1894 COLL: PROSSER CS  
COTTONWOOD SHALE IN DEUTSCHER QUARRY, 3 MI NW OF  
DUNLAP. [5/1988-LOCATION IS QUESTIONABLE. MAY BE QUARRY  
APPROX 3 MI NW OF DUNLAP. THERE IS ALSO A QUARRY 3.5 MI  
FROM DUNLAP WHICH COULD BE THE CORRECT LOCALITY.  
QUARRY 3 MILES FROM DUNLAP IS IN THE SE NWSEC3. FM ORIG  
DESCRIBED AS 'GARRISON'. PROSSER CALLED SEC FROM BASE  
OF FLORENA SH MBR TO TOP OF SPEISER SH FM THE GARRISON  
FM.

(BL)3363-PC

CHASE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: UNASSIGNED  
FLORENA SH MBR  
QUAD: ELMDALE 7.5  
SEC 0 TNSP 20S RNGE 6E  
DATE: 05/19/1894 COLL: PROSSER CS\*  
COTTONWOOD SHALE IN QUARRY 1 MI NE OF CLEMENTS. COLL  
CSP & HAWORTH. [5/1989-QUARRY MAY BE THE QUARRY .75  
MILES NNE OF CLEMENTS IN THE E 1/2 OF SW 1/4 SEC 14.]

(BL)3363A-PC

SERIES: UNASSIGNED  
FM: UNASSIGNED  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: ELMDALE 7.5  
SEC 0 TNSP 20S RNGE 6E  
DATE: COLL:  
A SERIES OF CHONETES GRANULIFER FROM CLEMENTS, FOUND  
WITH FIELDNUM(?) P124.

(BL)3363B-PC

CHASE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: UNASSIGNED  
FLORENA SH MBR

QUAD: ELM DALE 7.5  
SEC 0 TNSP 20S RNGE 6E  
COLL:

DATE:  
CLEMENTS, KS.

(BL)3363C-PC

CHASE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: UNASSIGNED  
FLORENA SH MBR

QUAD: ELM DALE 7.5  
SEC 0 TNSP 20S RNGE 6E

DATE: 07/28/1893 COLL: PROSSER CS  
FROM SHALES AT CLEMENTS QUARRY. [5/1989-PROBABLY ONE  
OF TWO QUARRIES N OF CLEMENTS.]

(BL)3364-PC

CHASE CO, KS  
SERIES: LOWER  
FM: UPPER\*

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR

QUAD: COTTONWOOD FALL 7.5  
SEC 0 TNSP RNGE

DATE: 07/19/1893 COLL: PROSSER CS  
SHALES ABOVE COTTONWOOD STONE, RETTIGER QUARRY,  
COTTONWOOD FALLS, KS. ORIG 2 LOTS NUMBERED P72 & P78.  
[5/1989-THERE ARE SEVERAL QUARRIES IN THE COTTONWOOD  
FALLS AREA.] FM ORIG DESCRIBED AS 'GARRISON'. PROSSER  
CALLED SEC FROM BASE OF FLORENA SH MBR TO TOP OF  
SPEISER SH FM THE GARRISON FM.

(BL)3365-PC

CHASE CO, KS  
SERIES: LOWER  
FM: UPPER\*

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR

QUAD: COTTONWOOD FALL 7.5  
SEC 0 TNSP RNGE

DATE: 07/17/1893 COLL: PROSSER CS  
SHALES ON TOP OF LS IN PERRIUS(?) QUARRY, JUST W OF  
COTTONWOOD FALLS. FM ORIG DESCRIBED AS 'GARRISON'.  
PROSSER CALLED SEC FROM BASE OF FLORENA SH MBR TO TOP  
OF SPEISER SH FM THE GARRISON FM.

(BL)3366-PC

LYON? CO, KS  
SERIES: WOLF  
FM: UPPER\*

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR

QUAD: AMERICUS 7.5  
SEC 0 TNSP RNGE

DATE: 06/29/1894 COLL: PROSSER CS  
COTTONWOOD SH ON COTTONWOOD STONE NE OF DUNLAP. SEE

(BL)3360-PC. FM ORIG DESCRIBED AS 'GARRISON'. PROSSER  
CALLED SEC FROM BASE OF FLORENA SH MBR TO TOP OF  
SPEISER SH FM THE GARRISON FM.

(BL)3367-PC

UNASSIGNED CO, KS  
SERIES: LOWER  
FM: UPPER\*

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR

QUAD: AMERICUS 7.5  
SEC 0 TNSP RNGE

DATE: 08/18/1893 COLL: PROSSER CS  
SHALES ABOVE COTTONWOOD STONE IN QUARRY E OF SUNMANS  
CREEK BY SCHOOL HOUSE. FM ORIG DESCRIBED AS 'GARRISON'.  
PROSSER CALLED SEC FROM BASE OF FLORENA SH MBR TO TOP  
OF SPEISER SH FM THE GARRISON FM.

(BL)3368-PC

CHASE CO, KS  
SERIES: LOWER  
FM: UPPER\*

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR

QUAD: STRONG CITY 7.5  
SEC 19 TNSP 19 S RNGE 08 E

DATE: 07/22/1897 COLL: PROSSER CS  
SHALES OVER COTTONWOOD LS. FOX CREEK QUARRY. (SEE  
COTTONWOOD FALLS, KANSAS, QUAD. NO. 109) PROB IN SEC19  
T19S R8E. FM ORIG DESCRIBED AS 'GARRISON'. PROSSER CALLED  
SEC FROM BASE OF FLORENA SH MBR TO TOP OF SPEISER SH FM  
THE GARRISON FM.

(BL)3369-PC

LYON CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: UNASSIGNED  
FLORENA SH MBR

QUAD: ALLEN? 7.5  
SEC 19 TNSP 16S RNGE 11E

DATE: 00/00/1987 COLL: PROSSER CS  
COTTONWOOD SHALE, BUSHONG QUARRY. [5/1989-MAY BE THE  
QUARRY IN THE SW NE SEC 19, 1.2 MI E OF BUSHONG. LOCATION  
IS GIVEN FOR THIS QUARRY.]

(BL)3370-PC

CHASE CO, KS  
SERIES: LOWER  
FM: UPPER\*

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR

SEC 0 TNSP RNGE

DATE: 07/19/1893 COLL: PROSSER CS  
FOSSILIFEROUS SHALE, DE CANIORS(?) QUARRY JUST W OF  
RITTEGER. OVER COTTONWOOD STONE. FM ORIG DESCRIBED AS  
'GARRISON'. PROSSER CALLED SEC FROM BASE OF FLORENA SH  
MBR TO TOP OF SPEISER SH FM THE GARRISON FM.

(BL)3371-PC

UNASSIGNED CO, KS  
SERIES: LOWER  
FM: UPPER\*

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR

SEC 0 TNSP RNGE

DATE: 00/00/1897 COLL: PROSSER CS  
SHALES OVER MSSV LS BY STONE HOUSE W OF SINNUOUS(?)  
CREEK. FM ORIG DESCRIBED AS 'GARRISON'. PROSSER CALLED  
SEC FROM BASE OF FLORENA SH MBR TO TOP OF SPEISER SH FM  
THE GARRISON FM.

(BL)3372-PC

MARION CO, KS  
SERIES: LOWER  
FM: BARNESTON LS

SYSTEM: PERM  
GROUP: CHASE  
FLORENCE LS MBR

QUAD: FLORENCE 7.5  
SEC 5 TNSP 21 S RNGE 05 E

DATE: 07/28/1893 COLL: PROSSER CS  
SW SEC5. FROM LEDGE BELOW QUARRY E OF FLORENCE. PROB E  
OF FLORENCE ON N SIDE OF HWY 50. APPROX 1.5 MI E OF  
FLORENCE.

(BL)3373-PC

CHASE CO, KS  
SERIES: LOWER  
FM: BARNESTON LS

SYSTEM: PERM  
GROUP: CHASE  
FLORENCE LS MBR

QUAD: WONSEVU? 7.5  
SEC 0 TNSP 21 S RNGE 5 E

DATE: 06/29/1894 COLL: PROSSER CS  
LS W/ FLINT ON SECOND BRANCH OF CEDAR CREEK, WEST, N OF  
SECOND RD TO FLORENCE.

(BL)3374-PC

MORRIS CO, KS  
SERIES: LOWER  
FM: BARNESTON LS

SYSTEM: PERM  
GROUP: CHASE  
FLORENCE LS MBR

QUAD: COUNCIL GROVE LK 7.5  
SEC 30 TNSP 16 S RNGE 8 E

DATE: 08/23/1894 COLL: PROSSER CS  
SECOND FLINT, N SIDE OF ELM CREEK & RR. LOT 13, SEC 30.

(BL)3375-PC

GEARY CO, KS  
SERIES: LOWER  
FM: BARNESTON LS  
SYSTEM: PERM  
GROUP: CHASE  
FLORENCE LS MBR  
QUAD: GEARY 7.5  
SEC 7 TNSP 12 S RNGE 6 E  
DATE: 09/07/1894  
COLL: PROSSER CS  
SHALEY LS JUST AT BASE OF UPPER FT RILEY FLINT, ON RD SE JUNCTION CITY. SE1/4SEC7. JEFFERSON TP. [8/1989-SECTIONS IN THIS AREA ARE IRREGULAR. THE SECTION REFERRED TO HERE IS SE OF THE SMOKEY HILL RIVER.]

(BL)3376-PC

CHASE CO, KS  
SERIES: LOWER  
FM: BARNESTON LS  
SYSTEM: PERM  
GROUP: CHASE  
FLORENCE LS MBR  
QUAD: SEE COMMENT 0.0  
SEC 0 TNSP \* RNGE \*  
DATE: 06/30/1894  
COLL: PROSSER CS  
FROM SECOND FLINT UP BRANCH OF COYNE BRANCH FROM THE W. [8/1989-QUAD IS ELM DALE OR HOMESTEAD. LOC IS 20 OR 21 S AND 6 E.]

(BL)3377-PC

CHASE CO, KS  
SERIES: LOWER  
FM: BARNESTON LS  
SYSTEM: PERM  
GROUP: CHASE  
FLORENCE LS MBR  
QUAD: SEE COMMENT 7.5  
SEC 0 TNSP RNGE  
DATE: 07/03/1894  
COLL: PROSSER CS  
NEAR TOP OF DIVIDE ABOVE COYNE BRANCH. THIRD FLINT (FLORENCE). [8/1989-QUAD IS ELM DALE OR HOMESTEAD.]

(BL)3378-PC

UNASSIGNED CO, KS  
SERIES: LOWER  
FM: BARNESTON LS  
SYSTEM: PERM  
GROUP: CHASE  
FLORENCE LS MBR  
SEC 0 TNSP RNGE  
DATE: 08/20/1894  
COLL: PROSSER CS  
FLINT (FLORENCE) BELOW ALTA VISTA LS. 1 MI N OF EAST BRANCH.

(BL)3379-PC

RILEY CO, KS  
SERIES: LOWER  
FM: BARNESTON LS  
SYSTEM: PERM  
GROUP: CHASE  
FLORENCE LS MBR  
QUAD: JUNCTION CITY 7.5  
SEC 0 TNSP 11 S RNGE 6 E  
DATE: 04/03/1894  
COLL: PROSSER CS  
SHERIDAN BLUFFS, NO. 9, BELOW FORT RILEY. LOC GIVEN FOR SHERIDAN PT WHICH IS NE OF CAMP WHITESIDE IN THE FT RILEY RES.

(BL)3380-PC

MORRIS CO, KS  
SERIES: LOWER  
FM: BARNESTON LS  
SYSTEM: PERM  
GROUP: CHASE  
FLORENCE LS MBR  
QUAD: COUNCIL GROVE LK 7.5  
SEC 29 TNSP 16 S RNGE 8 E  
DATE: 08/23/1894  
COLL: PROSSER CS  
SECOND FLINT S SIDE ELM CREEK, NW1/4SEC29. COUNCIL GROVE TP.

(BL)3381-PC

UNASSIGNED CO, KS  
SERIES: LOWER  
FM: BARNESTON LS  
SYSTEM: PERM  
GROUP: CHASE  
FLORENCE LS MBR  
SEC 0 TNSP RNGE  
DATE: 06/29/1894  
COLL: PROSSER CS  
FLORENCE FLINT, TOP OF BLUFF, 0.5 MI SW OF CEDAR GROVE. FOUND WITH "152". [03/91-CARD FOUND IN FILE, NUMBER NOT ON ORIGINAL DATA BASE. CASE, DRAWER NOT KNOWN.]

(BL)3382-PC

MARION CO, KS  
SERIES: LOWER  
FM: BARNESTON LS  
SYSTEM: PERM  
GROUP: CHASE  
FLORENCE LS MBR  
QUAD: ALTA VISTA 7.5  
SEC 10 TNSP 18 S RNGE 05 E  
LAT: 38.2955 LONG: 96.5205  
DATE: 08/08/1893  
COLL: PROSSER CS  
NESEC10. TOP OF FLORENCE FLINT BTWN 3 & 4 MI UP NORTH BRANCH OF MIDDLE CREEK FROM ELK.

(BL)3383-PC

MARION CO, KS  
SERIES: LOWER  
FM: BARNESTON LS  
SYSTEM: PERM  
GROUP: CHASE  
FLORENCE LS MBR  
QUAD: ALTA VISTA 7.5  
SEC 22 TNSP 18 S RNGE 05 E  
LAT: 38.2430 LONG: 96.5205  
DATE: 08/09/1893  
COLL: PROSSER CS  
SESEC22. UPPER PART OF FLORENCE FLINT, 0.5 MI ABOVE ELK PO & APPROX 74 FT ABOVE LEVEL OF MIDDLE CREEK.

(BL)3384-PC

MORRIS CO, KS  
SERIES: LOWER  
FM: BARNESTON LS  
SYSTEM: PERM  
GROUP: CHASE  
FLORENCE LS MBR  
QUAD: DIAMOND SPRINGS 7.5  
SEC 0 TNSP RNGE  
DATE: 08/25/1894  
COLL: PROSSER CS  
FLINT TOP OF BLUFF (FLORENCE) PROB SEC 11, DIAMOND VALLEY TPE OF DODGE CREEK. [8/1989-FOUND NO DODGE CK BUT THERE IS A DODDS CK IN DIAMOND VALLEY TP AND THE LOCATION DATA IS BASED ON THIS LOCATION.]

(BL)3385-PC

MORRIS CO, KS  
SERIES: LOWER  
FM: WREDFORD LS  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: BURDICK 7.5  
SEC 0 TNSP 17 S RNGE 6 E  
DATE: 07/21/1893  
COLL: PROSSER CS  
RR CUT IN FLINT ROCK, 0.25 MI ABOVE DIAMOND SPRINGS. [8/1989-LOC DATA IS BASED ON THE ASSUMPTION THAT "ABOVE" MEANS UP STREAM ALONG THE RR, WHICH IN THIS CASE IS APPROX EAST.]

(BL)3386-PC

RILEY CO, KS  
SERIES: LOWER  
FM: MATFIELD SH  
SYSTEM: PERM  
GROUP: CHASE  
FLORENCE LS? MBR  
QUAD: SEE COMMENT 7.5  
SEC 0 TNSP RNGE  
DATE: 06/26/1894  
COLL: PROSSER CS  
FLORENCE FLINT NEAR HEAD OF WILD CAT CREEK. BALA OR RILEY.

(BL)3387-PC

MARION CO, KS  
SERIES: WOLF  
FM: WINFIELD LS  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: FLORENCE 7.5  
SEC 1 TNSP 22 S RNGE 04 E  
LAT: 38.0955 LONG: 96.5620  
DATE: 06/28/1894  
COLL: PROSSER CS  
SESEC1. CONCRETIONS FROM CONCRETIONARY LS OVER MARION FLINT AT HEAD OF SPRING CREEK, 6 MI S OF FLORENCE. ELEV 1340 FT, APPROX 0.2 MI W OF OLD RR GRADE, 1.1 MI W OF HWY 77.



(BL)3388-PC

MARION CO, KS SYSTEM: PERM  
SERIES: WOLF GROUP: CHASE  
FM: WINFIELD LS MEMBER: UNASSIGNED  
QUAD: LINCOLNVILLE SW 7.5  
SEC 35 TNSP 20 S RNGE 04 E  
LAT: 38.1600 LONG: 96.5720  
DATE: 08/05/1893 COLL: PROSSER CS  
NESEC35. FROM SECOND FLINT ON HILL 2.25 MI NW OF  
FLORENCE. ELEV PROB 1380 FT. E 0.2 MI OF HWY 77.

(BL)3389-PC

MARION CO, KS SYSTEM: PERM  
SERIES: WOLF GROUP: CHASE  
FM: WINFIELD LS MEMBER: UNASSIGNED  
QUAD: LINCOLNVILLE SW 7.5  
SEC 5 TNSP 21 S RNGE 05 E  
LAT: 38.1540 LONG: 96.5420  
DATE: COLL: PROSSER CS  
NESEC5. MARION FLINT FROM HIGH LAND 1.5 MI NE OF  
FLORENCE. 0.5 MI SW OF MARTIN CREEK, ELEV 1390 FT.

(BL)3390-PC

BUTLER CO, KS SYSTEM: PERM  
SERIES: WOLF GROUP: CHASE  
FM: WINFIELD LS MEMBER: UNASSIGNED  
QUAD: BURNS 7.5  
SEC 0 TNSP 23 S RNGE 4E  
DATE: 07/09/1894 COLL: PROSSER CS  
MYALINA FROM LOOSE SPECIMENS AT BRIDGE OVER  
WHITEWATER CK [5/1989-NOW CALLED MAY BRANCH], BTWN  
SECS 10 & 15, CLIFFORD TP. ORIGINALLY 2 LOTS NUMBERED P98  
& P220.

(BL)3391-PC

DICKINSON CO, KS SYSTEM: PERM  
SERIES: WOLF GROUP: CHASE  
FM: WINFIELD LS MEMBER: UNASSIGNED  
QUAD: CHAPMAN 7.5  
SEC 0 TNSP RNGE  
DATE: COLL: PROSSER CS  
FROM POORS QUARRY NW OF CHAPMAN. [8/1989-LOCATION IS  
PROBABLY IN T12S R3 OR 4E.]

(BL)3392-PC

MARION CO, KS SYSTEM: PERM  
SERIES: WOLF GROUP: CHASE  
FM: WINFIELD LS MEMBER: UNASSIGNED  
QUAD: MARION 7.5  
SEC 18 TNSP 20 S RNGE 04 E  
LAT: 38.1758 LONG: 97.0215  
DATE: 08/05/1834 COLL: PROSSER CS  
SEC PROB 18 OR 19. FROM SECOND FLINT IN CUT BY HWY 3 MI  
BELOW MARION. N SPRING BRANCH RIVER.

(BL)3393-PC

MARION CO, KS SYSTEM: PERM  
SERIES: WOLF GROUP: CHASE  
FM: WINFIELD LS MEMBER: UNASSIGNED  
QUAD: MARION 7.5  
SEC 18 TNSP 20 S RNGE 04 E  
LAT: 38.1800 LONG: 97.0130  
DATE: 07/11/1894 COLL: PROSSER CS  
SESEC18. FROM FLINT AT SPRING CREEK, 2.5 MI BELOW MARION.  
[3/1990-ON W SIDE HWY 50, 0.75 MI E OF GRAVEL PIT.]

(BL)3394-PC

MARION CO, KS SYSTEM: PERM  
SERIES: WOLF GROUP: CHASE  
FM: WINFIELD LS MEMBER: UNASSIGNED  
QUAD: FLORENCE 7.5  
SEC 19 TNSP 21 S RNGE 05 E  
LAT: 38.1230 LONG: 96.5520  
DATE: 00/00/1897 COLL: PROSSER CS  
SEC19, NO. 1. BURNS & MARION. APPROX 2 MI S OF FLORENCE,  
ELEV APPROX 1380 FT. NOTE: IF NO. 1 REFERS TO SECTION  
'WINFIELD' IS CORRECT AS IT IS AT BASE.

(BL)3395-PC

CHASE CO, KS SYSTEM: PERM  
SERIES: WOLF GROUP: CHASE  
FM: WINFIELD LS MEMBER: UNASSIGNED  
QUAD: WONSEVU 7.5  
SEC 7 TNSP 22 S RNGE 6E  
DATE: 07/19/1894 COLL: PROSSER CS  
MARION CONCRETIONERY LS, SEC 7, CEDAR TP.

(BL)3396-PC

MARION CO, KS SYSTEM: PERM  
SERIES: WOLF GROUP: CHASE  
FM: WINFIELD LS LUTA LS MBR  
QUAD: FLORENCE 7.5  
SEC 18 TNSP 21 S RNGE 05 E  
LAT: 38.1300 LONG: 96.5500  
DATE: 07/10/1894 COLL: PROSSER CS  
PROB SEC18 OR 19. FROM WALL BY BURNS & FLORENCE RD S OF  
RR CROSSING. APPROX 1-2 MI SW OF FLORENCE.

(BL)3397-PC

MARION CO, KS SYSTEM: PERM  
SERIES: WOLF GROUP: CHASE  
FM: WINFIELD LS MEMBER: UNASSIGNED  
QUAD: FLORENCE 7.5  
SEC 15 TNSP 22 S RNGE 05 E  
LAT: 38.0800 LONG: 96.5240  
DATE: 07/06/1894 COLL: PROSSER CS  
SEC15&16. CONCRETIONERY LS 1 MI N OF RR CROSSING & 6 MI  
FROM BURNS, BTWN SECS 3 & 6(?) APPROX 1.6 MI E OF HWY 77.

(BL)3398-PC

MARION CO, KS SYSTEM: PERM  
SERIES: WOLF GROUP: CHASE  
FM: WINFIELD LS MEMBER: UNASSIGNED  
QUAD: FLORENCE 7.5  
SEC 15 TNSP 22 S RNGE 05 E  
LAT: 38.0800 LONG: 96.5240  
DATE: 07/06/1894 COLL: PROSSER CS  
SECS15&16. CONCRETIONERY LS 3.5 MI E OF N OF BURNS, BTWN  
SECS 15 & 16. APPROX 1.6 MI E OF HWY 77.

(BL)3399-PC

MARION CO, KS SYSTEM: PERM  
SERIES: WOLF GROUP: CHASE  
FM: WINFIELD LS MEMBER: UNASSIGNED  
QUAD: BURNS 7.5  
SEC 33 TNSP 22 S RNGE 05 E  
LAT: 38.0635 LONG: 96.5255  
DATE: 07/06/1894 COLL: PROSSER CS  
W OF HWY 77.

(BL)3400-PC

MARION CO, KS SYSTEM: PERM  
SERIES: WOLF GROUP: CHASE  
FM: WINFIELD LS MEMBER: UNASSIGNED  
QUAD: FLORENCE SE 7.5  
SEC 34 TNSP 22 S RNGE 05 E  
LAT: 38.0540 LONG: 96.5228  
DATE: 07/20/1894 COLL: PROSSER CS  
CONGLOMERATE LS E OF BURNS. ELEV APPROX 1500 FT.

(BL)3402-PC

MARION CO, KS SYSTEM: PERM  
SERIES: UNASSIGNED GROUP: SUMNER  
FM: MARION\* MEMBER: UNASSIGNED  
QUAD: FLORENCE SE 7.5  
SEC 26 TNSP 22 S RNGE 05 E  
LAT: 38.0630 LONG: 96.5130  
DATE: 07/06/1894 COLL: PROSSER CS  
NESEC26. LS NEAR TOP OF HILL 3 MI NE OF BURNS. APPROX  
ELEV 1500 FT, APPROX 0.2 MI W OF COUNTY LINE. APPROX 0.4 MI  
S OF HWY 77. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189,  
1968.

(BL)3403-PC

UNASSIGNED CO, KS SYSTEM: PERM  
SERIES: UNASSIGNED GROUP: SUMNER  
FM: MARION\* MEMBER: UNASSIGNED  
SEC 6 TNSP RNGE  
DATE: 07/24/1894 COLL: PROSSER CS  
NW1/4SEC6, JUST S OF COUNTY-LINE RD & ABOVE MARION  
CONGL. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)3403A-PC

UNASSIGNED CO, KS SYSTEM: UNASSIGNED  
SERIES: UNASSIGNED GROUP: UNASSIGNED  
FM: UNASSIGNED MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 07/24/1894 COLL: PROSSER CS  
COUNTY LINE RD, N LINE SEC6, NE1/4, ABOVE MARION CONG.

(BL)3404-PC

UNASSIGNED CO, KS SYSTEM: PERM  
SERIES: WOLF GROUP: CHASE  
FM: WINFIELD LS LUTA LS MBR  
SEC 0 TNSP RNGE  
DATE: 07/25/1894 COLL: PROSSER CS  
SEC 22, MILTON TP BELOW THE MARION CONGL.

(BL)3406-PC

MORRIS CO, KS SYSTEM: PERM  
SERIES: UNASSIGNED GROUP: SUMNER  
FM: MARION\* MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 00/00/1897 COLL: PROSSER CS  
MARION FM, MORRIS CO, KS. \*FM NOT LISTED IN KS GEOL  
SURVEY BULL 189, 1968.

(BL)3407-PC

UNASSIGNED CO, KS SYSTEM: PERM  
SERIES: UNASSIGNED GROUP: SUMNER  
FM: MARION\* MEMBER: UNASSIGNED  
SEC 19 TNSP RNGE  
DATE: 07/20/1894 COLL: PROSSER CS  
SW1/4SEC19, 1 MI W OF TOMLINSON. MARION CONGL. \*FM NOT  
LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)3408-PC

MORRIS CO, KS SYSTEM: PERM  
SERIES: UNASSIGNED GROUP: SUMNER  
FM: MARION\* MEMBER: UNASSIGNED  
QUAD: WILSEY 7.5  
SEC 0 TNSP 16 S RNGE 7 E  
DATE: 08/23/1894 COLL: PROSSER CS  
LOOSE BUFF LS IN FIELD 0.75 MI E OF WILSEY BTWN SECS 21 &  
28. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)3409-PC

COWLEY CO, KS SYSTEM: PERM  
SERIES: UNASSIGNED GROUP: SUMNER  
FM: MARION\* MEMBER: UNASSIGNED  
QUAD: ARKANSAS CITY 7.5  
SEC 0 TNSP \* RNGE \*  
DATE: 00/00/1897 COLL: PROSSER CS  
WALNUT RIVER OPPOSITE ARKANSAS CITY, KS. NOTE: PART OF  
THIS RETURNED TO PROSSER UNDER IMPRESSION THAT THE  
WHOLE COLLECTION WAS TOGETHER. 34 OR 35 S & 3 OR 4 E. \*FM  
NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)3410-PC

COWLEY CO, KS SYSTEM: PERM  
SERIES: UNASSIGNED GROUP: SUMNER  
FM: MARION\* MEMBER: UNASSIGNED  
QUAD: ARKANSAS CITY 7.5  
SEC 0 TNSP \* RNGE \*  
DATE: 08/01/1894 COLL: PROSSER CS  
FROM QUARRY 2 MI N OF ARKANSAS CITY & 14 MI ABOVE HEAD  
GATE. MARION? 34 S & 3 OR 4 E. \*FM NOT LISTED IN KS GEOL  
SURVEY BULL 189, 1968.

(BL)3411-PC

COWLEY CO, KS SYSTEM: PERM  
SERIES: UNASSIGNED GROUP: UNASSIGNED  
FM: MARION\* MEMBER: UNASSIGNED  
QUAD: ARKANSAS CITY 7.5  
SEC 0 TNSP 34 S RNGE \*  
DATE: 05/07/1894 COLL: GOULD CN  
RNGE3E OR 4E. BLUFF N OF ARKANSAS CITY. \*FM NOT LISTED IN  
KS GEOL SURVEY BULL 189, 1968.

(BL)3412-PC

MARION CO, KS SYSTEM: PERM  
SERIES: UNASSIGNED GROUP: SUMNER  
FM: MARION\* MEMBER: UNASSIGNED  
QUAD: FLORENCE 7.5  
SEC 19 TNSP 22 S RNGE 05 E  
LAT: 38.0735 LONG: 96.5530  
DATE: 07/06/1894 COLL: PROSSER CS  
NE1/4SEC19. PLEUROPHORUS & BAKEWELLIA LS 3.5 MI NW OF  
BURNS. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)3413-PC

MARION CO, KS SYSTEM: PERM  
SERIES: UNASSIGNED GROUP: UNASSIGNED  
FM: MARION\* MEMBER: UNASSIGNED  
QUAD: BURNS 7.5  
SEC 29 TNSP 22 S RNGE 05 E  
LAT: 38.0640 LONG: 96.5330  
DATE: 07/06/1894 COLL: PROSSER CS  
NESEC29. QUARRY W/ FOSS 1.75 MI W OF N OF BURNS ABOVE  
MARION LS. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)3414-PC

MARION CO, KS SYSTEM: PERM  
SERIES: UNASSIGNED GROUP: SUMNER  
FM: MARION\* MEMBER: UNASSIGNED  
QUAD: BURNS 7.5  
SEC 25 TNSP 22 S RNGE 04 E  
LAT: 38.0550 LONG: 96.5600  
DATE: 07/09/1894 COLL: PROSSER CS  
PROB SECS 27, 26, OR 25. RNGE 4 OR 5 E. LOOSE WEATHERED  
SPICEMINS ON LINE BTWN MILTON & SUMMIT TPS. \*FM NOT  
LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)3415-PC

MARION CO, KS SYSTEM: PERM  
SERIES: UNASSIGNED GROUP: SUMNER  
FM: MARION\* MEMBER: UNASSIGNED  
QUAD: BURNS 7.5  
SEC 33 TNSP 22 S RNGE 05 E  
LAT: 38.0550 LONG: 96.6240  
DATE: 07/09/1894 COLL: PROSSER CS  
LEDGE ON RD BTWN SECS SE33 & 34, APPROX 0.12 MI N OF  
COUNTY LINE; 3 MI W OF MILTON & SUMMIT LINE & W OF WHITE  
WATER. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)3416-PC

MARION CO, KS SYSTEM: PERM  
SERIES: UNASSIGNED GROUP: UNASSIGNED  
FM: MARION\* MEMBER: UNASSIGNED  
QUAD: MARION 7.5  
SEC 32 TNSP 19 S RNGE 04 E  
LAT: 38.2100 LONG: 97.0030  
DATE: 07/11/1894 COLL: PROSSER CS  
SWSEC32. FROM THIN LAYER 5 FT ABOVE THE CONL LS AT  
MARION CHURCH. APPROX 0.5 MI W OF CEMETERY & N OF HWY  
56. \*FM NOT LISTED IN KS GEOL SURVEY 189, 1968.

(BL)3417-PC

UNASSIGNED CO, KS SYSTEM: PERM  
SERIES: UNASSIGNED GROUP: SUMNER  
FM: MARION\* MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 08/03/1893 COLL: PROSSER CS  
LEDGE IN MARION JUST E OF BAPTIST CHURCH. \*FM NOT LISTED  
IN KS GEOL SURVEY BULL 189, 1968.

(BL)3418-PC

MARION CO, KS  
SERIES: UNASSIGNED  
FM: MARION\*  
SYSTEM: PERM  
GROUP: SUMNER  
MEMBER: UNASSIGNED  
QUAD: MARION 7.5  
SEC 35 TNSP 19 S RNGE 03 E  
LAT: 38.2145 LONG: 97.0430  
DATE: 07/17/1894  
NSEC35. PLUOROPHORUS LS N PART SEC35, MARION. APPROX 0.2 MI E OF COTTONWOOD RIVER. N SIDE RR TRACKS. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)3419-PC

CHASE CO, KS  
SERIES: LOWER  
FM: MARION\*  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: WONSEVU 7.5  
SEC 18 TNSP 22S RNGE 6E  
DATE: 07/19/1894  
LS ON RIDGE SEC18, CEDAR TP ABOVE MARION CONGL & W OF WONSEVU. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)3420-PC

CHASE CO, KS  
SERIES: UNASSIGNED  
FM: MARION\*  
SYSTEM: PERM  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: WONSEVU 7.5  
SEC 0 TNSP RNGE  
DATE: 07/26/1894  
PLUEROPHORUS LS ON RD BTWN SEC 4 & 9, 0.25 MI N OF WONSEVU SCHOOL HOUSE. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)3421-PC

CHASE CO, KS  
SERIES: UNASSIGNED  
FM: MARION\*  
SYSTEM: PERM  
GROUP: SUMNER  
MEMBER: UNASSIGNED  
QUAD: WONSEVU 7.5  
SEC 18 TNSP 22S RNGE 6E  
DATE: 07/19/1894  
W OF WONSEVU, SEC18. ABOVE MARION CONGL. \*FM NOT LISTED IN KS GEOL SURVEY 189, 1968.

(BL)3422-PC

CHASE CO, KS  
SERIES: UNASSIGNED  
FM: MARION\*  
SYSTEM: PERM  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: WONSEVU 7.5  
SEC 0 TNSP 22S RNGE 6E  
DATE: 07/18/1894  
LS W/BAKEWELLIA BTWN SECS 3 & 4, ON RD NE OF WONSEVU. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)3423-PC

DICKINSON CO, KS  
SERIES: UNASSIGNED  
FM: MARION\*  
SYSTEM: PERM  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: SEE COMMENT 7.5  
SEC 0 TNSP RNGE  
DATE: 09/04/1894  
BLOCK OF LS W OF TURKEY CREEK S OF ABILENE. LOOSE BY RD. QUAD IS ABILENE OR ABILENE SW. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)3424-PC

CHASE CO, KS  
SERIES: LOWER  
FM: MARION\*  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: CEDAR POINT? 7.5  
SEC 0 TNSP 20S? RNGE 6E  
DATE: 07/14/1894  
PLEUOROPHORIS LEDGE ABOVE CONGL LS ON LINE BTWN SECS 16 & 9, COTTONWOOD TP, 0.5 MI E OF F.S.H. NO. 44. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)3425-PC

DICKINSON CO, KS  
SYSTEM: PERM

SERIES: UNASSIGNED  
FM: MARION\*  
GROUP: SUMNER  
MEMBER: UNASSIGNED  
QUAD: ABILENE 7.5  
SEC 0 TNSP 13 S RNGE 2 E  
DATE: 00/00/189?  
MARION FM, ABILENE, KS. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)3426-PC

DICKINSON CO, KS  
SERIES: UNASSIGNED  
FM: MARION\*  
SYSTEM: PERM  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: ABILENE 7.5  
SEC 34 TNSP 13 S RNGE 2 E  
DATE: 09/05/1894  
BUFF LS & SH ON S FORK OF SMOKY HILL RIVER, S OF ABILENE. MIDDLE SEC 34, GRANT TP. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)3426-PC

DICKINSON CO, KS  
SERIES: LOWER  
FM: MARION\*  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: ABILENE 7.5  
SEC 34 TNSP 21 S RNGE 2 E  
DATE: 09/05/1894  
BUFF LS & SH ON S FORK OF SMOKY HILL RIVER, S OF ABILENE. MIDDLE SEC 34, GRANT TP. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)3427-PC

CHASE CO, KS  
SERIES: UNASSIGNED  
FM: MARION\*  
SYSTEM: PERM  
GROUP: SUMNER  
MEMBER: UNASSIGNED  
QUAD: WONSEVU 7.5  
SEC 24 TNSP 21S RNGE 5E  
DATE: 07/12/1894  
ON CEDAR CREEK, SEC 24, ABOVE FLINT. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)3428-PC

SERIES: UNASSIGNED  
FM: UNASSIGNED  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: FLORENCE SE 7.5  
SEC 19 TNSP 22S RNGE 6E  
DATE: 00/00/189?  
SW CORNER SEC 19, CEDAR TP. W BRANCH BILLS CREEK.

(BL)3438-PC

CHASE CO, KS  
SERIES: LOWER  
FM: WREFORD LS  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: COTTONWOOD FALL 7.5  
SEC 0 TNSP RNGE  
DATE: 07/02/1894  
FOSS FROM FLINT ON N BRANCH OF ROCK CREEK NEAR BIRLEY PO. [5/1989-LOCATION IS 20S OR 21S AND 7E OR 8E.]

(BL)3439-PC

MORRIS CO, KS  
SERIES: LOWER  
FM: WREFORD LS  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: COUNCIL GRVE LK 7.5  
SEC 0 TNSP 16 S RNGE 8 E  
DATE: 07/21/1894  
S SIDE OF ELM CREEK W OF COUNCIL GROVE, SEC 21 & 28, UPPER PART OF FIRST FLINT.

(BL)3440-PC

CHASE CO, KS  
SERIES: LOWER  
FM: WREFORD LS  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: STRONG CITY 7.5  
SEC 0 TNSP 19S RNGE 8E  
DATE: 03/27/1894  
CRUSHER QUARRY, W OF STRONG CITY. FLINT STRATUM. [5/1989-PROBABLY SECTION 18.]

(BL)3440A-PC  
CHASE CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: CHASE  
FM: WREFORD LS MEMBER: UNASSIGNED  
QUAD: STRONG CITY 7.5  
SEC 0 TNSP 19S RNGE 8E  
DATE: 07/22/1894 COLL: PROSSER CS  
CRUSHER QUARRY. [5/1989-PROBABLY SECTION 18.]

(BL)3441-PC  
MARION CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: CHASE  
FM: WREFORD LS MEMBER: UNASSIGNED  
QUAD: MARION 7.5  
SEC 32 TNSP 19 S RNGE 04 E  
LAT: 38.2100 LONG: 97.0030  
DATE: 07/11/1894 COLL: PROSSER CS  
SWSEC32. PARTING IN CONGL LS BY THE MARION CHURCH.  
APPROX 0.5 MI W OF CEMETERY & 0.5 MI N HWY 56.

(BL)3442-PC  
MORRIS CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: CHASE  
FM: WREFORD LS MEMBER: UNASSIGNED  
QUAD: COUNCIL GROVE 7.5  
SEC 23 TNSP 16 S RNGE 8 E  
DATE: 08/21/1894 COLL: PROSSER CS  
S OF ELM CREEK & COUNCIL GROVE, SEC 23 AT FORK OF RD,  
FROM UPPER LAYER OF LOWER FLINT.

(BL)3442A-PC  
MORRIS CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: CHASE  
FM: WREFORD LS MEMBER: UNASSIGNED  
QUAD: COUNCIL GROVE LK 7.5  
SEC 0 TNSP 16 S RNGE 8 E  
DATE: 08/21/1894 COLL: PROSSER CS  
S SIDE OF ELM CREEK, SEC 21 OR 28(?) THIN LAYER OF BLUISH  
SHALEY LS IN LOWER PART OF UPPER LAYER OF FIRST FLINT,  
NEAR COUNCIL GROVE.

(BL)3443-PC  
MORRIS CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: CHASE  
FM: WREFORD LS MEMBER: UNASSIGNED  
QUAD: COUNCIL GROVE LK 7.5  
SEC 0 TNSP 16 S RNGE 9 E  
DATE: 08/20/1894 COLL: PROSSER CS  
FROM CONCRETIONS IN UPPER(?) LAYER OF FLINT. LIME KILNS,  
2 MI NE OF COUNCIL GROVE.

(BL)3444-PC  
CHASE CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: CHASE  
FM: WREFORD LS MEMBER: UNASSIGNED  
QUAD: STRONG CITY 7.5  
SEC 0 TNSP 19S RNGE 8E  
DATE: 06/24/1894 COLL: PROSSER CS  
STRONG FLINT, TOP OF HILL 1 MI E OF STRONG. (5.89-PROBABLY  
SECTION 15.)

(BL)3445-PC  
MORRIS CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: CHASE  
FM: WREFORD LS MEMBER: UNASSIGNED  
QUAD: COUNCIL GROVE LK 7.5  
SEC 0 TNSP 16 S RNGE 9 E  
DATE: 08/20/1894 COLL: PROSSER CS  
ONE MI E OF COUNCIL GROVE, CEMENT-BEDDED LS BTWN 2  
LAYERS OF STRONG FLINT.

(BL)3446-PC  
RILEY? CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: CHASE  
FM: WREFORD LS MEMBER: UNASSIGNED  
QUAD: OGDEN 7.5

SEC 0 TNSP RNGE  
DATE: 09/03/1894 COLL: PROSSER CS  
THIN SHALEY LS NEAR THE BASE OF THE LOWEST FLINT AT E  
END OF FT RILEY MILITARY RESERVATION.

(BL)3447-PC  
GEARY CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: CHASE  
FM: BARNESTON LS FORT RILEY LS MBR  
QUAD: WREFORD 7.5  
SEC 25 TNSP 12 S RNGE 5 E  
DATE: 09/06/1896 COLL: PROSSER CS  
THIN LS 5-10 FT ABOVE THE FT RILEY ON RD BTWN SEC 25 & 30  
(LOCATION GIVEN FOR SEC 25), BTWN LYON & JEFFERSON TPS S  
OF JUNCTION CITY.

(BL)3448-PC  
GEARY CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: CHASE  
FM: BARNESTON LS FORT RILEY LS MBR  
QUAD: WREFORD 7.5  
SEC 25 TNSP 12 S RNGE 5 E  
DATE: 09/06/1894 COLL: PROSSER CS  
SHALES BELOW FT RILEY LS ON RD BTWN SECS 25 & 30  
(LOCATION ARBITRARILLY GIVEN FOR SEC 25), BTWN LYON &  
JEFFERSON TPS.

(BL)3449-PC  
GEARY CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: CHASE  
FM: BARNESTON LS FORT RILEY LS MBR  
QUAD: JUNCTION CITY 7.5  
SEC 0 TNSP 12 S RNGE 5 E  
DATE: 00/00/1897 COLL: PROSSER CS  
ONE MI W OF JUNCTION CITY. #12 OF HAY = HIS PERMIAN. FT  
RILEY LS. PROB SEC 3 OR 10.

(BL)3450-PC  
GEARY CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: CHASE  
FM: BARNESTON LS FORT RILEY LS MBR  
QUAD: JUNCTION CITY 7.5  
SEC 14 TNSP 12 S RNGE 5 E  
DATE: 09/06/1894 COLL: PROSSER CS  
SHALEY LS BELOW FT RILEY LS ON SEC 14 SMOKY HILL TP. SW  
OF JUNCTION CITY.

(BL)3451-PC  
GEARY CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: CHASE  
FM: BARNESTON LS FORT RILEY LS MBR  
QUAD: JUNCTION CITY 7.5  
SEC 7 TNSP 12 S RNGE 6 E  
DATE: 09/07/1894 COLL: PROSSER CS  
SHALEY LS BELOW FT RILEY LS ON RD SE OF JUNCTION CITY,  
SE1/4SEC7, JEFFERSON TP. FT RILEY LS.

(BL)3452-PC  
GEARY? CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: CHASE  
FM: BARNESTON LS FORT RILEY LS MBR  
QUAD: WREFORD 7.5  
SEC 0 TNSP 12 S RNGE 5 E  
DATE: 70/00/1894 COLL: PROSSER CS?  
JUNCTION CITY, CIESO(?) FM. FT RILEY LS?

(BL)3453-PC  
CHASE CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: CHASE  
FM: BARNESTON LS FORT RILEY LS MBR  
QUAD: COSSODAY? 7.5  
SEC 0 TNSP 23 S RNGE 7 E  
DATE: 07/04/1894 COLL: PROSSER CS  
BUFF LS IN SMALL RUN 0.5 MI E OF CASSIDY. FT RILEY LS.  
[8/1989-LOC BASED ON THE ASSUMPTION THAT "CASSIDY" IS  
ACTUALLY "CASSODAY"]

(BL)3455-PC

UNASSIGNED CO, KS                    SYSTEM: UNASSIGNED  
SERIES: UNASSIGNED                GROUP: UNASSIGNED  
FM: UNASSIGNED                    MEMBER: UNASSIGNED  
SEC 0 TNSP    RANGE  
DATE: 07/14/1894                    COLL: PROSSER CS  
SHALEY LS W/ FOSSILS UNDER HEAVY LEDGE, AT HEAD OF  
TURKEY CREEK, BTWN SECS 10 & 11 COTTONWOOD TP. [8/1989-  
LOC IS UNCERTAIN: THERE ARE TURKEY CKS IN BUTLER AND  
DICKENSON COUNTIES BUT THERE ARE NO COTTONWOOD TPS.  
THERE IS NO TURKEY CK IN COTTONWOOD TP WHICH IS IN  
CHASE CO.]

(BL)3456-PC

BUTLER CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: CHASE  
FM: BARNESTON LS                FORT RILEY LS MBR  
QUAD: CASSODAY 7.5  
SEC 0 TNSP 23S    RANGE 7E  
DATE: 07/04/1894                    COLL: PROSSER CS  
BUFF LS ON BANK OF WALNUT RI, 1.5 MI BELOW SYCAMORE  
SPRINGS. FT RILEY LS. PROBABLY SEC 3.

(BL)3457-PC

UNASSIGNED CO, KS                SYSTEM: PERM  
SERIES: LOWER                    GROUP: CHASE  
FM: BARNESTON LS                FORT RILEY LS MBR  
SEC 0 TNSP    RANGE  
DATE: 07/04/1894                    COLL: PROSSER CS  
SHALEY LS 15 FT ABOVE FLINT (FLORENCE) AT HEAD OF BRANCH  
OF MERCER CREEK, SEC 25(?) FT RILEY LS.

(BL)3458-PC

MARION CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: CHASE  
FM: BARNESTON LS                FORT RILEY LS MBR  
QUAD: WONSEVU 7.5  
SEC 14 TNSP 21 S    RANGE 05 E  
LAT: 38.1300 LONG: 96.5220  
DATE: 07/12/1894                    COLL: PROSSER CS  
SHALEY LS OVER FLINT, DOYLE TP. FT RILEY LS. ELEV APPROX  
1350-1400 FT. PROB 0.5 M W OF COUNTY LINE.

(BL)3459-PC

RILEY CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: CHASE  
FM: BARNESTON LS                FORT RILEY LS MBR  
QUAD: JUNCTION CITY 7.5  
SEC 0 TNSP    RANGE  
DATE: 04/02/1894                    COLL: PROSSER CS  
NEAR TOP OF BLUFFS N OF FT RILEY. #12 OF HAY. FT RILEY LS.

(BL)3460-PC

GEARY? CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: CHASE  
FM: BARNESTON LS                FORT RILEY LS MBR  
QUAD: JUNCTION CITY 7.5  
SEC 0 TNSP    RANGE  
DATE: 08/23/1894                    COLL: PROSSER CS  
SHALEY LS W/ FOSSILS ABOVE UPPER RD AT FT RILEY. #9(?) OF  
HAY OR #10(?). FT RILEY LS. GEARY OR RILEY COUNTY.

(BL)3461-PC

MARION CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: CHASE  
FM: BARNESTON LS                FORT RILEY LS MBR  
QUAD: FLORENCE 7.5  
SEC 12 TNSP 21 S    RANGE 04 E  
LAT: 38.1450 LONG: 96.5800  
DATE: 08/01/1893                    COLL: PROSSER CS  
OLD QUARRIES ON RD JUST W OF FLORENCE. FT RILEY LS.

(BL)3462-PC

MARION CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: CHASE  
FM: BARNESTON LS                FORT RILEY LS MBR  
QUAD: FLORENCE 7.5  
SEC 12 TNSP 21 S    RANGE 04 E  
LAT: 38.1450 LONG: 96.5800  
DATE: 08/18/1893                    COLL: PROSSER CS  
FROM STONE QUARRY ALONG LEDGE IN W PART OF FLORENCE.  
FT RILEY LS.

(BL)3463-PC

MARION CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: CHASE  
FM: BARNESTON LS                FORT RILEY LS MBR  
QUAD: FLORENCE 7.5  
SEC 5 TNSP 21 S    RANGE 05 E  
LAT: 38.1450 LONG: 96.5500  
DATE: 08/19/1893                    COLL: PROSSER CS  
SWSECS. OLD QUARRY NE OF FLORENCE JUST ABOVE RR. FT  
RILEY LS. APPROX 0.5 MI E OF BM 1269. ELEV 1300 FT.

(BL)3465-PC

MARION CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: CHASE  
FM: BARNESTON LS                FORT RILEY LS MBR  
QUAD: FLORENCE 7.5  
SEC 13 TNSP 21 S    RANGE 04 E  
LAT: 38.1300 LONG: 96.5620  
DATE: 07/10/1894                    COLL: PROSSER CS  
SESEC13. SHALEY BUFF LS ON SPRING CREEK RD, 1.5 MI S OF  
FLORENCE. FT RILEY LS. APPROX 0.2 MI NE OF BM 1288. ELEV  
1350 FT.

(BL)3466-PC

MARION CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: CHASE  
FM: BARNESTON LS                FORT RILEY LS MBR  
QUAD: FLORENCE 7.5  
SEC 12 TNSP 21 S    RANGE 04 E  
LAT: 38.1450 LONG: 96.5800  
DATE: 08/19/1893                    COLL: PROSSER CS  
JONES QUARRY NEAR FLORENCE. FT RILEY LS.

(BL)3467-PC

CHASE CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: CHASE  
FM: BARNESTON LS                FORT RILEY LS MBR  
QUAD: CEDAR POINT 7.5  
SEC 0 TNSP \*    RANGE 6E  
DATE: 07/13/1894                    COLL: PROSSER CS  
FROM STONE WALL 1 MI E OF CEDAR POINT & QUARRIED FROM  
OVER TOP OF FLORENCE FLINT. FT RILEY LS. [5/1989-TNSP 20S  
OR 21S.]

(BL)3468-PC

CHASE CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: CHASE  
FM: BARNESTON LS                FORT RILEY LS MBR  
QUAD: CEDAR POINT? 7.5  
SEC 0 TNSP 21S    RANGE 6E  
DATE: 06/30/1894                    COLL: PROSSER CS  
SHALEY LS W/ FOSSILS, OVER FLORENCE FLINT ON SMALL  
BRANCH E SIDE CEDAR CREEK, NEAR CEDAR POINT. FT RILEY LS.

(BL)3469-PC

CHASE CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: CHASE  
FM: BARNESTON LS                FORT RILEY LS MBR  
QUAD: CEDAR POINT 7.5  
SEC 0 TNSP 21S    RANGE 6E  
DATE: 06/29/1894                    COLL: PROSSER CS  
POROUS LS W/ SMALL PELECYPODS, OVER FLINT 4/5 MI UP  
CEDAR CREEK FROM CEDAR GROVE. FT RILEY LS. [5/1989-THE  
TOWN OF CEDAR GROVE CAN BE FOUND ON AN 1889  
COTTONWOOD FALLS 30 MIN QUAD.]

(BL)3470-PC

CHASE CO, KS  
SERIES: LOWER  
FM: BARNESTON LS  
SYSTEM: PERM  
GROUP: CHASE  
FORT RILEY LS MBR  
QUAD: WONSEVU 7.5  
SEC 0 TNSP 21 S RNGE 6E  
DATE: 06/29/1894  
COLL: PROSSER CS  
SHALEY BUFF LS W/ FOSSILS ON HILL OVER FLORENCE(?) FLINT.  
2 MI S OF CEDAR GROVE. FT RILEY LS.

(BL)3472-PC

MORRIS CO, KS  
SERIES: LOWER  
FM: BARNESTON LS  
SYSTEM: PERM  
GROUP: CHASE  
FORT RILEY LS MBR  
QUAD: BURDICK 7.5  
SEC 9 TNSP 17 S RNGE 6 E  
DATE: 08/25/1894  
COLL: PROSSER CS  
BUFF LS W/ MANY FOSSILS, SE 1/4 SEC 9, DIAMOND VALLEY TP  
NEAR TOP OF DIVIDE. FT RILEY LS. [5/1989-THERE ARE 2 SEC 9S  
IN DIAMOND VALLEY TP. THE LOC GIVEN BEST FITS THE  
DESCRIPTION BUT IS NOT DEFINITE.]

(BL)3473-PC

MORRIS CO, KS  
SERIES: LOWER  
FM: BARNESTON LS  
SYSTEM: PERM  
GROUP: CHASE  
FORT RILEY LS MBR  
QUAD: BURDICK 7.5  
SEC 19 TNSP 17 S RNGE 6 E  
DATE: 08/31/1894  
COLL: PROSSER CS  
SHALEY LS BELOW FT RILEY LS. NE COR SEC 19, DIAMOND  
VALLEY TP. 1.75 MI E OF BURDICK. FT RILEY LS.

(BL)3474-PC

MORRIS CO, KS  
SERIES: LOWER  
FM: MATFIELD SH  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: BURDICK 7.5  
SEC 15 TNSP 17 S RNGE 6 E  
DATE: 08/25/1894  
COLL: PROSSER CS  
GRANULAR LS W/ BAKEWILLIA, BELOW FLORENCE FLINT. SW 1/4  
SEC 15, DIAMOND VALLEY TP, BTWN DIAMOND SPRINGS CREEK &  
LAST BRANCH TO E.

(BL)3475-PC

MORRIS CO, KS  
SERIES: LOWER  
FM: GRENOLA LS\*  
SYSTEM: PERM  
GROUP: UNASSIGNED  
MATFIELD SH\* MBR  
QUAD: DIAMOND SPRINGS 7.5  
SEC 0 TNSP 17 S RNGE 6 E  
DATE: 08/25/1894  
COLL: PROSSER CS  
SHALEY LS 30 FT BELOW FLORENCE FLINT ON E BANK OF DODGE  
CREEK; PROB SEC 11, DIAMOND VALLEY TP. MATFIELD SH.  
[5/1989-LOCATION GIVEN IS BASED ON THE ASSUMPTION THAT  
DODGE CK IS THE SAME AS DODDS CK.] \*MATFIELD SH  
INCLUDED IN GRENOLA LS IN SOME OLDER COLL.

(BL)3476-PC

WABAUNSEE? CO, KS  
SERIES: LOWER  
FM: MATFIELD SH  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: ALTA VISTA 7.5  
SEC 0 TNSP 14 S RNGE 9 E  
DATE: 08/20/1894  
COLL: PROSSER CS  
BUFF SHALES BELOW MSSV LS (ALTA VISTA) W/ LARGE FOSSILS.  
3 MI SE OF ALTA VISTA.

(BL)3477-PC

WABAUNSEE? CO, KS  
SERIES: LOWER  
FM: MATFIELD SH  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: ALTA VISTA 7.5  
SEC 0 TNSP 14 S RNGE 9 E  
DATE: 08/20/1894  
COLL: PROSSER CS  
BUFF SHALES BELOW MSSV LS (ALTA VISTA) W/ LARGE FOSSILS.  
3 MI SE OF ALTA VISTA.

(BL)3478-PC

MORRIS CO, KS  
SERIES: LOWER  
FM: MATFIELD SH  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: COUNCIL GROVE 7.5  
SEC 0 TNSP 16 S RNGE 9 E  
DATE: 08/20/1894  
COLL: PROSSER CS  
SHALES ON TOP OF MSSV LS AT LIME KILN, 2 MI NE OF COUNCIL  
GROVE.

(BL)3479-PC

CHASE CO, KS  
SERIES: LOWER  
FM: MATFIELD SH  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: CEDAR POINT 7.5  
SEC 36 TNSP 20S RNGE 5E  
DATE: 06/29/1894  
COLL: PROSSER CS  
SHALEY BUFF LS W/ FOSSILS, 55 FT BELOW FLORENCE FLINT,  
0.25 MI SW OF CEDAR GROVE.

(BL)3480-PC

CHASE CO, KS  
SERIES: LOWER  
FM: MATFIELD SH  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: COTTONWOOD FALL 7.5  
SEC 17 TNSP 20S RNGE 8E  
DATE: 07/16/1894  
COLL: PROSSER CS  
BUFF THIN LS W/ LARGE BRACHIOPODS. SEC 17, FALLS TP, 0.25  
MI S OF E & W RD ON UPPER RD TO BAZAAR.

(BL)3481-PC

CHASE CO, KS  
SERIES: LOWER  
FM: MATFIELD SH  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: COTTONWOOD FALL 7.5  
SEC 17 TNSP 20S RNGE 8E  
DATE: 70/00/1894  
COLL: PROSSER CS?  
THIN LS OVER STRON FLINT. SEC 17, FALLS TP ON UPPER RD  
FROM COTTONWOOD FALLS TO BAZAAR.

(BL)3482-PC

MARION CO, KS  
SERIES: LOWER  
FM: MATFIELD SH  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: WONSEVU 7.5  
SEC 15 TNSP 21 S RNGE 05 E  
LAT: 38.1320 LONG: 96.5210  
DATE: 07/12/1894  
COLL: PROSSER CS  
FOSS FROM YELLOWISH SHALES BELOW FLINT, ON SEC 15,  
DOYLE TP. APPROX 0.5 MI W OF BM 1391.

(BL)3483-PC

CHASE CO, KS  
SERIES: LOWER  
FM: MATFIELD SH  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: MATFIELD GREEN 7.5  
SEC 0 TNSP RNGE  
DATE: 07/17/1894  
COLL: PROSSER CS  
SHALEY LS W/ BRACHIOPODS, W OF DUNLAP SCHOOL HOUSE &  
NW OF MATFIELD GREEN. [8/1989-QUAD & COUNTY ARE  
UNCERTAIN. THE TOWN OF DUNLAP IS IN MORRIS CO & IS  
APPROX 30 MI NNE OF MATFIELD GREEN. COUNTY & QUAD ARE  
GIVEN FOR MATFIELD GREEN.] BRAC

(BL)3484-PC

SEE COMMENTS CO, KS  
SERIES: LOWER  
FM: MATFIELD SH  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 70/00/1894  
COLL: PROSSER CS?  
SHALES BELOW FLORENCE FLINT. ABOVE ELK. ELK? OR  
MONTGOMERY? COUNTY

(BL)3485-PC

GEARY CO, KS  
SERIES: LOWER  
FM: MATFIELD SH  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: WREFORD 7.5  
SEC 7 TNSP 12 S RNGE 6 E  
DATE: 09/07/1894  
COLL: PROSSER CS  
SHALES & THIN LS BTWN TWO FLINTS ON RD SE OF JUNCTION CITY. SE 1/4 SEC 7 JEFFERSON TP.

(BL)3485A-PC

GEARY CO, KS  
SERIES: LOWER  
FM: MATFIELD SH  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: WREFORD 7.5  
SEC 7 TNSP 12 S RNGE 6 E  
DATE: 09/07/1894  
COLL: PROSSER CS  
RD SE OF JUNCTION CITY BELOW THE FT RILEY LS. [8/1989-LOC DATA IS BASED ON THE ASSUMPTION THAT 3485A IS AT THE SAME LOC AS 3485.]

(BL)3487-PC

CHASE CO, KS  
SERIES: LOWER  
FM: DOYLE SH  
SYSTEM: PERM  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: WONSEVU 7.5  
SEC 0 TNSP RNGE  
DATE: 07/26/1894  
COLL: PROSSER CS  
YELLOWISH LS W/ PLEUROPORUS ON RD BTWN SECS 35 & 2 OF CEDAR CREEK.

(BL)3488-PC

BUTLER CO, KS  
SERIES: LOWER  
FM: DOYLE SH  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: CASSODAY 7.5  
SEC 1 TNSP 23 S RNGE 6 E  
DATE: 07/26/1894  
COLL: PROSSER CS  
BLUISH LS ON RD BTWN SECS 1 & 6, NEAR HEAD OF CEDAR CREEK. [8/1989-LOC IS NOT CERTAIN.]

(BL)3489-PC

MARION CO, KS  
SERIES: LOWER  
FM: DOYLE SH  
SYSTEM: PERM  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: LINCOLNVILLE SW 7.5  
SEC 30 TNSP 20 S RNGE 05 E  
LAT: 38.1650 LONG: 96.5550  
DATE: 08/05/1893  
COLL: PROSSER CS  
FROM LS BELOW SECOND FLINT ON HILL 2 MI N OF FLORENCE.

(BL)3490-PC

ELK CO, KS  
SERIES: LOWER  
FM: DOYLE SH  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: ELK FALLS 7.5  
SEC 0 TNSP RNGE  
DATE: 70/00/1894  
COLL: PROSSER CS  
SHALEY LS BELOW THIRD FLINT APPROX OPPOSITE SEC 15, ON RD NEAR ELK, P.O. [6/1989-LOC MAY BE 15 T31S R11E ON THE ELK FALLS QUAD.]

(BL)3491-PC

BUTLER CO, KS  
SERIES: LOWER  
FM: DOYLE SH  
SYSTEM: PERM  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: DE GRAFF 7.5  
SEC 36 TNSP 24 S RNGE 5 E  
DATE: 07/23/1894  
COLL: PROSSER CS  
SHALEY LS IN RUN NW 1/4 SEC 36, LINCOLN TP. [8/1989-COUNTY, QUAD, TP, & RG ARE BASED ON LINCOLN TP. IF THERE ARE OTHER TPS IN KANSAS, THESE COULD ALL BE INCORRECT.]

(BL)3492-PC

MARION CO, KS  
SERIES: LOWER  
FM: DOYLE SH  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: BURNS 7.5  
SEC 33 TNSP 22 S RNGE 05 E  
LAT: 38.0520 LONG: 96.5300  
DATE: 07/10/1894  
COLL: PROSSER CS  
FROM WELL AT BURNS, 60 FT BELOW SURFACE. JUST W OF SECONDARY HWY, NEAR WATER TOWER.

(BL)3494-PC

CHASE CO, KS  
SERIES: LOWER  
FM: BEATTIE LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
COTTONWOOD LS MBR  
QUAD: HYMER 7.5  
SEC 0 TNSP 18S RNGE 7E  
DATE: 07/21/1894  
COLL: PROSSER CS  
RR CUT JUST BEYOND HYMER.

(BL)3495-PC

RILEY CO, KS  
SERIES: LOWER  
FM: BEATTIE LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
COTTONWOOD LS MBR  
QUAD: MANHATTAN 7.5  
SEC 0 TNSP 10 S RNGE  
DATE: 70/00/1894  
COLL: MASON SC  
ON WILD CAT CREEK NEAR MANHATTAN, "OOLITE ROCKS". COTTONWOOD LS. [8/1989-T10S R7 OR 8 E.]

(BL)3496-PC

RILEY CO, KS  
SERIES: LOWER  
FM: BEATTIE LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
COTTONWOOD LS MBR  
QUAD: MANHATTAN 7.5  
SEC 0 TNSP RNGE  
DATE: 03/31/1894  
COLL: PROSSER CS  
PROSPECT MOUNTAIN, MANHATTAN, MANHATTAN STONE. [8/1989-CANNOT LOCATE PROSPECT MTN.]

(BL)3503-PC

UNASSIGNED CO, KS  
SERIES: LOWER  
FM: ESKRIDGE SH  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 08/11/1894  
COLL: PROSSER CS  
SHALE UNDER COTTONWOOD STONE, OUT OF WELL, ON SEC 22.

(BL)3513A-PC

UNASSIGNED CO, KS  
SERIES: UNASSIGNED  
FM: UNASSIGNED  
SYSTEM: UNASSIGNED  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 70/00/1894  
COLL: GOULD CN

(BL)3513B-PC

UNASSIGNED CO, KS  
SERIES: UNASSIGNED  
FM: UNASSIGNED  
SYSTEM: PERM  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 70/00/1894  
COLL: GOULD CN  
SOUTHERN KANSAS-PERMIAN.

(BL)3513C-PC

UNASSIGNED CO, KS  
SERIES: UNASSIGNED  
FM: UNASSIGNED  
SYSTEM: UNASSIGNED  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 70/00/1894  
COLL: GOULD CN  
KANSAS?

(BL)3515-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: WILSEY SE 7.5  
SEC 15 TNSP 19 S RNGE 8 E  
DATE: 08/22/1894      COLL: PROSSER CS  
NE1/4 SEC 15, RIDGE W OF WEST BRANCH OF WOLF CREEK & 40  
FT ABOVE TOP OF FLINT. FOUR MILE TP, MORRIS CO.

(BL)3517-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: ALMA 7.5  
SEC 0 TNSP 12 S RNGE 10 E  
DATE: 04/28/1894      COLL: PROSSER CS  
SHALEY LS W/FIRST FLINT LEDGE AT ALMA. PROB SEC 10 OR 15.

(BL)3519-PC

WABAUNSEE CO, KS      SYSTEM: PERM  
SERIES: LOWER      GROUP: CHASE  
FM: MATFIELD SH      MEMBER: UNASSIGNED  
QUAD: MAPLE HILL 7.5  
SEC 0 TNSP 11 S RNGE 12 E  
DATE: 04/27/1894      COLL: PROSSER CS  
MILL CREEK, SW OF MAPLE HILL. BTWN MILLER SH &  
WREFFORD LS. [7/1989-PROB SEC 25, 26, OR 27.]

(BL)3521-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: SEE COMMENT 7.5  
SEC 0 TNSP RNGE  
DATE: 08/22/1894      COLL: PROSSER CS  
BLUFF S OF FOUR MILE CREEK NEAR LINE BTWN SECS 16 & 31 OF  
GARFIELD & VALLEY TPS [8/1989-SECS 16 & 31 DON'T BORDER].  
QUAD IS LAKE KAHOLA OR WILSEY SE.

(BL)3522-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: COUNCIL GROVE 7.5  
SEC 0 TNSP RNGE  
DATE: 07/00/1894      COLL: PROSSER CS?  
GARFIELD TOWNSHIP.

(BL)3523-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: WILLARD 7.5  
SEC 0 TNSP 11 S RNGE 14 E  
DATE: 04/26/1894      COLL: PROSSER CS  
LEDGE ON RD 0.5 MI W OF VALENCIA & SEEN AT A NUMBER OF  
PLACES ON RD TOWARD BUFFALO MOUND. #135 OF SWALLOW(?)

(BL)3524-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: WONSEVU? 7.5  
SEC 0 TNSP 22S RNGE 67E  
DATE: 07/05/1894      COLL: PROSSER CS  
SHALEY, RATHER BUFF LS NOT VERY MUCH ABOVE LEVEL OF  
BRUSH CREEK.

(BL)3525-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: DE GRAFF 7.5  
SEC 12 TNSP 24S RNGE 5E  
DATE: 07/23/1894      COLL: PROSSER CS  
GRAY LS W/ BAKEWELLIA NEAR CENTER OF SEC 12, LINCOLN TP  
E OF DE GRAFF.

(BL)3526-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: SEE COMMENTS 7.5  
SEC 36 TNSP \* RNGE 5E  
DATE: 07/23/1894      COLL: PROSSER CS  
FROM LS TOP OF PRAIRIE, NW1/4 SEC 36, LINCOLN TP. [5/1989-  
LINCOLN TP IS VERY LARGE & CONTAINS TWO SEC 36S. TNSP IS  
23S OR 24S. QUAD MAP IS DEGRAFF OR FLORENCE SE.]

(BL)3527-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: COUNCIL GROVE LK 7.5  
SEC 15 TNSP 16 S RNGE 8 E  
DATE: 08/23/1894      COLL: PROSSER CS  
FROM DUMP ON 'COAL SHAFT'; SW 1/4 SEC 15. W OF COUNCIL  
GROVE. SEPARATED ON FAUNA & LITHOLOGY INTO 3 GROUPS--  
3527,A,B.

(BL)3527A-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: COUNCIL GROVE LK 7.5  
SEC 15 TNSP 16 S RNGE 8 E  
DATE: 08/23/1894      COLL: PROSSER CS  
FROM DUMP ON 'COAL SHAFT'; SW1/4SEC15, W OF COUNCIL  
GROVE. SEPARATED ON FAUNA & LITHOLOGY INTO 3 GROUPS--  
3527,A,B. INFO FROM CARD FOR 3527.

(BL)3527B-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: SKIDDY 7.5  
SEC 8 TNSP 15 S RNGE 6 E  
DATE: 08/31/1894      COLL: PROSSER CS  
[12/1988-CARD IN FILE BUT NUMBER NOT ON ORIG DATABASE.  
CASE & DRAWER LOCATION NOT KNOWN.] SW 1/4 SEC 8,  
HIGHLAND TP N RR TRACKS.

(BL)3528-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: SEE COMMENT 7.5  
SEC 0 TNSP RNGE 6 E  
DATE: 08/31/1894      COLL: PROSSER CS  
LOOSE FLINT W/ PRODUCTUS. 1 MI SW OF WHITE CITY. [8/1989-  
LOC IS IN T14 OR 15 S AND R6E.]

(BL)3529-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: FLORENCE SE 7.5  
SEC 36 TNSP 23S RNGE 5E  
DATE: 07/23/1894      COLL: PROSSER CS  
SHALEY LS IN RUN NW1/4SEC 36. LINCOLN TP & A LITTLE BELOW  
ARENACEUS LS CONTAINING FOSS.

(BL)3530-PC

UNASSIGNED CO, KS      SYSTEM: UNASSIGNED  
SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 07/27/1894      COLL: PROSSER CS  
BUFF LS W/ BAKEWELLIA & PLEUROPORIS CONTAINING  
CONCRETIONS. BTWN SECS 34 & 3, 0.25 MI W OF E LINE.

(BL)3531-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: COUNCIL GROVE 7.5  
SEC 21 TNSP 16 S RNGE 9 E  
DATE: 08/22/1894      COLL: PROSSER CS  
AT N END OF RIDGE, SEC 21 GARFIELD TP.



(BL)3532-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: ELMONT 7.5  
SEC 0 TNSP 10 S RNGE 15 E  
DATE: 70/00/1894      COLL: PROSSER CS?  
ELMONT, KS.

(BL)3533-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: COTTONWOOD FAL? 30.0  
SEC 0 TNSP RNGE  
DATE: 07/25/1894      COLL: PROSSER CS  
LOOSE FROM SEC 5, COUNTY LINE RD. MARION, CHASE, OR  
BUTLER?

(BL)3534-PC

UNASSIGNED CO, KS      SYSTEM: UNASSIGNED  
SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 07/27/1894      COLL: PROSSER CS  
PLEUROPHORUS IN BUFF LS ON E & W RD BTWN SECS 20 & 29.

(BL)3535-PC

UNASSIGNED CO, KS      SYSTEM: UNASSIGNED  
SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 07/17/1894      COLL: PROSSER CS  
PLEUROPHORUS ROCK ON RD BTWN SECS 27 & 34.

(BL)3536-PC

UNASSIGNED CO, KS      SYSTEM: UNASSIGNED  
SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 08/22/1894      COLL: PROSSER CS  
E BANK OF WOLF CREEK, SEC 11, NEAR BASE OF FLINT.

(BL)3537-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: SKIDDY 7.5  
SEC 8 TNSP 15 S RNGE 6 E  
DATE: 08/31/1894      COLL: PROSSER CS  
SW 1/4 SEC 8 HIGHLAND TP N OF RR TRACKS.

(BL)3538-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: VOLLAND? 7.5  
SEC 4 TNSP 13 S RNGE 9 E  
DATE: 08/18/1894      COLL: PROSSER CS  
SHALEY LS 15 FT BELOW BASE OF FIRST FLINT. SE 1/4 SEC 4.  
WASHINGTON TP. [8/1989-DUE TO THE SIZE OF "WASHINGTON TP"  
THERE ARE TWO POSSIBLE TPS. TP IS GIVEN FOR THE MOST  
LIKELY LOC.]

(BL)3539-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: DIAMOND SPRINGS 7.5  
SEC 0 TNSP 16 S RNGE 7 E  
DATE: 08/24/1894      COLL: PROSSER CS  
BUFF LS 4.5 MI SW OF WILSEY BTWN SECS 31 & 32 ELM CREEK  
TP.

(BL)3540-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: CHAPMAN 7.5  
SEC 20 TNSP 13 S RNGE 3 E  
DATE: 09/05/1894      COLL: PROSSER CS  
FROM BLOCKS OF LOOSE STONE UNDER BRIDGE ACROSS SMOKY  
HILL RIVER AT ENTERPRISE. PROB BROUGHT THERE IN BUILDING  
THE BRIDGE.

(BL)3541-PC

UNASSIGNED CO, KS      SYSTEM: UNASSIGNED  
SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 07/18/1894      COLL: PROSSER CS  
LOWER PART OF LS FORMING C6.

(BL)3542-PC

UNASSIGNED CO, KS      SYSTEM: UNASSIGNED  
SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 70/00/1894      COLL: PROSSER CS?  
FOUND W/O LABEL.

(BL)3542A-PC

UNASSIGNED CO, KS      SYSTEM: UNASSIGNED  
SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 70/00/1894      COLL: PROSSER CS?  
SINGLE SPECIMEN W/O LABEL.

(BL)3543-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: DWIGHT 7.5  
SEC 0 TNSP 14 S RNGE 7 E  
DATE: 09/01/1894      COLL: PROSSER CS  
SHALEY LS W FOSS IN RUN 1.25 MI W OF DWIGHT, SE1/4SEC11  
OHIO TP.

(BL)3544-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: STRONG CITY? 7.5  
SEC 0 TNSP 19S RNGE 8E  
DATE: 07/23/1893      COLL: PROSSER CS  
LOWER SHALES AT PERRINS' QUARRY E OF STRONG, KANSAS.  
[12/1988-CARD IN FILE, NO INFO ON ORIG DATABASE, THEREFORE  
CASE,DRWR NOT KNOWN.] [5/1989-MAY REFER TO ONE OF  
SEVERAL QUARRIES IN SECS 14 AND 23. 7.5 QUAD MAPS  
COVERING THIS AREA ARE STRONG CITY AND SAFFORDVILLE.]

(BL)3545-PC

UNASSIGNED CO, KS      SYSTEM: UNASSIGNED  
SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 70/00/1894      COLL: PROSSER CS  
FROM SHARP CREEK ABOVE WHERE THE RD CROSSES FROM E  
TO W SIDE.

(BL)3546-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: ALLEN? 7.5  
SEC 0 TNSP RNGE  
DATE: 06/14/1894      COLL: PROSSER CS  
FROM RD E OF ALLEN CREEK ON LINE W/ FOUR CORNERS SW OF  
BUSHONG WHERE I FOUND COTTONWOOD STONE. [5/1989-  
LOCATION IS PROBABLY IN THE SW CORNER OF ALLEN QUAD.]

(BL)3547-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: ALLEN? 7.5  
SEC 0 TNSP RNGE  
DATE: 06/14/1894      COLL: PROSSER CS  
PLEUROPHORIS ROCK E OF ALLEN CREEK & BUSHONG. [5/1989-  
LOCATION IS PROB IN THE SW CORNER OF ALLEN QUAD.]

(BL)3548-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: DWIGHT 7.5  
SEC 0 TNSP 17 S RNGE 8 E  
DATE: 08/20/1894      COLL: PROSSER CS  
FLINT W/ FOSSILS, 2.25 MI E OF DWIGHT.

(BL)3549-PC

UNASSIGNED CO, KS      SYSTEM: UNASSIGNED  
SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 08/21/1894      COLL: PROSSER CS  
FROM DIFFERENT SHALE, SEC 21(?)--LOOSE W/ ABUNDANT FOSS.

(BL)3550-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: ELM DALE 7.5  
SEC 0 TNSP 20S RNGE 6E  
DATE: 70/00/1894      COLL: PROSSER CS  
COYNE BRANCH, NEAR LINE BTWN SEC 1 & 36, 2.5 MI ABOVE  
CLEMENTS. TNSP & RNGE GIVEN FOR SEC 36.

(BL)3552-PC

UNASSIGNED CO, KS      SYSTEM: UNASSIGNED  
SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 07/06/1894      COLL: PROSSER CS  
BROWNISH RED SS FROM WELL NEAR SCHOOL HOUSE  
SE1/4SEC19.

(BL)3553-PC

GREENWOOD CO, KS      SYSTEM: PERM  
SERIES: LOWER      GROUP: COUNCIL GROVE  
FM: BEATTIE LS      MEMBER: UNASSIGNED  
COTTONWOOD LS MBR  
QUAD: REECE 7.5  
SEC 0 TNSP 26 S RNGE 9 E  
DATE: 08/28/1894      COLL: PROSSER CS  
FUSULINA LS 0.5 MI W OF REESE; PERHAPS COTTONWOOD.

(BL)3554-PC

UNASSIGNED CO, KS      SYSTEM: UNASSIGNED  
SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 07/22/1894      COLL: PROSSER CS  
RR CUT BEYOND CURTIS'S CREEK & NEAR HOR OF C9.

(BL)3555-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: TORONTO NE 7.5  
SEC 0 TNSP 24S RNGE 14E  
DATE: 70/00/1894      COLL: PROSSER CS?  
LOOSE SPECIMENS ON BANK OF TURKEY CREEK BTWN SECS 14 &  
15 NEWHEM(?) TP. [6/1989-THIS LOCATION ASSUMES THAT THERE  
IS ONLY ONE TURKEY CREEK IN KANSAS. THIS IS THE ONLY  
PLACE THAT TURKEY CREEK CROSSES SECS 14 & 15.]

(BL)3556-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: PIQUA? 7.5  
SEC 0 TNSP 23S RNGE 17E  
DATE: 70/00/1894      COLL: FINNEY M  
NEOSHO FALLS, NE COR WOODSON CO. BASE OF PENN. [6/1989-  
PROB SEC 32 OR 33. QUAD IS PIQUA OR NEOSHO FALLS.]

(BL)3557-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: CEDAR POINT 7.5  
SEC 0 TNSP RNGE 6E  
DATE: 07/13/1894      COLL: PROSSER CS  
1 MI E OF CEDAR POINT. [5/1989-20S OR 21S & 6E.]

(BL)3558-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: SEE COMMENTS 7.5  
SEC 0 TNSP \* RNGE 5E  
DATE: 07/21/1894      COLL: PROSSER CS  
MIDDLE LINE SECS 11 & 14 LINCOLN TP, BUTLER CO. THIN LS.  
[5/1989-LINCOLN TP IS VERY LARGE AND CONTAINS MORE THAN  
36 SECTIONS. TNSP IS 23S OR 24S. QUAD MAP IS DEGRAFF OR  
FLORENCE SE.]

(BL)3559-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: HOMESTEAD? 7.5  
SEC 10 TNSP 21S? RNGE 7E?  
DATE: 07/03/1894      COLL: PROSSER CS  
N BRANCH OF ROCK CREEK, SEC 10.

(BL)3560-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: CHAPMAN 7.5  
SEC 0 TNSP RNGE  
DATE: 70/00/1894      COLL: OSGOOD MISS  
QUARRY S OF CHAPMAN. [8/1989-QUARRIES EXIST AT NE SEC 5  
T13S R4E AND NE SEC 8 T13S R4E.]

(BL)3561-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: DIAMOND SPRINGS 7.5  
SEC 0 TNSP 17 S RNGE 7 E  
DATE: 08/24/1894      COLL: PROSSER CS  
RD BTWN SECS 31 & 32, N 1/4 ELM CREEK TP S OF SCHOOL  
CREEK.

(BL)3562-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: WILSEY 7.5  
SEC 29 TNSP 16 S RNGE 7 E  
DATE: 08/24/1894      COLL: PROSSER CS  
SW1/4SEC29, SW OF WILSEY, FROM LOOSE BLOCKS.

(BL)3563-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: COTTONWOOD FALL 7.5  
SEC 0 TNSP RNGE  
DATE: 70/00/1894      COLL: PROSSER CS?  
FROM TOP PART GLENDALE LEDGE TOWARD COTTONWOOD  
FALLS.

(BL)3564-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: DIAMOND SPRINGS 7.5  
SEC 36 TNSP 16 S RNGE 5 E  
DATE: 08/31/1894      COLL: PROSSER CS  
ROCK N OF SIX MILE CREEK. SW1/4SEC36. GRAND VIEW TP OR  
NW1/4SEC1 DIAMOND VALLEY TP.

(BL)3565-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: BURDICK 7.5  
SEC 24 TNSP 17 S RNGE 5 E  
DATE: 08/31/1894      COLL: PROSSER CS  
RR CUT 1.25 MI E OF BURDICK NW1/4SEC24, DIAMOND VALLEY TP.

(BL)3566-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: BURDICK 7.5  
SEC 14 TNSP 17 S RNGE 5 E  
DATE: 08/31/1894      COLL: PROSSER CS  
IN RAVINE NE OF BURDICK, SE COR SEC14, DIAMOND VALLEY TP.

(BL)3567-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: BURDICK 7.5  
SEC 0 TNSP 17 S RNGE 5 E  
DATE: 08/24/1894      COLL: PROSSER CS  
S BANK OF CREEK W OF DIAMOND SPRINGS & APPROX 2 MI S OF  
COUNTY LINE [8/1989-DESCRIPTION DOES NOT MAKE SENSE  
UNLESS IT IS 2 MI N OF THE COUNTY LINE. LOC IS BASED ON THE  
ASSUMPTION THAT A MISTAKE WAS MADE.]

(BL)3569-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: MATFIELD GREEN 7.5  
SEC 0 TNSP 22 S RNGE 8 E  
DATE: 07/04/1894      COLL: PROSSER CS  
BELOW FLINT LEDGE ON RD UP SOUTH FORK, ON N SLOPE OF  
RUN, BEFORE THE ROAD CROSSING. THURMAN. SEC 29 OR 30.  
[8/1989-THURMAN IS AN OLD NAME FOR THE UPPERMOST PART  
OF SOUTH FORK-SEE 30 MIN 1934 COTTONWOOD FALLS QUAD.]

(BL)3571-PC

BUTLER CO, KS      SYSTEM: PERM  
SERIES: LOWER      GROUP: CHASE  
FM: WRE福德 LS      MEMBER: UNASSIGNED  
QUAD: ROSALIA 7.5  
SEC 0 TNSP 26 S RNGE 8 E  
DATE: 10/00/1909      COLL: WHITE D  
FOURTH CUT E OF SUMMIT CUT. MISSOURI PACIFIC RR 7 MI W  
OF REECE(?), KS. WRE福德 LS.

(BL)3573-PC

UNASSIGNED CO, KS      SYSTEM: PERM  
SERIES: LOWER      GROUP: CHASE  
FM: BARNESTON LS      MEMBER: UNASSIGNED  
QUAD: ROSALIA 7.5  
SEC 0 TNSP 26 S RNGE 8 E  
DATE: 08/17/1894      COLL: WHITE D  
DATE SPECULATIVE. CUT ON MISSOURI PACIFIC RR 0.5 MI S OF  
HULL. FT RILEY LS.

(BL)3574-PC

DICKINSON CO, KS      SYSTEM: PERM  
SERIES: LOWER      GROUP: SUMNER  
FM: WELLINGTON      MEMBER: UNASSIGNED  
QUAD: ELMO 7.5  
SEC 0 TNSP 16 S RNGE 2 E  
DATE: 70/00/1909      COLL: WHITE D  
3.5 MI S OF ELMO, KS. PROB SEC 28 OR 29.

(BL)3575-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: REECE 7.5  
SEC 0 TNSP 26 S RNGE 9 E  
DATE: 70/17/1909      COLL: WHITE D  
REECE, KS. LOWER BED.

(BL)3576-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: ROSALIA 7.5  
SEC 2 TNSP 26 S RNGE 8 E  
DATE: 08/26/1909      COLL: WHITE D  
SALLYARDS SWITCH, MISSOURI PACIFIC RR, 4 MI W OF REECE.  
FUSULINA(?) LS SOME DISTANCE ABOVE PLANT BED (3576A?)

(BL)3577-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: REECE 7.5  
SEC 0 TNSP 26 S RNGE 8 E  
DATE: 08/26/1909      COLL: WHITE D  
MISSOURI PACIFIC RR 2 MI W OF REECE. LS MAKING CREST OF  
FIRST BLUFF.

(BL)4086-PC

LYON CO, KS      SYSTEM: PENN  
SERIES: VIRG      GROUP: WABAUNSEE  
FM: SCRANTON SH      MEMBER: UNASSIGNED  
QUAD: REECE 7.5  
SEC 0 TNSP 26 S RNGE 8 E  
DATE: 09/23/1925      COLL: GIRTY GH\*  
ALONG OSAGE-EMPORIA HWY, 11.9 MI FROM OSAGE. A SHALE  
EXPOSURE W/ABUNDANT CHONETES & A THIN-BEDDED LS 8-10  
FT THICK W/INTERBEDDED SHALE. COLL GHG & PV ROUNDY.  
UPPER PART SCRANTON SH (BURLINGAME OF ADAMS). [5/1989-  
THERE IS NO DIRECT RD BETWEEN OSAGE & EMPORIA.  
REFERENCED RD MAY BE THE "KANSAS TURNPIKE".]

(BL)4087-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: WINFIELD LS\*      MEMBER: UNASSIGNED  
QUAD: MARION 7.5  
SEC 19 TNSP 20 S RNGE 04 4  
LAT: 38.1800 LONG: 97.0145  
DATE: 09/25/1925      COLL: GIRTY GH\*  
SEC19 OR 20. 3.3 MI S OF MARION. A SOFT YELLOW-OLIVE SH  
WHICH COMES ABOVE A CHERTY LS. WINFIELD OR DOYLE FM.  
COLL GHG & PV ROUNDY. JUST OFF HWY 50. \*FM NOT LISTED IN  
KS GEOL SURVEY BULL 189, 1968.

(BL)4088-PC

LYON CO, KS      SYSTEM: PENN  
SERIES: VIRG      GROUP: WABAUNSEE  
FM: SCRANTON SH      MEMBER: UNASSIGNED  
QUAD: LANG 7.5  
SEC 0 TNSP 19S RNGE 12E  
DATE: 09/24/1925      COLL: GIRTY GH\*  
[9/1988-THIS MAY BE DUPLICATE NUMBER--SAME NUM IS  
ASSIGNED TO OK SYS SET.] 0.2 MI E OF RIVER BRIDGE; 5.8 MI E OF  
CENTER OF EMPORIA. SH PARTINGS IN A 7 FT LS. COLL GHG &  
PV ROUNDY.

(BL)4089-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: MARION 7.5  
SEC 5 TNSP 20 S RNGE 04 E  
LAT: 38.2100 LONG: 97.0130  
DATE: 09/25/1925      COLL: GIRTY GH\*  
IN MARION NEAR A PARK, A SCHOOL & A CHURCH. IN MARION  
ON S SIDE HWY 56, NEAR SMALL WATER TOWER.

(BL)5786-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: AUBURN 7.5  
SEC 0 TNSP 12 S RNGE 14 E  
DATE: 09/22/1925      COLL: GIRTY GH\*  
12.3 W & S OF TOPEKA & 5.7 MI DUE N OF AUBURN, WHERE  
SMALL STREAM FLOWING NE CROSSES RD. A RATHER THIN LS.  
FOSS FROM UPPER SHALEY PART. COLL GHG & PV ROUNDY.  
PROB SEC 23 OR 24.

(BL)5786A-PC

SHAWNEE CO, KS      SYSTEM: PENN  
SERIES: VIRG      GROUP: WABAUNSEE  
FM: WILLARD SH      MEMBER: UNASSIGNED  
QUAD: AUBURN 0.0  
SEC 0 TNSP 12 S RNGE 14 E  
DATE: 09/00/1925      COLL: GIRTY GH\*  
APPROX 58 FT STRAT ABOVE FIELDNUM 19A

(BL)5786-PC. SAME LOC. COLL GHG & PV ROUNDY. (OLPE SH OF  
ADAMS 1903). [6/1989-PROB SEC 23 OR 24.]

(BL)5787-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: GRANTVILLE 7.5  
SEC 10 TNSP 12 S RNGE 17 E  
DATE: 09/20/1925      COLL: GIRTY GH\*  
1.1 MI NW OF BIG SPRINGS, ALONG HWY & 17.8 MI W OF  
LAWRENCE. SE SEC 10 OR SW SEC 11.

(BL)5791-PC

CHASE CO, KS      SYSTEM: PERM  
SERIES: LOWER      GROUP: COUNCIL GROVE  
FM: BEATTIE LS      FLORENA SH MBR  
QUAD: SAFFORDVILLE 7.5  
SEC 0 TNSP 19S RNGE 8E  
DATE: 09/24/1925      COLL: GIRTY GH\*  
LS QUARRY ON N SIDE OF RD 18.7 M W OF EMPORIA ALONG MAIN  
RD TO STRONG CITY & APPROX 2.3 MI E OF STRONG CITY. FOSS  
MAINLY FROM FLORENA SH AT TOP OF COTTONWOOD LS. A FEW  
MAY BE FROM COTTONWOOD ITSELF. COLL GHG & PV ROUNDY.  
[5/1989-MAY REFER TO ONE OF SEVERAL QUARRIES IN SECS 14 &  
23.]

(BL)5791A-PC

CHASE CO, KS      SYSTEM: PERM  
SERIES: LOWER      GROUP: COUNCIL GROVE  
FM: ESKRIDGE SH      MEMBER: UNASSIGNED  
QUAD: SEE COMMENTS 0.0  
SEC 0 TNSP 19S RNGE 8E  
DATE: 09/00/1925      COLL: GIRTY GH\*  
APPROX 0.3 MI W OF FIELDNUM 29

(BL)5791-PC); FROM APPROX 15 FT OF GRAY SH. COLL GHG & PV  
ROUNDY. [5/1989-7.5 QUAD IS EITHER SAFFORDVILLE OR STRONG  
CITY.]

(BL)5808-PC

CHASE CO, KS      SYSTEM: PERM  
SERIES: LOWER      GROUP: COUNCIL GROVE  
FM: BEATTIE LS      FLORENA SH? MBR  
QUAD: STRONG CITY 7.5  
SEC 0 TNSP 19S RNGE 8E  
DATE: 09/24/1925      COLL: GIRTY GH\*  
APPROX 1.25 MI E OF STRONG CITY, ALONG MAIN HWY. 7 FT  
ABOVE THE COTTONWOOD? LS. EVIDENTLY SAME HOR AS COLL  
AS FIELDNUM 29 (

(BL)5791-PC). COLL GHG & PV ROUNDY. [5/1989-PROB SEC 22.]

(BL)5879-PC

SHAWNEE CO, KS      SYSTEM: PENN  
SERIES: VIRG      GROUP: SHAWNEE  
FM: CALHOUN SH      MEMBER: UNASSIGNED  
QUAD: GRANTVILLE 7.5  
SEC 0 TNSP 11 S RNGE 16 E  
DATE: 09/20/1925      COLL: GIRTY GH\*  
CUT ON UPRR, 3 MI NE OF TOPEKA. APPROX 50 FT ABOVE  
FIELDNUM 15A. COLL GHG & PV ROUNDY. TOP CALHOUN ? SH.

(BL)5882-PC

CHASE CO, KS      SYSTEM: PERM  
SERIES: LOWER      GROUP: CHASE  
FM: WREFORD LS      MEMBER: UNASSIGNED  
QUAD: STRONG CITY 7.5  
SEC 0 TNSP 19S RNGE 8E  
DATE: 09/26/1925      COLL: GIRTY GH\*  
FIRST RR CUT W OF STRONG CITY. A SH JUST FULL OF LARGE  
CHONETES. COLL GHG & PV ROUNDY. [5/1989-PROB SEC 17.]

(BL)6146-PC

COWLEY CO, KS      SYSTEM: PERM  
SERIES: LOWER      GROUP: CHASE  
FM: NOLANS LS      HERINGTON LS MBR  
QUAD: UDALL 7.5  
SEC 3 TNSP 31 S RNGE 03 E  
DATE: 00/00/1926      COLL: BASS NW  
NE1/4SEC3. 2 MI E OF UDALL.

(BL)6147-PC

COWLEY CO, KS      SYSTEM: PERM  
SERIES: WOLF      GROUP: CHASE  
FM: WINFIELD LS      LUTA LS MBR  
QUAD: UDALL 7.5  
SEC 36 TNSP 30 S RNGE 03 E  
DATE: 00/00/1926      COLL: BASS NW  
NEAR NECORSEC36. FROM TOP OF LUTA LS.

(BL)6148-PC

COWLEY CO, KS      SYSTEM: PERM  
SERIES: LOWER      GROUP: CHASE  
FM: NOLANS LS      HERINGTON LS MBR  
QUAD: ARKANSAS CITY 7.5  
SEC 18 TNSP 34 S RNGE 04 E  
DATE: 00/00/1926      COLL: BASS NW  
NEAR CENTER SEC18. 1.5 MI N OF ARKANSAS CITY.

(BL)6148A-PC

COWLEY CO, KS      SYSTEM: PERM  
SERIES: LOWER      GROUP: CHASE  
FM: NOLANS LS      HERINGTON LS MBR  
QUAD: ARKANSAS CITY 7.5  
SEC 18 TNSP 32S RNGE 04E  
DATE: 00/00/1926      COLL: BASS NW  
NEAR CENTER SEC18. 1.5 MI N OF ARKANSAS CITY.

(BL)6149-PC

COWLEY CO, KS      SYSTEM: PERM  
SERIES: LOWER      GROUP: CHASE  
FM: DOYLE SH      MEMBER: UNASSIGNED  
QUAD: WINFIELD 7.5  
SEC 22 TNSP 32 S RNGE 04 E  
DATE: 00/00/1926      COLL: BASS NW  
SE1/4SEC22. W SLOPE RESERVOIR HILL IN WINFIELD. FROM  
WINFIELD LS & TOP OF DOYLE SH.

(BL)6150-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: DOYLE SH  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: AKRON 7.5  
SEC 19 TNSP 32 S RNGE 04 E  
DATE: 00/00/1926  
COLL: BASS NW  
SE1/4SEC 19. 1 MI W OF WINFIELD IN RR CUT. 0.15 MI W OF  
WINFIELD JUNCTION. FROM UPPERMOST FOOT OF DOYLE SH. ON  
AT&SF RR.

(BL)6151-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: DOYLE SH  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: AKRON 7.5  
SEC 32 TNSP 31 S RNGE 04 E  
DATE: 00/00/1926  
COLL: BASS NW  
A LITTLE WAY S OF THE N1/4CORSEC32. 5 MI N OF WINFIELD.  
FROM LS BED 2 FT BELOW TOP OF DOYLE SH.

(BL)6152-PC

COWLEY CO, KS  
SERIES: UNASSIGNED  
FM: ENTERPRISE\*  
SYSTEM: PERM  
GROUP: SUMNER  
MEMBER: UNASSIGNED  
QUAD: ARKANSAS CITY 7.5  
SEC 17 TNSP 34 S RNGE 04 E  
DATE: 00/00/1926  
COLL: BASS NW  
NWCORSEC17. 1.5 MI NE OF ARKANSAS CITY. FROM SHALEY LS  
BED IN ENTERPRISE SH, 56 FT ABOVE BASE. \*FM NOT LISTED IN  
KS GEOL SURVEY BULL 189, 1968.

(BL)6152A-PC

COWLEY CO, KS  
SERIES: WOLF  
FM: WINFIELD LS  
SYSTEM: PERM  
GROUP: CHASE  
LUTA LS MBR  
QUAD: ARKANSAS CITY 7.5  
SEC 18 TNSP 34 S RNGE 04 E  
DATE: 00/00/1926  
COLL: BASS NW  
NWCORSEC18. 1.5 MI NNE OF ARKANSAS CITY. FROM LUTA LS 2  
FT ABOVE BASE.

(BL)6152B-PC

COWLEY CO, KS  
SERIES: UNASSIGNED  
FM: ENTERPRISE\*  
SYSTEM: PERM  
GROUP: SUMNER  
MEMBER: UNASSIGNED  
QUAD: ARKANSAS CITY 7.5  
SEC 17 TNSP 34 S RNGE 04 E  
DATE: 00/00/1926  
COLL: BASS NW  
NW1/4SEC17. 1.5 MI NE OF ARKANSAS CITY. FROM ENTERPRISE  
SH 60 FT ABOVE BASE; IMMED BENEATH 10-IN LS BED & 3.5 FT  
ABOVE THE 56-FT LS OF FIELDNUM 8. \*FM NOT LISTED IN KS  
GEOL SURVEY BULL 189, 1968.

(BL)6153-PC

COWLEY CO, KS  
SERIES: WOLF  
FM: WINFIELD LS  
SYSTEM: PERM  
GROUP: CHASE  
LUTA LS MBR  
QUAD: ARKANSAS CITY 7.5  
SEC 20 TNSP 34 S RNGE 04 E  
DATE: 00/00/1926  
COLL: BASS NW  
SE1/4SEC20. FROM LUTA LS 2 FT ABOVE BASE.

(BL)6153A-PC

COWLEY CO, KS  
SERIES: WOLF  
FM: WINFIELD LS  
SYSTEM: PERM  
GROUP: CHASE  
LUTA LS MBR  
QUAD: ARKANSAS CITY 7.5  
SEC 20 TNSP 34 S RNGE 04 E  
DATE: 00/00/1926  
COLL: BASS NW  
SE1/4SEC20, SAME LOC AS FIELDNUM 11 (

(BL)6153-PC). FROM LUTA LS 6 FT ABOVE BASE.

(BL)6154-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: DOYLE SH  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: SILVERDALE 7.5  
SEC 1 TNSP 35 S RNGE 04 E  
DATE: 00/00/1926  
COLL: BASS NW  
NEAR COR E1/4SEC1. 5.5 MI E OF ARKANSAS CITY. FROM DOYLE  
SH 53 FT BELOW TOP.

(BL)6154B-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: DOYLE SH  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: SILVERDALE 7.5  
SEC 1 TNSP 35 S RNGE 04 E  
DATE: 00/00/1926  
COLL: BASS NW  
NEAR COR E1/4SEC1. FROM LS LEDGE IN DOYLE SH 23 FT ABOVE  
BASE (APPROX POSITION OF TOWANDA LS OF ELDORADO DIST.)

(BL)6155-PC

CHAUTAUQUA CO, KS  
SERIES: VIRG  
FM: WILLARD SH  
SYSTEM: PENN  
GROUP: WABAUNSEE  
MEMBER: UNASSIGNED  
QUAD: CEDAR VALE WEST 7.5  
SEC 10 TNSP 34 S RNGE 08 E  
DATE: 00/00/1926  
COLL: BASS NW  
NEAR COR W1/4SEC10, 1 MI W OF CEDARVALE. FROM THIN LS  
BED 40 FT ABOVE BASE OF WILLARD SH. FROM FLOAT JUST  
BELOW SS. THE CRINOID STEMS ARE PROB FROM APPROX 2 FT  
ABOVE SS & OTHER FOSS FROM A THIN LS EITHER AT TOP OR  
BASE OF THE SS.

(BL)6155A-PC

COWLEY CO, KS  
SERIES: VIRG  
FM: EMPORIA LS  
SYSTEM: PERM  
GROUP: WABAUNSEE  
MEMBER: UNASSIGNED  
QUAD: CEDAR VALE WEST 7.5  
SEC 9 TNSP 34 S RNGE 08 E  
DATE: 00/00/1926  
COLL: BASS NW  
NE1/4SEC9. 1 MI W OF CEDARVALE. FROM BASE OF EMPORIA?  
LS.

(BL)6156-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: CROUSE LS?  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: DEXTER 7.5  
SEC 8 TNSP 33 S RNGE 07 E  
DATE: 00/00/1926  
COLL: BASS NW  
NE1/4SEC8. 1.5 MI NE OF DEXTER. FROM LS BED 60 FT BELOW  
TOP OF GARRISON SH--PROB CROUSE LS.

(BL)6157-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: GARRISON SH\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: DEXTER 7.5  
SEC 35 TNSP 33 S RNGE 07 E  
DATE: 00/00/1926  
COLL: BASS NW  
SE1/4SEC35. 0.25 MI SE OF HOOSER. FROM GARRISON SH A  
LITTLE ABOVE THE MIDDLE. \*FM NOT LISTED IN KS GEOL  
SURVEY BULL 189, 1968.

(BL)6158-PC

LYON CO, KS  
SERIES: LOWER  
FM: WREFORD LS  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: STRONG CITY 7.5  
SEC 18 TNSP 19S RNGE 8E  
DATE: 00/00/1926  
COLL: BASS NW  
FROM OLD QUARRY W OF STRONG CITY; FROM QUARRY DUMPS.  
QUARRY PRINCIPALLY IN WREFORD LS. [5/1989-MAY REFER TO  
THE QUARRY IN THE NW SEC 18. LOCATION IS GIVEN FOR THIS  
QUARRY.]

(BL)6159-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
AMERICUS LS MBR  
QUAD: CEDAR VALE WEST 7.5  
SEC 7 TNSP 34 S RNGE 08 E  
DATE: 00/00/1926  
APPROX NW1/4SEC7. FROM RESIDUAL CHERT OF AMERICUS (OR FORAKER?) LS.  
COLL: BASS NW

(BL)6160-PC

LYON CO, KS  
SERIES: LOWER  
FM: DOYLE SH  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: PLYMOUTH 7.5  
SEC 0 TNSP 18S RNGE 10E  
DATE: 00/00/1926  
APPROX 1.5 MI SW OF AMERICUS. FROM ADMIRE SH APPROX 50 FT BELOW TOP.  
COLL: BASS NW

(BL)6161-PC

COWLEY CO, KS  
SERIES: UNASSIGNED  
FM: GARRISON SH\*  
SYSTEM: PERM  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: DEXTER 7.5  
SEC 12 TNSP 33 S RNGE 06 E  
DATE: 00/00/1926  
NW1/4SEC12. ON HWY 1.5 MI NW OF DEXTER. FROM THIN-BEDDED LS & LIMEY SH IN UPPERMOST PART OF GARRISON SH.  
\*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.  
COLL: BASS NW

(BL)6162-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: BEATTIE LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
COTTONWOOD LS MBR  
QUAD: DEXTER 7.5  
SEC 11 TNSP 34 S RNGE 07 E  
DATE: 00/00/1926  
CENTER SEC11. FROM UPPERMOST FEW FEET OF ESKRIDGE SH- JUST BELOW COTTONWOOD LS LEDGE.  
COLL: BASS NW

(BL)6163-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR  
QUAD: DEXTER 7.5  
SEC 11 TNSP 34 S RNGE 07 E  
DATE: 00/00/1926  
SE1/4SEC11. FROM BASE OR FEW INCHES BELOW NEVA LS.  
COLL: BASS NW

(BL)6164-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: BEATTIE LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
COTTONWOOD LS MBR  
QUAD: DEXTER SW 7.5  
SEC 8 TNSP 35 S RNGE 07 E  
DATE: 00/00/1926  
SE1/4SEC8. FROM UPPERMOST FEW FT OF ESKRIDGE SH-FROM JUST BENEATH COTTONWOOD LS LEDGE.  
COLL: BASS NW

(BL)6165-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: MATFIELD SH  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: SILVERDALE 7.5  
SEC 5 TNSP 35 S RNGE 05 E  
DATE: 00/00/1926  
SE1/4SEC5. 1 MI SE OF SILVERDALE. FROM MATFIELD SH, 8 TO 12 FT ABOVE BASE. PART OF THIS COLL FROM SAME HOR IN W1/2SEC18, T35S.  
COLL: BASS NW

(BL)6166-PC

COWLEY CO, KS  
SERIES: UNASSIGNED  
FM: ENTERPRISE\*  
SYSTEM: PERM  
GROUP: SUMNER  
MEMBER: UNASSIGNED  
QUAD: AKRON 7.5  
SEC 35 TNSP 31 S RNGE 03 E  
DATE: 00/00/1926  
SW1/4SEC35. FROM ENTERPRISE SH 15 FT BELOW TOP. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.  
COLL: BASS NW

(BL)6167-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: MATFIELD SH  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: SILVERDALE 7.5  
SEC 8 TNSP 35 S RNGE 05 E  
DATE: 00/00/1926  
NEAR COR S1/4SEC8. FROM 6 FT GRAY LS 10 FT ABOVE BASE OF MATFIELD SH.  
COLL: BASS NW

(BL)6457-PC

SHAWNEE CO, KS  
SERIES: VIRG  
FM: WILLARD SH  
SYSTEM: PENN  
GROUP: WABAUNSEE  
MEMBER: UNASSIGNED  
QUAD: WILLARD 7.5  
SEC 0 TNSP 12 S RNGE  
DATE: 09/22/1985  
ALONG MAIN PAVED HWY FROM TOPEKA TO DOVER. 11.7 MI W OF TOPEKA. (OLPE SH OF ADAMS 1903.) COLL GHG & PV ROUNDY. LOC IS T12S & R13 OR 14S.  
COLL: GIRTY GH\*

(BL)6459-PC

SHAWNEE CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
MEMBER: UNASSIGNED  
QUAD: SILVER LAKE 7.5  
SEC 0 TNSP RNGE  
DATE: 09/00/1985  
0.25 MI N OF KANWAKA ALONG MAIN CEMENT RD (APPROX 8 M W OF TOPEKA). FROM A THIN LS BAND & SH JUST ABOVE IT. COL GHG & PV ROUNDY. [6/1989-LOC IS PROB T12S & R14E.]  
COLL: GIRTY GH\*

(BL)6460-PC

SHAWNEE CO, KS  
SERIES: VIRG  
FM: WILLARD SH  
SYSTEM: PENN  
GROUP: WABAUNSEE  
MEMBER: UNASSIGNED  
QUAD: AUBURN 7.5  
SEC 0 TNSP 13 S RNGE 14 E  
DATE: 09/00/1925  
APPROX 2 MI DUE N OF AUBURN, ALONG MAIN RD. (OLPE SH OF ADAMS 1905). COLL GHG & PV ROUNDY. [6/1989-PROB SEC 11 OR 12.]  
COLL: GIRTY GH\*

(BL)6461-PC

DOUGLAS CO, KS  
SERIES: VIRG  
FM: DEER CREEK LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
MEMBER: UNASSIGNED  
QUAD: SEE COMMENT 7.5  
SEC 0 TNSP 12 S RNGE 18 E  
DATE: 09/00/1925  
10.3 MI W OF LAWRENCE ALONG MAIN CEMENT HWY TO TOPEKA. PROB DEER CREEK, MAY BE JUST BELOW. COLL GHG & PV ROUNDY. [8/1989-QUAD IS CLINTON OR PERRY. LOC ASSUMES MEASUREMENT FROM LAWRENCE MUST BEGIN NEAR THE CENTER.]  
COLL: GIRTY GH\*

(BL)6461A-PC

DOUGLAS CO, KS  
SERIES: VIRG  
FM: DEER CREEK LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
MEMBER: UNASSIGNED  
QUAD: SEE COMMENT 7.5  
SEC 0 TNSP RNGE  
DATE: 09/00/1925  
0.6 MI NW [6/1989-10.9 MI W OF THE APPROX CENTER OF LAWRENCE] OF FIELDNUM 13 ((BL)6461-PC) ALONG HWY. SAME HOR. PROB DEER CREEK. COLL GHG & PV ROUNDY. QUAD IS CLINTON OR PERRY.  
COLL: GIRTY GH\*

(BL)6462-PC

DOUGLAS CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
MEMBER: UNASSIGNED  
QUAD: DOUGLAS 7.5  
SEC 0 TNSP 12 E RNGE  
DATE: 09/00/1925 COLL: GIRTY GH\*  
6.9 MI W OF LAWRENCE ALONG MAIN HWY TO TOPEKA & 1 MI E  
OF KANWAKA. COLL GHG & PV ROUNDY. LOC IS SEC 25 OR 36 IN  
12S 18E OR SEC 30 OR 31 IN 12S 19E.

(BL)6463-PC

CHASE CO, KS  
SERIES: LOWER  
FM: WRETFORD LS  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: STRONG CITY 7.5  
SEC 0 TNSP 19S RNGE 8E  
DATE: 09/25/1925 COLL: GIRTY GH\*  
TOP PART OF LS QUARRY ON CRUSHER HILL NW OF STRONG  
CITY. COLL GHG & PV ROUNDY. [5/1989-PROB REFERS TO  
QUARRY IN THE NE OF SEC 18.]

(BL)6464-PC

SHAWNEE CO, KS  
SERIES: VIRG  
FM: WILLARD SH?  
SYSTEM: PENN  
GROUP: WABAUNSEE  
MEMBER: UNASSIGNED  
QUAD: SILVER LAKE 7.5  
SEC 0 TNSP 12 S RNGE 14 E  
DATE: 09/00/1925 COLL: GIRTY GH\*  
7 MI W OF TOPEKA ALONG MAIN CEMENT RD TO DOVER. THIS IS  
PROB LOWER WILLARD BUT MAY BE UPPER SCRANTON. COLL  
GHG & PV ROUNDY. [6/1989-PROB SEC 10 OR 11.]

(BL)6468-PC

MARION CO, KS  
SERIES: LOWER  
FM: MATFIELD SH  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: FLORENCE 7.5  
SEC 6 TNSP 21 S RNGE 05 E  
LAT: 38.1450 LONG: 96.5455  
DATE: 09/00/1925 COLL: GIRTY GH\*  
OLD QUARRY ALONG MAIN RD TO ELMDALE JUST E OF  
FLORENCE. FLORENCE? OR FT RILEY. COLL GHG & PV ROUNDY.  
JUST N HWY 50, 0.2 MI NE OF BM 1269. ELEV 1300 FT.

(BL)6515-PC

CHASE CO, KS  
SERIES: LOWER  
FM: BEATTIE LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: STRONG CITY 7.5  
SEC 0 TNSP 19S RNGE 8E  
DATE: 09/26/1925 COLL: GIRTY GH\*  
SECOND RR CUT W OF STRONG CITY. THIS IS A GENERAL COLL  
COVERING APPROX 20 FT. FIELDNUM 43A IS A SH SAMPLE FROM  
LOWER PART & FIELDNUM 43B IS FROM UPPER PART. FLORENA  
OR ESKRIDGE. COLL GHG & PV ROUNDY. [5/1989-PROB SEC 17 OR  
18.]

(BL)6515A-PC

CHASE CO, KS  
SERIES: LOWER  
FM: BEATTIE LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: STRONG CITY 7.5  
SEC 0 TNSP 19S RNGE 8E  
DATE: 09/26/1925 COLL: GIRTY GH\*  
FROM GREEN TO OLIVE SH. LOWER PART OF SEC FROM WHICH  
GENERAL COLL

(BL)6515-PC CAME. COLL GHG & PV ROUNDY. (PROB SEC 17 OR  
18.)

(BL)6515B-PC

CHASE CO, KS  
SERIES: LOWER  
FM: BEATTIE LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: STRONG CITY 7.5  
SEC 0 TNSP 19S RNGE 8E  
DATE: 09/26/1925 COLL: GIRTY GH\*  
APPROX 6-15 FT ABOVE FIELDNUM 43A ((BL)6515-PC). FLORENA  
OR ESKRIDGE. COLL GHG & PV ROUNDY. [5/1989-PROB SEC 17 OR  
18.]

(BL)6516-PC

MARION CO, KS  
SERIES: LOWER  
FM: BARNESTON LS  
SYSTEM: PERM  
GROUP: CHASE  
MEMBER: UNASSIGNED  
QUAD: FLORENCE 7.5  
SEC 12 TNSP 21 S RNGE 04 E  
LAT: 38.1400 LONG: 96.5600  
DATE: 09/25/1925 COLL: GIRTY GH\*  
SESEC12. ALONG SANTA FE RR JUST SW OF FLORENCE. MAINLY  
FROM SHALEY PARTINGS IN THIN BEDDED EARTHY LS. PROB FT  
RILEY. COLL GHG & PV ROUNDY. APPROX 0.3 MI E OF HWY 50 &  
0.3 MI W OF HWY 77.

(BL)6517-PC

OSAGE CO, KS  
SERIES: VIRG  
FM: SCRANTON SH  
SYSTEM: PENN  
GROUP: WABAUNSEE  
MEMBER: UNASSIGNED  
QUAD: OSAGE CITY 7.5  
\*SEE COMMENTS SEC 0 TNSP 16 S RNGE 14 E  
DATE: 09/23/1925 COLL: GIRTY GH\*  
APPROX 5 MI FROM OSAGE CITY & 6.8 MI FROM BURLINGAME. A  
VERY THIN LS APPROX HALF WAY UP N SIDE ALONG MAIN OSAGE  
CITY-BURLINGAME HWY. A THIN COAL? SEAM NEAR THE PLACE.  
SCRANTON SH (BURLINGAME SH OF ADAMS). COLL GHG & PV  
ROUNDY. [6/1989-OSAGE CITY AND BURLINGAME ARE ONLY  
APPROX 7 MI APART & THE MILEAGE DOES NOT ADD UP.  
THEREFORE THE TOWNSHIP & RANGE MAY NOT BE CORRECT.]

(BL)6555-PC

CHASE CO, KS  
SERIES: UNASSIGNED  
FM: ELMDALE SH\*  
SYSTEM: PENN  
GROUP: WABAUNSEE  
MEMBER: UNASSIGNED  
QUAD: ELMDALE 7.5  
SEC 26 TNSP 19S RNGE 7E  
DATE: 09/00/1925 COLL: GIRTY GH\*  
SEC E FROM RIVER NEAR BRIDGE, APPROX 1.5 MI E OF ELMDALE.  
32C IS APPROX 3 FT ABOVE RIVER. NOTE: 32A IS AT WATER  
LEVEL ON E BANK. SEC RUNS UPWARD E TO HWY & THEN  
ALONG HWY. 32A & 32B MAY BE ELMDALE OR LOWER. 32C-32R  
ARE ELMDALE. 32S IS NEVA LS. 32T IS MIDDLE ESKRIDGE SH.  
32U IS COTTONWOOD LS. 32V JUST ABOVE MIDDLE OF GARRISON  
FM. SEE PVR NOTEBOOK. COLL GHG & PV ROUNDY. \*FM NOT  
LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)6555A-PC

CHASE CO, KS  
SERIES: UNASSIGNED  
FM: ELMDALE SH\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: ELMDALE 7.5  
SEC 26 TNSP 19S RNGE 7E  
DATE: 09/00/1925 COLL: GIRTY GH\*  
APPROX 100 FT STRAT ABOVE BEDS EXPOSED AT RIVER LEVEL.  
SEE NOTE

(BL)6555-PC. COLL GHG & PV ROUNDY. \*FM NOT LISTED IN KS  
GEOL SURVEY BULL 189, 1968.

(BL)6555E-PC

CHASE CO, KS  
SERIES: UNASSIGNED  
FM: ELMDALE SH\*  
SYSTEM: PENN  
GROUP: WABAUNSEE  
MEMBER: UNASSIGNED  
QUAD: ELMDALE 7.5  
SEC 26 TNSP 19 S RNGE 7 E  
DATE: 09/00/1925 COLL: GIRTY GH\*  
SH FROM TOP OF 4 FT OF SH & LS ABOVE

(BL)6555D-PC. SEE NOTE

(BL)6555-PC. COLL GHG & PV ROUNDY. \*FM NOT LISTED IN KS  
GEOL SURVEY BULL 189, 1968.

(BL)6555H-PC

CHASE CO, KS  
SERIES: UNASSIGNED  
FM: ELMDALE SH\*  
SYSTEM: PENN  
GROUP: WABAUNSEE  
MEMBER: UNASSIGNED  
QUAD: ELMDALE 7.5  
SEC 26 TNSP 19 S RNGE 7 E  
DATE: 09/00/1925 COLL: GIRTY GH\*  
SEE NOTE (BL)6555-PC. COLL GHG & PV ROUNDY. \*FM NOT  
LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)6555K-PC

CHASE CO, KS  
SERIES: UNASSIGNED  
FM: ELMDALE SH\*  
SYSTEM: PENN  
GROUP: WABAUNSEE  
MEMBER: UNASSIGNED  
QUAD: ELMDALE 7.5  
SEC 26 TNSP 19 S RNGE 7 E  
COLL: GIRTY GH\*  
DATE: 09/00/1925  
APPROX 108 FT STRAT ABOVE BEDS EXPOSED AT LOWEST RIVER LEVEL. UPPER ELMDALE. SEE NOTE (BL)6555-PC. COLL GHG & PV ROUNDY. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)6555L-PC

CHASE CO, KS  
SERIES: UNASSIGNED  
FM: ELMDALE SH\*  
SYSTEM: PENN  
GROUP: WABAUNSEE  
MEMBER: UNASSIGNED  
QUAD: ELMDALE 7.5  
SEC 26 TNSP 19 S RNGE 7 E  
COLL: GIRTY GH\*  
DATE: 09/00/1925  
APPROX 70 FT STRAT ABOVE BEDS EXPOSED AT RIVER LEVEL. SEE NOTE  
(BL)6555-PC. COLL GHG & PV ROUNDY. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)6555M-PC

CHASE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR  
QUAD: ELMDALE 7.5  
SEC 26 TNSP 19 S RNGE 7 E  
COLL: GIRTY GH\*  
DATE: 09/00/1925  
SH FROM THIN PARTING IN 10FT OF NEVA LS APPROX 120 FT STRAT ABOVE BEDS EXPOSED AT LOWEST WATER LEVEL. NEVA LS. SEE NOTE (BL)6555-PC. COLL GHG & PV ROUNDY.

(BL)7744-PC

CRAWFORD CO, KS  
SERIES: DESM  
FORMATION: UNASSIGNED  
SYSTEM: PENN  
GROUP: UNASSIGNED  
RICH HILL LS\* MBR  
QUAD: ARMA 7.5  
SEC 21 TNSP 28 S RNGE 25 E  
COLL: WILLIAMS JS  
DATE: 10/09/1934  
1.5 MI S, 2 MI E OF ENGLEVALE (MAP DISTANCE). DOWN TRIB TO COX CREEK WHICH DRAINS STRIP PIT. NEAR SWCORSEC21. STRIP PIT CROSSES RD APPROX 0.25 MI N OF SWCORSEC21 ON W LINE OF SEC. TRIB 50 FT E OF RD ON W LINE OF SEC. RICH HILL LS EXPOSED, COLL FROM BLOCKS ON SURFACE, FOSS WON'T BREAK OUT. SURFACE MUST BE SKINNED OFF. SAME LOC AS (BL)7753,7754-PC. \*MBR NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7745-PC

CRAWFORD CO, KS  
SERIES: DESM  
FORMATION: UNASSIGNED  
SYSTEM: PENN  
GROUP: CHEROKEE  
RICH HILL LS\* MBR  
QUAD: RADLEY 7.5  
SEC 21 TNSP 30 S RNGE 24 E  
COLL: WILLIAMS JS  
DATE: 10/06/1934  
3.25 MI W OF W LIMITS OF PITTSBURG (MAP DIST). SW1/4SE1/4SEC21. ALONG SMALL STREAM ON N SIDE OF RD BTWN SECS 21 & 28, APPROX 200 FT N OF RD & 200-500 FT W OF WHERE STREAM CROSSES RD & APPROX 1000 FT W OF SECORSEC21. ABOVE BLOCKS OF LS CARRIED IN TO CHANGE STREAM COURSE. RICH HILL LS, POOR FOSS. ONLY 2-3 INCHES EXPOSED WHERE COLL WERE MADE. W UP STREAM RICH HILL UP TO 18 INCHES THICK. 2 OF 10/06/34. \*MBR NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7746-PC

CRAWFORD CO, KS  
SERIES: DESM  
FORMATION: UNASSIGNED  
SYSTEM: PENN  
GROUP: CHEROKEE  
RICH HILL LS\* MBR  
QUAD: W MINERAL 7.5  
SEC 15 TNSP 31 S RNGE 22 E  
COLL: GRIFFIN EL  
DATE: 08/20/1934  
1 MI (MAP DIST) E OF MCCUNE. ALONG A STREAM 1000 FT S & 1700 FT E OF NWCORSEC15. RICH HILL LS. MAP NUM G134, WG PIERCE PARTY. \*MBR NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7748-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
RICH HILL LS\* MBR  
QUAD: ARMA 7.5  
SEC 3 TNSP 29 S RNGE 25 E  
COLL: PIERCE WG  
DATE: 05/31/1934  
1 M W OF MULBERRY (& 5/6 MI DUE E OF CROWEBURG?) (MAP DIST). IN QUARRY. FOSSILS FROM LS. COURTIER (1935) SAYS RICH HILL LS. PIERCE MAP NUM P144. 600 FT W & 200 FT S OF NECORSEC3. NENESEC3. \*MBR, FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7749-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: CHEROKEE 7.5  
SEC 7 TNSP 31 S RNGE 24 E  
COLL: PIERCE WG  
DATE: 07/17/1934  
APPROX 1 MI N OF CHEROKEE (MAP DIST) ALONG N SIDE RD ALONG SE S LINE NW1/4SEC7. PIERCE PARTY MAP NUM G18-13; SEE ALSO G18A,C,&D. SAME LOC AS (BL)7756, 7872, & 7760-PC. SAME LOC & HOR AS (BL)7756 & 7760-PC. 5 FT BELOW BREEZY HILL LS, CHEROKEE SH. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7750-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: W MINERAL 7.5  
SEC 36 TNSP 31 S RNGE 22 E  
COLL: GRIFFIN EL  
DATE: 08/29/1934  
WG PIERCE PARTY. MAP NUM G220. 1.25 MI W, 1 MI N OF MINERAL (MAP DIST). ALONG STREAM 1700 FT E & 1000 FT N OF SW CORNER SEC36. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7751-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
RICH HILL LS\* MBR  
SEC 0 TNSP RNGE  
COLL:  
DATE: 00/00/1934  
WG PIERCE PARTY. \*FM, MBR NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7752-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
RICH HILL LS\* MBR  
QUAD: OSWEGO 7.5  
SEC 27 TNSP 33 S RNGE 21 E  
COLL: STRAUB CE  
DATE: 10/25/1934  
WG PIERCE PARTY; MAP NUM 159. COLL STRAUB & WILSHIRE. 1.5 MI S, APPROX 0.5 MI E (SE LIMITS)? OF OSWEGO (MAP DIST). SEC 27, 33-21. RD CUT OF HALF MILE RD, 100 FT S OF CONCRETE BRIDGE. RICH HILL LS & SHALES BELOW. \*FM, MBR NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7753-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
RICH HILL LS\* MBR  
QUAD: ARMA 7.5  
SEC 21 TNSP 28 S RNGE 25 E  
COLL: WILLIAMS JS  
DATE: 10/09/1934  
WG PIERCE PARTY. 2.5 MI N, 1 MI E OF ARMS (MAP DIST). SWSWSEC21. A STRIP PIT CROSSES RD APPROX 0.15 MI N OF SWCORSEC24, SENT DOWN INTO PIT E OF RD. SAME LOC AS (BL)7754-PC EXCEPT FARTHER S IN PIT VERY NEAR S LINE OF SEC21, & WHERE STREAM DRAINING PIT FROM APPROX W COR OF SEC EMERGES FROM PIT, ON BANK OF STREAM. FLOAT FROM DUMP BUT REASONABLY SURE SAME LS AS (BL)7754-PC. SAME LOC AS (BL)7744-PC. THIN LS ON TOP OF IRONCLAD (RICH HILL) COAL. \*FM, MBR NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.



(BL)7754-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
RICH HILL LS\* MBR  
QUAD: ARMA 7.5  
SEC 21 TNSP 28 S RNGE 25 E  
DATE: 10/09/1934  
WG PIERCE PARTY. 2.5 MI N, 1 MI E OF ARMS (MAP DIST). W LINE SEC21. STRIP PIT IN RICH HILL COAL ON RD ON W LINE OF SEC21, GO S AS FAR AS POSS, APPROX 0.9 MI FROM NW COR OF SEC, ENTER PIT APPROX 100 FT N OF WHERE IT CROSSES RD, GO ON E SIDE OF RD. LS IS EXPOSED ABOVE COAL W/IN 50 FT OF RD. NEARLY SAME LOC AS (BL)7744-PC, BUT APPROX 1/8 MI N OF IT & 50 FT E OF RD ON W LINE SEC21. THIN BLACK LS ON IRONCLAD (RICH HILL) COAL. \*FM, MBR NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7755-PC

CHEROKEE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
RICH HILL LS\* MBR  
QUAD: W MINERAL 7.5  
SEC 26 TNSP 31 S RNGE 22 E  
DATE: 00/00/1934  
WG PIERCE PARTY; MAP NUM G208. 2 MI W, 1.5 MI N OF MINERAL (MAP DIST). IN STRIP PIT, 500 FT N, 1300 FT W OF SECORSEC26. 8 FT ABOVE RICH HILL LS. COURTIER (1935) SAYS ABOVE? IRONCLAD. \*FM, MBR NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7756-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: CHEROKEE 7.5  
SEC 7 TNSP 31 S RNGE 24 E  
DATE: 07/17/1934  
WG PIERCE PARTY; MAP NUM G18-C. 1 MI N OF CHEROKEE (MAP DIST). S LINE SENW1/4SEC7. SEE ALSO G18A,B,D. SAME LOC & HOR AS

(BL)7749-, 7760-, & 7872-PC. CHEROKEE SH, 2 FT BELOW BREEZY HILL LS. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7757-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: CHEROKEE 7.5  
SEC 1 TNSP 31 S RNGE 23 E  
DATE: 08/08/1934  
WG PIERCE PARTY; MAP NUM C-416. 1 MI W, 2 + MI N OF CHEROKEE (MAP DIST). CENTER. W LINE, NW1/4SW1/4SEC1. SAME LOC AS (BL)7759-PC. FROM GRAY MICACEOUS SH 3.1 FT BELOW 'PRODUCTID' LS OF COURTIER. COLL WHC & E KOESTER. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7758-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: OSWEGO 7.5  
SEC 15 TNSP 33 S RNGE 21 E  
DATE: 10/29/1934  
WG PIERCE PARTY; MAP NUM W276A. SEC EMBRACING E PART OF OSWEGO NWNWSEC15. APPROX 1200 FT E OF BRIDGE OVER NEOSHO RIVER ON S SIDE OF RIVER APPROX 5 FT ABOVE WATER. BLACK CALC SH JUST ABOVE COAL W/ PLANT IMPRESSIONS AT W276A. CHEROKEE FM 97+ FT TO BASE OF FT SCOTT. COURTIER (1935) SAYS CAP ROCK OF LOCAL COAL WHICH MAY BE AT IRONCLAD HOR BUT NOT NAMED IN LABETTE CO. COLL WILSHIRE & STRAUB. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7759-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: CHEROKEE 15 7.5  
SEC 1 TNSP 31 S RNGE 23 E  
DATE: 10/13/1934  
WG PIERCE PARTY; MAP NUM P416. 4 OF 10/13/1934. APPROX 1 MI N, 1 MI W OF CHEROKEE (MAP DIST). W LINE RD SEC1. 0.25 MI N OF SW COR OF SEC, 50 FT S OF S END OF FIRST BRIDGE TO N. ROADSIDE DITCH TO E OF RD, 12-16 IN. LS ABOVE BLACK SH. SO-CALLED BLACK LS, LENTICULAR, COURTIER SAYS 25 FT BELOW LOWER FT SCOTT. SO-CALLED PRODUCTID LS. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7760-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: CHEROKEE 7.5  
SEC 7 TNSP 31 S RNGE 24 E  
DATE: 10/13/1934  
WG PIERCE PARTY; SAME LOC & HOR AS (BL)7749-, 7756-PC. APPROX 1 MI N OF CHEROKEE (MAP DIST). ROADSIDE DITCH TO N ON RD RUNNING ON E/W LINE OF HALF SEC. SW1/4SE1/4SEC7. N & 100-200 FT E OF E LIMITS OF A CEMETERY. 0.25 MI E OVER FIRST HILL FROM W SEC LINE. SH 2-6FT BELOW BASE OF BREEZY HILL LS. FUSULINIDS ARE COLL 2Y & HENBEST NUM ST746. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7761-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CABANISS FM  
SYSTEM: PENN  
GROUP: CHEROKEE  
BREEZY HILL LS MBR  
QUAD: RADLEY 7.5  
SEC 5 TNSP 30 S RNGE 24 E  
DATE: 00/00/1934  
WG PIERCE PARTY. APPROX 2 MI S, 1.25 MI E OF GIRARD. N LINE SEC5. IN PASTURE ALONG SMALL STREAM E OF WHERE IT CROSSES RD & APPROX 100 FT S OF RD THAT RUNS ALONG N LINE & IS APPROX 0.33 MI E OF NWCORSEC5 (IE, NENWSEC5). COLL FROM SEVERAL PLACES ALONG STREAM & IN STREAM BED. SAME LOC AS (BL)7785-PC. CHEROKEE SH, BREEZY HILL LS.

(BL)7762-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CABANISS FM  
SYSTEM: PENN  
GROUP: CHEROKEE  
BREEZY HILL LS MBR  
QUAD: CHEROKEE 7.5  
SEC 7 TNSP 31 S RNGE 24 E  
DATE: 10/13/1934  
WG PIERCE PARTY. SAME LOC AS (BL)7760-PC, BUT W OF IT & NEARER TOP OF HILL BUT STILL E OF TOP & A LITTLE E OF E LIMITS OF CEMETERY. SAME LOC & HOR AS (BL)7769-, 7872-PC. ALONG N SIDE OF RD ON S SIDE OF NW1/4SEC7.

(BL)7763-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CABANISS FM  
SYSTEM: PENN  
GROUP: CHEROKEE  
BREEZY HILL LS MBR  
QUAD: ARMA 7.5  
SEC 4 TNSP 29 S RNGE 25 E  
DATE: 10/11/1934  
WG PIERCE PARTY. 1 MI E OF ARMA (MAP DIST). ON S LINE SEC4. APPROX 2300 FT W OF SE COR. ROADSIDE CUT APPROX 0.75 MI LONG & BELOW CREST OF HILL, N SIDE OF RD. COLL WGP & JS WILLIAMS. NUM 8 OF 10/11/1934?

(BL)7764-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CABANISS FM  
SYSTEM: PENN  
GROUP: CHEROKEE  
BREEZY HILL LS MBR  
QUAD: ARMA 7.5  
SEC 13 TNSP 28 S RNGE 24 E  
DATE: 10/02/1934 COLL: STRAUB CE\*  
1 MI N OF ENGLEVALE. (MAP DISTANCE).  
SECORSW1/4NE1/4SEC13. IN FIELD ALONG CREEK & E OF POINT  
ON RR MIDWAY BTWN FIRST CUT N OF S LINE OF SEC13 (RR W/  
XW POSTS) & NEXT CUT TO N. N OF A SMALL TRESSEL WHERE  
CREEK CROSSES, APPR 100-150 FT E OF RR ON W BANK OF  
STREAM. UPPER BREEZY HILL LS. COLL STRAUB, COLEMAN, JS  
WILLIAMS, WG PIERCE.

(BL)7765-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CABANISS FM  
SYSTEM: PENN  
GROUP: CHEROKEE  
BREEZY HILL LS MBR  
QUAD: BARTLETT 7.5  
SEC 36 TNSP 34 S RNGE 20 E  
DATE: 10/18/1934 COLL: PIERCE WG\*  
0.5 MI S & 3 MI E OF BARTLETT. SECORSEC36. ROADSIDE DITCH  
ALONG S SIDE OF E-W RD ON N SIDE SEC36. APPROX 300 FT W OF  
NE COR OF SEC HALFWAY DOWN A HILL & BELOW BLACK SH.  
APPROX 3 MI W OF MISSOURI KANSAS & TEXAS RR CROSSING  
E/W SEC LINE ON N SIDE OF CHETOPA. COLL WGP & JS  
WILLIAMS.

(BL)7766-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: OSWEGO 7.5  
SEC 27 TNSP 33 S RNGE 21 E  
DATE: 10/25/1934 COLL: STRAUB CE\*  
APPROX 1.5 MI S, 0.5 MI E OF OSWEGO (MAP DISTANCE). IN CUT  
OF HALF MI RD AT APPROX CENTER OF SEC 100 FT S OF  
CONCRETE BRIDGE. COURTIER (1935) SAYS ABOVE RICH HILL LS  
& POSS BELOW LOCAL COAL WHICH MAY EQUAL IRONCLAD  
COAL. SH DIRECTLY ON IRONCLAD EQUIV COAL. COLL STRAUB  
& WILSHIRE. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189,  
1968.

(BL)7767-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: OSWEGO 7.5  
SEC 27 TNSP 33 S RNGE 21 E  
DATE: 10/29/1934 COLL: WILSHIRE LM\*  
MAP NUM S1025. APPROX 1 MI S OF OSWEGO (MAP DISTANCE).  
FOSS FROM LS OVERLYING COAL AT S1025. SAME LOC AS  
(BL)7771-PC. N END OF STRIP PIT APPROX 1800 FT S & 300 FT E OF  
NWCORSEC27. COURTIER (1935) SAYS CAP ROCK OF STICE COAL  
APPROX 80 FT BELOW TOP OF CHEROKEE. COLL WILSHIRE &  
STRAUB. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7768-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CABANISS FM  
SYSTEM: PENN  
GROUP: CHEROKEE  
BREEZY HILL LS MBR  
QUAD: ARMA 7.5  
SEC 11 TNSP 29 S RNGE 25 E  
DATE: 10/00/1934 COLL: PIERCE WG  
MAP NUM P82. 2 MI S, 0.5 MI W OF MULBERRY (MAP DISTANCE).  
S LINE SEC11. APPROX 2000 FT W OF SECORSEC11. CHEROKEE  
BELOW FT SCOTT. COURTIER (1935) SAYS BREEZY HILL?

(BL)7769-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CABANISS FM  
SYSTEM: PENN  
GROUP: CHEROKEE  
BREEZY HILL LS MBR  
QUAD: CHEROKEE 7.5  
SEC 7 TNSP 31 S RNGE 24 E  
DATE: 07/17/1934 COLL: GRIFFIN EL  
APPROX 1 MI N OF CHEROKEE. MAP NUM 600 FT NE PF G18B.  
ALONG N SIDE RD ON S SIDE SE1/4NW1/4SEC7. SEC ALSO G18D  
FROM BREEZY HILL LS. SAME LOC & HOR AS (BL)7762-7872-PC.

(BL)7770-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CABANISS FM  
SYSTEM: PENN  
GROUP: CHEROKEE  
BREEZY HILL LS MBR  
QUAD: BARTLETT 7.5  
SEC 36 TNSP 34 S RNGE 20 E  
DATE: 11/10/1934 COLL: WILSHIRE LM  
MAP NUM R344. APPROX 0.5 MI S, 3 MI E OF BARTLETT. 100 FT W  
OF SWCORSEC30.

(BL)7771-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: OSWEGO 7.5  
SEC 27 TNSP 33 S RNGE 21 E  
DATE: 10/27/1934 COLL: STRAUB CE\*  
MAP NUM S1025. 1 MI S OF OSWEGO. WEATHERED LS & FOSS  
FROM LS FOUND OVERLYING COAL AT S1025. SAME LOC AS  
(BL)7767-PC. COURTIER (1935) SAYS ABOVE STICE COAL. COLL  
STRAUB & WILSHIRE. \*FM NOT LISTED IN KS GEOL SURVEY BULL  
189, 1968.

(BL)7772-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: CHEROKEE 7.5  
SEC 2 TNSP 31 S RNGE 23 E  
DATE: 08/06/1934 COLL: COURTIER WH  
MAP NUM C403. ALONG RD ON S LINE OF SE/SW/SWSEC2, WHERE  
CREEK INTERSECTS RD. BED (A) OF NOTES. SAME LOC AS  
(BL)7773-PC. 1.5 MI N, 2 MI W OF CHEROKEE (MAP DIST).  
COURTIER (1935) SAYS PRODUCTID LS 22 FT BELOW BASE OF  
LOWER FORT SCOTT LS. \*FM NOT LISTED IN KS GEOL SURVEY  
BULL 189, 1968.

(BL)7773-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: CHEROKEE 7.5  
SEC 2 TNSP 31 S RNGE 23 E  
DATE: 08/06/1934 COLL: COURTIER WH  
MAP NUM C403. ALONG RD ON S LINE OF SESWSWSEC2, WHERE  
CREEK INTERSECTS RD. BED C OF NOTES. SAME LOC & HOR AS

(BL)7772-PC. 1.5 MI N, 2 MI W OF CHEROKEE (MAP DISTANCE).  
COURTIER (1935) SAYS APPROX 22 FT BELOW BASE OF LOWER  
FORT SCOTT LS. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189,  
1968.

(BL)7774-PC

CHEROKEE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: W MINERAL 7.5  
SEC 30 TNSP 31 S RNGE 23 E  
DATE: 10/15/1934 COLL: PIERCE WG\*  
2 MI N OF MINERAL (MAP DISTANCE). E LINE N-S RD SEC30.  
APPROX 0.33 MI N OF SECORSEC30, S OF & JUST BELOW TOP OF  
HILL. SAME LOC AS (BL)7906-PC EXCEPT IN ROADSIDE DITCH TO  
W OF RD. BLACK SH FEW FT BELOW LOWER FT SCOTT LS. COLL  
PIERCE & JS WILLIAMS. \*FM NOT LISTED IN KS GEOL SURVEY  
BULL 189, 1968.

(BL)7775-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CABANISS FM  
SYSTEM: PENN  
GROUP: CHEROKEE  
BREEZY HILL LS MBR  
QUAD: OSWEGO 7.5  
SEC 16 TNSP 33 S RNGE 21 E  
DATE: 10/29/1934 COLL: WILSHIRE LM  
MAP NUM W239. JUST N OF OSWEGO. SENESEC16. CONCRETIONS  
W/ FOSS NEUCLEUS FROM BLACK SLATE JUST BELOW LOWER FT  
SCOTT LS AT APPROX LOC OF W239 IN ROADCUT BANK, APPROX  
900 FT ALONG RD SW OF BRIDGE OVER NEOSHO RIVER. COLL  
WILSHIRE & STRAUB.

(BL)7776-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: BARTLETT 7.5  
SEC 36 TNSP 34 S RNGE 20 E

DATE: 10/18/1934  
0.5 MI S & 3 MI E OF BARTLETT (MAP DISTANCE). NECORSEC36.  
EXPOSURE ALONG ROADSIDE DITCH STARTING AT NECORSEC36 &  
GOING W 0.15 DOWN A HILL. SAME AS (BL)7765-. 7770-PC. BLACK  
SH BELOW LOWER FORT SCOTT. COLL WG PIERCE & JS  
WILLIAMS. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7777-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: OSWEGO 7.5  
SEC 21 TNSP 32 S RNGE 21 E

DATE: 10/17/1934  
5.5 MI N OF N LIMITS OF OSWEGO (MAP DISTANCE). CENTER OF  
W LINE OF NE1/4SEC21. FROM WATER WELL 0.5 MI E OF RD  
FARTHEREST N ON CREEK. WOODEN GATE AT WELL.  
O(SUBSCRIPT)3 SEE (FIELD?) NOTES OF 10/17/1934. BLACK SH W/  
PECTEN. LOWER FT SCOTT SH. (SHALE BELOW LOWER FT SCOTT  
LS). \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7778-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: ARMA 7.5  
SEC 13 TNSP 28 S RNGE 24 E

DATE: 10/02/1934  
0.5 FT (MI?) N OF ENGLEVALE (MAP DISTANCE). E OF RR ON RD  
AT S SIDE OF SEC 13 W/IN 500 FT OF SECORSEC13 BUT W OF IT ON  
N SIDE OF RD IN SIDE DITCH ON FIRST RISE E OF RR. SAME LOC  
AS (BL)7783-PC. SH BED BELOW & W/IN 2 FT OF LOWER FT  
SCOTT LS. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7779-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: ARMA 7.5  
SEC 7 TNSP 28 S RNGE 25 E

DATE: 10/00/1934  
2 MI N, 1 MI E ENGLEVALE (MAP DISTANCE). ALONG RD ON E  
LINE OF SEC7, ON W SIDE OF RD IN RD DITCH. APPROX 1200 FT N  
OF SECORSEC7. FOSS FROM NODULES. SAME LOC AS (BL)7780-  
PC. FROM SH BELOW & W/IN 3 FT OF BASE OF LOWER FT SCOTT.  
\*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7780-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: FORT SCOTT LS

SYSTEM: PENN  
GROUP: MARMATON  
BLACKJACK CREEK LS MBR

QUAD: ARMA 7.5  
SEC 7 TNSP 28 S RNGE 25 E

DATE: 10/11/1934  
2 MI N, 1 MI E OF ENGLEVALE (MAP DISTANCE). E LINE SEC7.  
OLD STRIP PIT EXTENDING FROM RD W FOR 0.15 MI, & ALSO  
FROM ROADSIDE DITCH TO W OF RD ON HILL N OF A STREAM.  
APPROX 1200 FT N OF SECORSEC7. SAME LOC AS (BL)7779-PC.  
LOWER FT SCOTT LS. FUSULINIDS; HENBEST'S NUM ST745.

(BL)7781-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: OSWEGO 7.5  
SEC 32 TNSP 32 S RNGE 21 E

DATE: 08/29/1934  
2 1/2 MI N OF N LIMITS OF OSWEGO (MAP DISTANCE). SESESEC32.  
SH BELOW FT SCOTT LS. (IS THIS IN OR BELOW FT SCOTT.  
NOTHING TO TELL UNLESS MY (?) NOTES OR FAUNAS.) \*FM NOT  
LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7782-PC

CHEROKEE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: MCCUNE 7.5  
SEC 24 TNSP 31 S RNGE 21 E

DATE: 09/25/1934  
1 MI W & 1.5 MI S OF MCCUNE. (MAP DISTANCE). IN DRAW IN  
SW1/4SEC24. BLACK SH BELOW FT SCOTT LS. \*FM NOT LISTED  
IN KS GEOL SURVEY BULL 189, 1968.

(BL)7783-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: FORT SCOTT LS

SYSTEM: PENN  
GROUP: MARMATON  
BLACKJACK CREEK LS MBR

QUAD: ARMA 7.5  
SEC 13 TNSP 28 S RNGE 24 E

DATE: 10/02/1934  
0.5 MI N OF ENGLEVALE (MAP DISTANCE). SIDE DITCH ON N SIDE  
OF RD BTWN SEC 13 & 24, BELOW HILL & LESS THAN 500 FT W OF  
SECORSEC13. FIRST RISE E OF RR; LS EXPOSED BENEATH SS &  
ABOVE A SH & COAL. SAME LOC AS (BL)7778-PC. LOWER FT  
SCOTT LS. COLL STRAUB, COLEMAN, WG PIERCE, JS WILLIAMS.

(BL)7784-PC

CHEROKEE CO, KS  
SERIES: DESM  
FM: FORT SCOTT LS

SYSTEM: PENN  
GROUP: MARMATON  
BLACKJACK CREEK LS MBR

QUAD: MCCUNE 7.5  
SEC 31 TNSP 31 S RNGE 22 E

DATE: 00/00/1934  
3.5 MI S, 1.75 MI W OF MCCUNE (MAP DISTANCE). W LINE SEC31,  
ALONG RD APPROX 0.5 MI N OF SWCORSEC31. FROM BLOCKS  
PILED OUT ON RD ON TOP OF HILL. APPROX 200 FT N OF WHERE  
RED BARN IS ACROSS RD FROM A HOUSE. LOWER FORT SCOTT  
LS. COLL RL WORTHINGTON.

(BL)7785-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: FORT SCOTT LS

SYSTEM: PENN  
GROUP: MARMATON  
BLACKJACK CREEK LS MBR

QUAD: RADLEY 7.5  
SEC 5 TNSP 30 S RNGE 24 E

DATE: 10/12/1934  
1.25 MI E, 2 MI S OF GIRARD (MAP DISTANCE). APROX 0.20 MI E OF  
NWCORSEC5. SAME LOC AS (BL)7761-PC EXCEPT ON SIDE  
GULLEYS TO STREAM & 3-5 FT ABOVE BED OF STREAM ON S SIDE  
OF STREAM. LOWER FT SCOTT LS.

(BL)7786-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: FORT SCOTT LS

SYSTEM: PENN  
GROUP: MARMATON  
BLACKJACK CREEK LS MBR

QUAD: ARMA 7.5  
SEC 18 TNSP 28 S RNGE 25 E

DATE: 10/02/1934  
0.5 MI N, 0.25 MI E OF ENGLEVALE (MAP DISTANCE). STRIP PIT  
APPROX 200 FT N OF RD ALONG S SIDE OF SEC18, APPROX 1700 FT  
E & 200 FT N OF SWCORSEC18. OPPOSITE HOUSE APPROX IN  
SWSWSEC18. SAME LOC AS (BL)7787-PC. LOWER FT SCOTT LS;  
LOWER BED (10-14 IN) OF LOWER FT SCOTT. COLL PIERCE & JS  
WILLIAMS.

(BL)7787-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED

QUAD: ARMA 7.5  
SEC 18 TNSP 28 S RNGE 25 E

DATE: 05/16/1934  
MAP NUM S(57)41. 0.5 MI N, 0.25 MI E OF ENGLEVALE (MAP  
DISTANCE). SAME AS (BL)7786-PC. COLL CES & WH COURTIER.  
\*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7788-PC

LABETTE CO, KS  
SERIES: DESM  
FM: FORT SCOTT LS

SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED

QUAD: MCCUNE 7.5  
SEC 4 TNSP 32 S RNGE 21 E

DATE: 08/29/1934  
MAP NUM A176. 8 MI N OF OSWEGO (MAP DISTANCE). ON W BANK OF NEOSHO RIVER. 1000 FT S OF N LINE OF SEC4, APPROX 2500 FT E OF W LINE OF SEC. 0.5 MI N, 0.25 MI E OF MARTANA(?). SAME LOC AS (BL)7791-PC. 2 FT ABOVE BASE OF LOWER FT SCOTT LS.

(BL)7789-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: FORT SCOTT LS

SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED

QUAD: CATO 7.5  
SEC 32 TNSP 27 S RNGE 25 E

DATE: 06/18/1934  
MAP NUM P153. 4 MI N, 1.5 MI E OF ENGLEVALE (MAP DISTANCE). S1/2SEC32, APPROX 2400 FT W & 1800 FT N OF SECOR, IN A SMALL STRIP PTT. LOWER 5 FT OF FT SCOTT LS. COLL WHC, HAASE, PIERCE.

(BL)7790-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: FORT SCOTT LS

SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED

QUAD: CATO 7.5  
SEC 5 TNSP 28 S RNGE 25 E

DATE: 00/00/1934  
MAP NUM C17. 3.5 MI N, 1 MI E OF ENGLEVALE (MAP DISTANCE). NE1/4NW1/4SECS. ABANDONED STRIP MINE 100 FT S OF E-W RD. BASAL 5 FT OF FT SCOTT LS. THE FUSULINAS ARE FROM 3 FT ABOVE BASE OF FT SCOTT LS ONLY.

(BL)7791-PC

LABETTE CO, KS  
SERIES: DESM  
FM: FORT SCOTT LS

SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED

QUAD: MCCUNE 7.5  
SEC 4 TNSP 32 S RNGE 21 E

DATE: 08/29/1934  
MAP NUM A176. 0.5 MI N, 0.25 MI E OF MONTANA (MAP DISTANCE). NE1/4NW1/4SEC4. SAME LOC AS (BL)7788-PC. ON W BANK OF NEOSHO RIVER, 1000 FT S OF N LINE & 2500 FT E OF W LINE OF SEC. LOWER FT SCOTT LS.

(BL)7792-PC

LABETTE CO, KS  
SERIES: DESM  
FM: FORT SCOTT LS

SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED

QUAD: BARTLETT 7.5  
SEC 32 TNSP 34 S RNGE 20 E

DATE: 11/08/1934  
MAP NUM R351. 7.5 MI W OF CHETOPA (MAP DISTANCE). CENTER S LINE SEC32, ALONG CREEK 1.5 MI S & 1.5(?) MI W OF BARTLETT. UPPER FT SCOTT LS.

(BL)7793-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: FORT SCOTT LS

SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED

QUAD: ARMA 7.5  
SEC 14 TNSP 28 S RNGE 24 E

DATE: 10/02/1934  
0.5 MI N & 1.25 MI W OF ENGLEVALE. IN PASTURE TO N OF & JUST ACROSS FENCE FROM (25 FT N OF FENCE) RD BTWN SECS 14 & 23. APPROX 1300(?) FT W OF SECORSEC14. 50 YARDS E OF

(BL)7794-PC. VERY BROWN 3-6 IN. BED. UPPER MOST BED UPPER FT SCOTT LS. COLL WGP, STRAUB, COLEMAN & JS WILLIAMS.

(BL)7794-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: FORT SCOTT LS

SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED

QUAD: ARMA 7.5  
SEC 23 TNSP 28 S RNGE 24 E

DATE: 10/02/1934  
0.5(?) MI N & 1 MI W OF ENGLEVALE. SAME AS (BL)7886-PC. IN PASTURE ALONG STREAM JUST ACROSS FENCE S OF RD BTWN SECS 14 & 23; 1400 FT W OF NECORSEC23 & APPROX 100 YARDS E OF BRIDGE. FUSULINIDS COLL = HENBEST'S ST743. UPPER FT SCOTT LS. COLL JSW, WG PIERCE, STRAUB & COLEMAN.

(BL)7795-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED

QUAD: ARMA 7.5  
SEC 18 TNSP 28 S RNGE 25 E

DATE: 10/02/1934  
0.5 MI E, 0.5 MI N OF ENGLEVALE (MAP DISTANCE). MIDDLE S LINE SEC18. SAME AS (BL)7786-PC. SH BELOW & W/IN 3 FT OF BASE OF UPPER FT SCOTT LS. COLL WGP & JS WILLIAMS. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7796-PC

LABETTE CO, KS  
SERIES: DESM  
FM: FORT SCOTT LS

SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED

QUAD: BARTLETT 7.5  
SEC 15 TNSP 34 S RNGE 20 E

DATE: 11/08/1934  
MAP NUM G692. 1.5 MI N, 1 MI E OF BARTLETT (MAP DISTANCE). SECORSEC1/4SEC15. LOWER FT SCOTT.

(BL)7797-PC

LABETTE CO, KS  
SERIES: DESM  
FM: LABETTE SH

SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED

QUAD: PARSONS E 7.5  
SEC 7 TNSP 31 S RNGE 21 E

DATE: 08/34/1934  
6 MI N & 0.25 MI W OF MONTANA (MAP DISTANCE). NE1/4SEC7. (LOC UNCERTAIN). ALL PAWNEE(?) HERE. FROM 6 IN BLACK LS APPROX 6 FT BELOW BASE OF PAWNEE LS.

(BL)7798-PC

LABETTE CO, KS  
SERIES: DESM  
FM: LABETTE SH

SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED

QUAD: PARSONS E 7.5  
SEC 7 TNSP 31 S RNGE 21 E

DATE: 08/24/1934  
6 MI N, 1 MI W OF MONTANA (MAP DISTANCE). SWSE1/4NE1/4SEC7. CORALS FROM THIN LS APPROX 7 FT BELOW BASE OF PAWNEE LS.

(BL)7799-PC

LABETTE CO, KS  
SERIES: DESM  
FM: LABETTE SH

SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED

QUAD: PARSONS 7.5  
SEC 18 TNSP 32 S RNGE 21 E

DATE: 00/00/1934  
1.75 MI W & 1/3 MI S OF MONTANA (MAP DISTANCE). NWCORSEC18. ROADSIDE DITCH AT SW CORNER ROAD INTERSECTION & ACROSS RD FROM NWCORSEC18. PROB TOP OF LABETTE SH (PIERCE, 1935).

(BL)7800-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: BARTLETT 7.5  
SEC 20 TNSP 34 S RGE 21 E  
DATE: 11/06/1934  
COLL: STRAUB CE  
2.5(?) MI N, 2 MI W OF CHETOPA (MAP DISTANCE). APPROX 2400 FT E & 1900 FT S OF NWCORSEC20, ALONG A DRAW. SH BELOW RICH HILL LS, 2-4 FT ABOVE FIRE CLAY. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7801-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: CHETOPA 7.5  
SEC 21 TNSP 34 S RGE 21 E  
DATE: 11/08/1934  
COLL: COURTIER WH\*  
MAP NUM S1047. 2 MI N, 1/4 MI W OF CHETOPA (MAP DISTANCE). NW1/4SEC21. FROM PIT ALONG RD, APPROX 1806 FT S OF NWCORSEC21. BLACK SH BELOW RICH HILL LS & ABOVE FIRE CLAY COAL. FOSS IN CONCRETIONS. COLL WHC, STRAUB, LM WILSHIRE. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7802-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: ARMA 7.5  
SEC 26 TNSP 28 S RGE 25 E  
DATE: 06/05/1934  
COLL: COURTIER WH\*  
MAP NUM C139. 1 MI N & 0.75 MI W OF MULBERRY (MAP DISTANCE). STRIP PIT NWSWSEC26. FROM STRIP PIT N OF C139 & W OF C141. SAME LOC AS (BL)7810-PC. LIGHTNING CREEK COAL CAP LS--MINERAL COAL. COL WHC & STRAUB. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7803-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: ARMA 7.5  
SEC 15 TNSP 28 S RGE 25 E  
DATE: 00/00/1934  
COLL: COURTIER WH  
MAP NUM C99. 1 MI N & 3.5 MI E OF ENGLEVALE (MAP DISTANCE). STRIP PIT NEAR CENTER SEC15. FROM BLACK SH APPROX 1 FT ABOVE COAL. CAP ROCK OF MINERAL COAL. (VERY ABUNDANT HERE.) \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7805-PC

CRAWFORD? CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
SEC 0 TNSP RGE  
DATE: 10/00/1934  
COLL:  
[08/1989-COUNTY IS SPECULATION.] \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7806-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: PAWNEE LS  
SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED  
QUAD: GIRARD 7.5  
SEC 21 TNSP 28 S RGE 24 E  
DATE: 10/02/1934  
COLL: WILLIAMS JS  
1 MI S & 2.5 MI E OF FARLINGTON (MAP DISTANCE). ON RD BTWN SEC16 & 21 ON BANK ABOVE ROADSIDE DITCH TO S OF RD & JUST W OF TOP OF HILL. APPROX 2000 FT W OF NECORSEC21.

(BL)7807-PC

LABETTE CO, KS  
SERIES: DESM  
FM: LABETTE SH  
SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED  
QUAD: LABETTE 7.5  
SEC 19 TNSP 32 S RGE 21 E  
DATE: 00/00/1934  
COLL: WILSHIRE LM  
MAP NUM A257. APPROX 1.75 MI S & 0.75 MI W OF MONTANA (MAP DISTANCE). SE1/4SE1/4NE1/4SEC19, APPROX 2400 FT S OF NECORSEC19 ALONG RD. WEATHERED FROM 6 IN BLACK LS 7 FT BELOW BASE OF PAWNEE LS.

(BL)7808-PC

LABETTE CO, KS  
SERIES: DESM  
FM: PAWNEE LS  
SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED  
QUAD: PARSONS E 7.5  
SEC 17 TNSP 31 S RGE 21 E  
DATE: 00/00/1934  
COLL:  
5 MI N & 0.25 MI W OF MONTANA (MAP DISTANCE). NE1/4NW1/4SEC17 IN ROAD CUT. LOWER PART PAWNEE LS.

(BL)7809-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: LABETTE SH  
SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED  
QUAD: GIRARD 7.5  
SEC 22 TNSP 28 S RGE 24 E  
DATE: 11/14/1934  
COLL: COURTIER WH  
MAP NUM C504. 2 MI W OF ENGLEVALE (MAP DISTANCE). E LINE OF SEC22, 0.25 MI DUE S OF NECOR. SAME LOC AS (BL)7810-PC. 22 IN BELOW TOP LABETTE SH.

(BL)7810-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: LABETTE SH  
SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED  
QUAD: GIRARD 7.5  
SEC 22 TNSP 28 S RGE 24 E  
DATE: 11/14/1934  
COLL: COURTIER WH  
MAP NUM C504. 2 MI W OF ENGLEVALE (MAP DISTANCE). E LINE OF SEC22, 0.25 MI DUE S OF NECORSEC22. SAME LOC & HOR AS  
(BL)7809-PC. APPROX 22 FT (+/- 2 FT) BELOW TOP OF LABETTE SH.

(BL)7811-PC

CRAWFORD? CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
SEC 0 TNSP RGE  
DATE:  
[08/1989-COUNTY IS SPECULATION.] \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7812-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: ARMA 7.5  
SEC 3 TNSP 29 S RGE 25 E  
DATE: 06/28/1934  
COLL: PIERCE WG\*  
1 MI W MULBERRY (MAP DISTANCE). E SIDE OF STRIP PIT, APPROX 600 FT W & 200-800 FT S OF NECORSEC3. NE1/4 SEC3. CHEROKEE SH, 2-4 FT ABOVE FIRECLAY COAL. COLL WGP & BAKER. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7813-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: ARMA 7.5  
SEC 31 TNSP 27 S RGE 25 E  
DATE: 06/18/1934  
COLL: PIERCE WG  
MAP NUM H92. 4 MI N & 1 MI E OF ENGLEVALE (MAP DISTANCE). APPROX 1400 FT S OF NECOR ON N SIDE OF STREAM ALONG E LINE SEC31(?) HOR A IN WG PIERCE SEC. SAME LOC AS (BL)7867-PC. APPROX 1 FT BELOW BASE RICH HILL LS FROM A GRAY SH. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7814-PC

CHEROKEE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: HOLLOWELL 7.5  
SEC 34 TNSP 32 S RGE 22 E  
DATE: 00/00/1934  
COLL:  
MAP NUM C446. 5 MI S & 3.5 MI W OF MINERAL (MAP DISTANCE). SE1/4SEC34. MISC FROM STRIP PIT. SAME AS (BL)7811- & 7905-PC. ABOVE FIRE CLAY. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7815-PC

CHEROKEE CO, KS SYSTEM: PENN  
SERIES: DESM GROUP: UNASSIGNED  
FM: CHEROKEE\* MEMBER: UNASSIGNED  
QUAD: CHEROKEE 7.5  
SEC 20 TNSP 31 S RNGE 24 E  
DATE: 10/16/1934 COLL: PIERCE WG\*  
APPROX 1 MI E OF(?) LIMITS OF CHEROKEE (MAP DISTANCE).  
STRIP PIT 50-60 FT S OF E-W RD ON N LINE SEC20. APPROX 0.15 MI  
W OF NECORSEC20. PIT IS ON LIGHTNING CREEK COAL  
(=MINERAL COAL). SAME LOC AS (BL)7827-PC. BLACK SH IMMED  
ABOVE MINERAL RIDER COAL (BASTARD COAL OF FIELD USE).  
COLL WGP & JS WILLIAMS. \*FM NOT LISTED IN KS GEOL SURVEY  
BULL 189, 1968.

(BL)7816-PC

UNASSIGNED CO, KS SYSTEM: PENN  
SERIES: DESM GROUP: UNASSIGNED  
FM: CHEROKEE\* MEMBER: UNASSIGNED  
QUAD: RADLEY 7.5  
SEC 22 TNSP 30 S RNGE 24 E  
DATE: 10/06/1934 COLL: WILLIAMS JS\*  
2.5 MI W OF PITTSBURG (MAP DISTANCE). SE1/4SW1/4SEC22.  
W/IN 150 FT OF N RD BTWN SECS 22 & 27. APPROX 0.33 MI W OF  
SECORSEC22. FOSS FROM LS APPROX 1 FT ABOVE MINERAL  
COAL (FIELD NAME LIGHTNING COAL). COLL JSW, WG PIERCE.  
\*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7818-PC

CRAWFORD CO, KS SYSTEM: PENN  
SERIES: DESM GROUP: UNASSIGNED  
FM: CHEROKEE\* MEMBER: UNASSIGNED  
QUAD: ARMA 7.5  
SEC 26 TNSP 28 S RNGE 25 E  
DATE: 06/05/1934 COLL: COURTIER WH\*  
1 MI N & 0.75 MI W FROM MULBERRY (MAP DISTANCE). STRIP PIT  
IN NWSWSEC26. FROM STRIP PIT N OF MAP NUM C139 & W OF  
C141. SAME LOC AS (BL)7802-PC. CAP OF MINERAL COAL  
(LIGHTNING CREEK OF FIELD USE). COLL WHC & STRAUBE. \*FM  
NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7819-PC

CRAWFORD CO, KS SYSTEM: PENN  
SERIES: DESM GROUP: UNASSIGNED  
FM: CHEROKEE\* MEMBER: UNASSIGNED  
QUAD: ARMA 7.5  
SEC 24 TNSP 28 S RNGE 25 E  
DATE: 05/30/1934 COLL: COURTIER WH\*  
MAP NUM C111. 1.5 MI N OF MULBERRY (MAP DISTANCE).  
CENTER NW1/4SEC24; SAME LOC AS (BL)7847-PC. 1 FT ABOVE  
MINERAL RIDER (BASTARD COAL) & APPROX 8 FT ABOVE  
MINERAL COAL (LIGHTNING CREEK COAL). COLL WHC &  
STRAUB. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7820-PC

LABETTE CO, KS SYSTEM: PENN  
SERIES: DESM GROUP: MARMATON  
FM: FORT SCOTT LS MEMBER: UNASSIGNED  
QUAD: BARTLETT 7.5  
SEC 4 TNSP 34 S RNGE 20 E  
DATE: 10/00/1934 COLL: GRIFFIN EL  
MAP NUM G5(?)60. 4 MI N OF BARTLETT (MAP DISTANCE). NEAR  
CENTER OF E LINE OF NE1/4SEC4 IN SMALL DRAINAGE LINE.  
UPPER FT SCOTT LS.

(BL)7821-PC

CRAWFORD CO, KS SYSTEM: PENN  
SERIES: DESM GROUP: UNASSIGNED  
FM: CHEROKEE\* MEMBER: UNASSIGNED  
QUAD: MULBERRY 15.0  
SEC 3 TNSP 28 S RNGE 25 E  
DATE: 05/22/1934 COLL: COURTIER WH  
MAP NUM C75. 0.5 MI S & 2 MI W OF ARCADIA (MAP DISTANCE).  
STRIP PIT NEAR CENTER SW1/4SEC3. CAP LS OF MINERAL COAL  
(LIGHTNING CREEK COAL FIELD NAME). \*FM NOT LISTED IN KS  
GEOL SURVEY BULL 189, 1968.

(BL)7822-PC

LABETTE CO, KS SYSTEM: PENN  
SERIES: DESM GROUP: MARMATON  
FM: FORT SCOTT LS MEMBER: UNASSIGNED  
QUAD: BARTLETT 7.5  
SEC 4 TNSP 34 S RNGE 20 E  
DATE: 10/11/1934 COLL: GRIFFIN EL  
MAP NUM G586. 4.5 MI N & 0.5 MI W OF BARTLETT (MAP  
DISTANCE). AT JOG IN RD APPROX 1700 FT W & 150 FT S OF  
NECORSEC4. IN QUARRY S OF RD. SAME LOC AS (BL)7880-PC.

(BL)7823-PC

CRAWFORD CO, KS SYSTEM: PENN  
SERIES: DESM GROUP: UNASSIGNED  
FM: CHEROKEE\* MEMBER: UNASSIGNED  
QUAD: RADLEY 7.5  
SEC 22 TNSP 30 S RNGE 24 E  
DATE: 10/06/1934 COLL: WILLIAMS JS\*  
2.5 MI W OF PITTSBURG (MAP DISTANCE). SE1/4SW1/4SEC22.  
W/IN 150 FT OF N RD BTWN SECS 22 & 27. APPROX 0.33 MI W OF  
SECORSEC22. FOSS FROM LS APPROX 1 FT ABOVE MINERAL  
COAL (FIELD NAME LIGHTNING COAL). COLL JSW, WG PIERCE.  
\*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7824-PC

CRAWFORD CO, KS SYSTEM: PENN  
SERIES: DESM GROUP: UNASSIGNED  
FM: CHEROKEE\* MEMBER: UNASSIGNED  
QUAD: ARMA 7.5  
SEC 23 TNSP 29 S RNGE 25 E  
DATE: 10/10/1934 COLL: WILLIAMS JS  
5.25 MI N & 2.25 MI E OF N CITY LIMITS OF PITTSBURG (MAP  
DISTANCE). SW1/4NW1/4SW1/4SECS3. STRIP PIT APPROX 1 MI S &  
3 MI E OF FRANKLIN. APPROX 0.25 MI N OF SWCORSEC23 &  
APPROX 200-600FT E OF RD (W SEC LINE) NEAR CENTER  
SW1/4SEC23. 4-7 IN BLACK LS APPROX 2 FT ABOVE TOP OF  
MINERAL COAL (FIELD NAME LIGHTNING COAL). \*FM NOT LISTED  
IN KS GEOL SURVEY BULL 189, 1968.

(BL)7826-PC

CHEROKEE CO, KS SYSTEM: PENN  
SERIES: DESM GROUP: UNASSIGNED  
FM: CHEROKEE\* MEMBER: UNASSIGNED  
QUAD: W MINERAL 7.5  
SEC 9 TNSP 32 S RNGE 23 E  
DATE: 10/19/1934 COLL: WILLIAMS JS  
APPROX 1 MI E & 0.5 MI S OF MINERAL (MAP DISTANCE). APPROX  
0.15 E & 0.5 MI S OF NWCORSEC9. 0.12 OF MI E OF A CHURCH.  
STRIP PIT OF PITTSBURG MIDWAY COAL CO. FROM BLOCKS OF  
BLACK 4-6 IN LS IN STRIP PIT, PROB FROM IMMEDIATE ABOVE  
MINERAL COAL (FIELD NAME LIGHTNING COAL). \*FM NOT LISTED  
IN KS GEOL SURVEY BULL 189, 1968.

(BL)7827-PC

CHEROKEE CO, KS SYSTEM: PENN  
SERIES: DESM GROUP: UNASSIGNED  
FM: CHEROKEE\* MEMBER: UNASSIGNED  
QUAD: CHEROKEE 7.5  
SEC 20 TNSP 31 S RNGE 24 E  
DATE: 10/16/1934 COLL: WILLIAMS JS  
APPROX 1 MI E OF E LIMITS OF CHEROKEE (MAP DISTANCE).  
STRIP PIT 50-60 FT S OF E-W RD ON N LINE OF SEC20. APPROX 0.15  
MI W OF NECORSEC20 NEAR BASE OF STRIP PIT. SAME LOC AS  
(BL)7815-PC. BLACK SH IMMEDIATE ABOVE & UP TO 3.5 FT ABOVE  
MINERAL COAL (FIELD NAME LIGHTNING CREEK COAL). \*FM NOT  
LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7828-PC

CHEROKEE CO, KS SYSTEM: PENN  
SERIES: DESM GROUP: UNASSIGNED  
FM: CHEROKEE\* MEMBER: UNASSIGNED  
QUAD: HALLOWELL 7.5  
SEC 24 TNSP 32 S RNGE 22 E  
DATE: 10/19/1934 COLL: PIERCE WG\*  
3 MI S 1 MI W OF MINERAL (MAP DISTANCE). OLD ABANDONED  
PIT ON FIELD 300 FT N OF RD ON S SIDE OF SEC24. APPROX 0.5 MI  
E OF SWCORSEC24 & APPROX 75 FT W OF SMALL STREAM WHICH  
CROSSES RD UNDER FIRST CONCRETE CULVERT FROM  
SWCORSEC24. SAME LOC AS (BL)7836-PC. CAP ROCK OF  
MINERAL COAL (FIELD NAME LIGHTNING CREEK COAL). COLL  
WGP & JS WILLIAMS. \*FM NOT LISTED IN KS GEOL SURVEY BULL  
189, 1968.

(BL)7829-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: ARMA 7.5

SEC 13 TNSP 28 S RNGE 25 E

DATE: 10/11/1934 COLL: WILLIAMS JS  
APPROX 1.5 MI S OF ARCADIA (MAP DISTANCE). 90 FT S OF N  
LINE OF NWNWSEC13. IN FIELD APPROX 90 FT S OF RD & W/IN 10  
FT OF A SMALL BRIDGE OF POLES & STONES. ALSO FROM  
EXTENSIONS OF OUTCROP AS MUCH AS 50 FT W OF BRIDGE  
OPPOSITE A MINE DUMP. SAME LOC AS (BL)7832-PC. LS 3-4 IN  
THICK, APPROX 18-24 IN ABOVE PILOT COAL. \*FM NOT LISTED IN  
KS GEOL SURVEY BULL 189, 1968.

(BL)7830-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: PARSONS E 7.5

SEC 8 TNSP 32 S RNGE 21 E

DATE: 00/00/1934 COLL: COURTIER WH  
MONTANA, KS. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189,  
1968.

(BL)7831-PC

CHEROKEE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: KIRKWOOD 7.5

SEC 28 TNSP 31 S RNGE 25 E

DATE: 08/10/1934 COLL: PIERCE WG\*  
MAP NUM W27. 5 MI S FROM SE LIMITS OF PITTSBURG (MAP  
DISTANCE). NW1/4NW1/4SEC28. S BANK OF COW CREEK, APPROX  
1000 FT S & 100 FT E OF NWCORSEC28. COURTIER (1935) SAYS 25  
FT +/- BELOW WEIR-PITTSBURG COAL. PIERCE SAYS BELOW  
WEIR-PITTSBURG BUT OTHERWISE HOR UNKNOWN. COLL WGP  
& LM WILSHIRE. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189,  
1968.

(BL)7832-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: ARMA 7.5

SEC 13 TNSP 28 S RNGE 25 E

DATE: 10/11/1934 COLL: PIERCE WG  
APPROX 1.5 MI S OF ARCADIA (MAP DISTANCE). 90 FT S OF N  
LINE OF NW1/4NW1/4SEC13. APPROX 3000 FT W OF STATE LINE &  
900 E OF NWCORSEC13. IN FIELD APPROX 90 FT S OF RD & W/IN  
10 FT OF A SMALL BRIDGE OF POLES & STONES. ALSO FROM  
EXTENSIONS OF OUTCROP AS MUCH AS 50 FT W OF BRIDGE,  
OPPOSITE A MINE DUMP. SAME LOC AS (BL)7829-PC. SH BTWN  
PILOT COAL & 3-4 IN LS THAT IS 18-24 FT ABOVE PILOT COAL.  
\*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7833-PC

CHEROKEE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: CHEROKEE 7.5

SEC 7 TNSP 32 S RNGE 24 E

DATE: 08/08/1934 COLL: COLEMAN  
MAP NUM H377. IN W EDGE OF SCAMMON (MAP DISTANCE). N OF  
CENTER W LINE SEC7. IN BED OF CREEK. USE DESC? ON  
(BL)7835-PC. COURTIER (1935) 2.5 FT ABOVE PILOT COAL. \*FM  
NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7834-PC

CHEROKEE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: CHEROKEE 7.5

SEC 7 TNSP 32 S RNGE 24 E

DATE: 10/16/1934 COLL: PIERCE WG  
W LIMITS OF SCAMMON. W LINE SW1/4NW1/4SEC7. ALONG  
STREAM WHICH CROSSES HWY 7 ALONG W LINE SEC7, APPROX  
0.25 MI S OF NWCORSEC7; ALONG S BANK OF STREAM APPROX  
150 FT E OF RD & JUST W OF WHERE STREAM TURNS FROM  
SOUTHWARD TO WESTWARD, ACROSS HWY TO E OF WATER  
FILTER. THIN 3-4 IN IRONY LS APPROX 2 FT ABOVE WATER.  
BLACK SH (WHICH IS LIMEY LOCALLY) W/IN 2-3 FT OF & ABOVE  
PILOT COAL. SAME LOC & HOR AS (BL)7833-PC. (SAME LOC AS  
(BL)7835-PC.) \*FM NOT LISTED IN KS GEOL SURVEY BULL 189,  
1968.

(BL)7835-PC

CHEROKEE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: CHEROKEE 7.5

SEC 7 TNSP 32 S RNGE 24 E

DATE: 10/16/1934 COLL: WILLIAMS JS  
IN W EDGE OF SCAMMON. W LINE SW1/4NW1/4SEC7, ALONG  
STREAM WHICH CROSSES HWY 7 ALONG W LINE OF SEC APPROX  
0.25 MI S OF NW COR OF SEC. LOC IS ALONG S BANK OF STREAM  
APPROX 150 FT E OF RD & JUST W OF WHERE STREAM TURNS  
FROM SOUTHWARD TO WESTWARD ACROSS HWY 7 TO E. THIN 3-  
4 FT IRONY LS APPROX 2 FT ABOVE WATER. SAME LOC AS  
(BL)7833-7834-PC. 3-4 IN LS ABOVE & W/IN 2-3 FT OF PILOT COAL.  
\*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7836-PC

CHEROKEE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: HALLOWELL 7.5

SEC 24 TNSP 32 S RNGE 22 E

DATE: 10/19/1934 COLL: WILLIAMS JS  
3 MI S 1 MI W OF MINERAL (MAP DISTANCE). ABANDONED PIT IN  
FIELD 300 FT N ON RD ON S LINE OF SEC24. APPROX 0.5 MI E OF  
SWCORSEC24, TO W APPROX 75 FT FROM A SMALL STREAM  
CROSSING RD UNDER FIRST CONCRETE CULVERT FROM  
SWCORSEC24. SAME LOC AS (BL)7828-PC. FOSS FROM FLOAT  
ABOVE MINERAL COAL (FIELD NAME LIGHTNING CREEK COAL).  
\*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7839-PC

CHEROKEE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: NEUTRAL 7.5

SEC 6 TNSP 34 S RNGE 24 E

DATE: 10/01/1934 COLL: PIERCE WG  
APPROX 3.5 MI S, 1 MI E OF COLUMBUS (MAP DISTANCE). ON  
RISE ACROSS SIDE DITCH TO W FROM RD, W/IN 10-15 FT OF  
DITCH, APPROX 75 YDS W & S OF RR VIADUCT, JUST BEFORE RD  
TURNS S. FROM IRONSTONE SANDSTONE APPROX 20 FT ABOVE  
CREEK. APPROX 50 FT BELOW BLUEJACKET SS. \*FM NOT LISTED  
IN KS GEOL SURVEY BULL 189, 1968.

(BL)7840-PC

CHEROKEE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: SEE COMMENT 7.5

SEC 10 TNSP 35 S RNGE 23 E

DATE: 00/00/1934 COLL:  
FROM MINE 11 MI S, 1 MI W OF COLUMBUS (MAP DISTANCE).  
BASAL CHEROKEE SH, 5-10 FT ABOVE MISSISSIPPIAN LS. [8/1989-  
QUAD IS EITHER NEUTRAL OR MELROSE. S 1/2 OF SEC 10.] \*FM  
NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7841-PC

CHEROKEE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: MELROSE 7.5  
SEC 9 TNSP 34 S RNGE 23 E  
DATE: 10/36/1934  
COLL: COURTIER WH  
5 MI S, 2 MI W OF COLUMBUS (MAP DISTANCE). SW1/4SEC9 AT STATION(?) (MAP NUM?) C491. CAP ROCK OF COAL 10 FT +/- 3 FT BELOW BASE OF BLUE JACKET SS. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7842-PC

CHEROKEE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: NEUTRAL 7.5  
SEC 6 TNSP 35 S RNGE 24 E  
DATE: 09/13/1934  
COLL: HAASE F  
MAP NUM H430. 4 MI S OF COLUMBUS (MAP DISTANCE). SAME LOC AS (BL)7843-PC. EXPOSED IN W BANK OF SMALL CREEK ON W SIDE OF OLD STRIPPING. LS 20 FT BELOW BASE OF BLUEJACKET SS. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7843-PC

CHEROKEE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: NEUTRAL 7.5  
SEC 6 TNSP 34 S RNGE 24 E  
DATE: 11/07/1934  
COLL: PIERCE WG\*  
MAP NUM H430. 4 MI S OF COLUMBUS (MAP DISTANCE). SWSW1/4SEC6. EXPOSED IN W BANK OF SMALL CREEK ON W SIDE OF OLD STRIPPING. SAME LOC AS (BL)7842-PC. 20 FT BELOW BLUEJACKET SS (ELM CREEK OF WEIDMAN). LS IS IMPURE & LENTICULAR. MAX THICKNESS 1 FT; T HINS OUT COMPLETELY W/LIMITS OF OLD STRIPPING. COLL WGP & L HAASE. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7844-PC

CHEROKEE CO, KS  
SERIES: DESM  
FM: KREBS FM  
SYSTEM: PENN  
GROUP: CHEROKEE  
BLUE JACKET SS MBR  
QUAD: NEUTRAL 7.5  
SEC 19 TNSP 34 S RNGE 24 E  
DATE: 11/07/1934  
COLL: PIERCE WG\*  
MAP NUM H454. APPROX 7 MI S OF WHERE HWY LEAVES COLUMBUS (MAP DISTANCE). <100 FT N OF CENTER OF W LINE OF SEC19. ON E RD DITCH. ST HWY 7. IN SH ABOVE? BASE OF BLUEJACKET SS BUT STRAT POSITION NOT DEFINITE. FROM 3-6 IN. HARD BED OF CLAYSTONE? NONCALC. COLL WGP & L HAASE. (IS THIS SAME AS (BL)7845-PC?)

(BL)7845-PC

CHEROKEE CO, KS  
SERIES: DESM  
FM: KREBS FM  
SYSTEM: PENN  
GROUP: CHEROKEE  
BLUE JACKET SS MBR  
QUAD: COLUMBUS? 7.5  
SEC 0 TNSP RNGE  
DATE: 00/00/1934  
COLL: HAASE F  
DUE S OF COLUMBUS ON ST HWY 7. DEFINITE LOC NOT NOTED.

(BL)7846-PC

CHEROKEE CO, KS  
SERIES: DESM  
FM: KREBS FM  
SYSTEM: PENN  
GROUP: CHEROKEE  
BLUE JACKET SS MBR  
QUAD: CHEROKEE 7.5  
SEC 20 TNSP 32 S RNGE 24 E  
DATE: 08/13/1934  
COLL: HAASE F  
MAP NUM H341. 1 MI E, 1.75 MI S OF SCAMMON (MAP DISTANCE). 1700 FT W & 200 FT S OF NECORSEC20. E SIDE OF STRIP PIT. CAP OF WEIR PITTSBURG COAL. BED DISCONTINUOUS & VARIABLE IN THICKNESS.

(BL)7847-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: ARMA 7.5  
SEC 24 TNSP 28 S RNGE 25 E  
DATE: 05/30/1934  
COLL: COURTIER WH\*  
MAP NUM C111. 2.5 MI N OF MULBERRY (MAP DISTANCE). CENTER NW1/4SEC24. SAMPLE 5. SAME LOC AS (BL)7819-PC. CAP ROCK OF MINERAL COAL (FIELD NAME LIGHTNING CREEK COAL). COLL WHC & STRAUB. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7848-PC

CHEROKEE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: CHEROKEE 7.5  
SEC 20 TNSP 31 S RNGE 24 E  
DATE: 07/33/1934  
COLL: PIERCE WG\*  
1 MI E OF E LIMITS OF CHEROKEE (MAP DISTANCE). AT COMMERCIAL FUEL COMPANY'S OUT SE OF CHEROKEE, SAME AS (BL)7827-PC. 3 FT ABOVE MINERAL COAL (FIELD NAME LIGHTNING CREEK COAL). \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7849-PC

CHEROKEE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: HALLOWELL 7.5  
SEC 33 TNSP 32 S RNGE 22 E  
DATE: 11/15/1934  
COLL: GRIFFIN EL  
MAP NUM G519. 4.5 MI S, 4.5 MI W OF MINERAL (MAP DISTANCE). APPROX 2000 FT N OF SWCORSEC33 IN CREEK BED. +/- 2 FT ABOVE 'FIRE CLAY' COAL. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7851-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: CHETOPA 7.5  
SEC 28 TNSP 34 S RNGE 21 E  
DATE: 10/00/1934  
COLL: PIERCE WG\*  
MAP NUM 1039. 1 MI N & 1 MI W OF CHETOPA (MAP DISTANCE). STRIP PIT IN NW1/4. COLL FROM 1800 FT E & 1400 S OF NWCORSEC28. POSS FROM BK LS OVERLYING COAL. PIERCE (1936) SAYS MINERAL COAL. [5/1989-SEE CARD, FOLLOWING INFO NOT CLEAR:] CAP ROCK OF FIRECLAY COAL? BELOW RICH HILL LS. COLL PIERCE ET AL. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7852-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
RICH HILL LS\* MBR  
QUAD: CHETOPA 7.5  
SEC 20 TNSP 34 S RNGE 21 E  
DATE: 11/08/1934  
COLL: WILSHIRE LM  
MAP NUM S1045 (MAP DISTANCE). 2 MI N, 1 MI W OF W CITY LIMITS OF CHETOPA. NE1/SEC20 IN STRIP PIT. APPROX 2000 FT S & 800 FT W OF NECORSEC20. FOSS FROM RICH HILL LS & SH DIRECTLY BELOW. \*MBR NOT LISTED IN KS GEOL SURVEY BULL 189, 1968. \*FM, MBR NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7853-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
RICH HILL LS\* MBR  
QUAD: CHETOPA 7.5  
SEC 35 TNSP 33 S RNGE 21 E  
DATE: 11/02/1934  
COLL: PIERCE WG\*  
MAP NUM S1018. 3 MI S, 1 MI E OF OSWEGO (MAP DISTANCE). S LINE OF SW1/4SW1/4SEC35, APPROX 500 FT W OF NEOSHO RIVER. SAME LOC AS (BL)7860-PC. \*MBR NOT LISTED IN KS GEOL SURVEY BULL 189, 1968. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.



(BL)7854-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
RICH HILL LS\* MBR  
QUAD: CHEROKEE 7.5  
SEC 8 TNSP 31 S RNGE 24 E  
DATE: 06/17/1934  
MAP NUM G 31. 1 MI N, 1/4 MI E OF CHEROKEE (MAP DISTANCE).  
COLL: GRIFFIN EL\*  
ALONG STREAM 1400 FT S & 1000 FT E OF NWCORSEC8 (NEAR  
CENTER OF SEC). \*FM, MBR NOT LISTED IN KS GEOL SURVEY  
BULL 189, 1968.

(BL)7855-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
RICH HILL LS\* MBR  
QUAD: CHETOPA 7.5  
SEC 21 TNSP 34 S RNGE 21 E  
DATE: 11/04/1934  
MAP NUM S1044. 2 MI N, 1 MI W OF CHETOPA (MAP DISTANCE).  
COLL: STRAUB CE\*  
CENTER W LINE SEC21. COLL STRAUB & LM WILSHIRE. \*FM,  
MBR NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7856-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
RICH HILL LS\* MBR  
QUAD: ARMA 7.5  
SEC 21 TNSP 28 S RNGE 25 E  
DATE: 06/01/1934  
MAP NUM S1108. 0.5 MI S & 2 MI E OF ENGLEVALE (MAP DISTANCE). 0.25 MI W OF  
COLL: COURTIER WH\*  
S87 (MAP NUM?) LS BELOW COAL STRIPPED IN SECTIONS 16 & 21.  
SAME LOC & HOR

(BL)7744-7857-7864-PC. COLL WHC & STRAUB. \*FM, MBR NOT  
LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7857-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
RICH HILL LS\* MBR  
QUAD: ARMA 7.5  
SEC 21 TNSP 28 S RNGE 25 E  
DATE: 10/00/1934  
MAP NUM S1029. 5 MI N OF CHETOPA (MAP DISTANCE).  
COLL: COURTIER WH  
0.5 MI S, 2 MI E OF ENGLEVALE (MAP DISTANCE). SW1/4SEC21.  
SAME AS (BL)7864-7744-PC. \*FM, MBR NOT LISTED IN KS GEOL  
SURVEY BULL 189, 1968.

(BL)7858-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: CHETOPA 7.5  
SEC 3 TNSP 34 S RNGE 21 E  
DATE: 10/00/1934  
MAP NUM S1029. 5 MI N OF CHETOPA (MAP DISTANCE).  
COLL: WILSHIRE LM  
NW1/4NW1/4SE1/4SEC3. APPROX 200 FT E OF A N-S RD. \*FM NOT  
LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7859-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
RICH HILL LS\* MBR  
QUAD: OSWEGO 7.5  
SEC 34 TNSP 33 S RNGE 21 E  
DATE: 10/26/1934  
MAP NUM S1007. 2 MI S, 0.75 MI E OF OSWEGO (MAP DISTANCE).  
COLL: STRAUB CE\*  
1000 FT E, 400 FT S OF CENTER OF N LINE OF SEC34. COLL  
STRAUB & LM WILSHIRE. \*FM, MBR NOT LISTED IN KS GEOL  
SURVEY BULL 189, 1968.

(BL)7860-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: CHETOPA 7.5  
SEC 35 TNSP 33 S RNGE 21 E  
DATE: 11/02/1934  
MAP NUM S1018. 3 MI S, 1 MI E OF OSWEGO (MAP DISTANCE).  
COLL: WILSHIRE LM  
CENTER S LINE OF SW1/4SW1/4SEC35. WEATHERED OUT ON HILL  
BELOW OUTCROP OF RICH HILL LS APPROX 500 FT W OF NEOSHO  
RIVER. FLOAT INCLUDES BLACK LS & SEPTARIA LAYER IN SEC. 6  
FT ABOVE RICH HILL. MATRIX IS YELLOW LIKE RICH HILL. SAME  
LOC AS (BL)7853-PC. \*FM NOT LISTED IN KS GEOL SURVEY BULL  
189, 1968.

(BL)7861-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: BARTLETT 7.5  
SEC 32 TNSP 34 S RNGE 21 E  
DATE: 11/11/1934  
MAP NUM S1108. 1.5 MI W OF CHETOPA (MAP DISTANCE).  
COLL: WILSHIRE LM  
NE1/4SW1/4SEC32. APPROX 1700 FT E OF W LINE OF SEC, ALONG  
CREEK FLOWING E. \*FM NOT LISTED IN KS GEOL SURVEY BULL  
189, 1968.

(BL)7862-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
RICH HILL LS\* MBR  
QUAD: BARTLETT 7.5  
SEC 19 TNSP 34 S RNGE 21 E  
DATE: 10/00/1934  
MAP NUM S1075. 2 MI N, 2 MI W OF CHETOPA (MAP DISTANCE).  
COLL: WILSHIRE LM  
ALONG A SMALL DRAW. \*FM, MBR NOT LISTED IN KS GEOL  
SURVEY 189, 1968.

(BL)7863-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: OSWEGO 7.5  
SEC 27 TNSP 33 S RNGE 21 E  
DATE: 11/02/1934  
MAP NUM S1005. 1.5 MI S, 4.25 MI E OF SE LIMITS OF OSWEGO  
COLL: PIERCE WG\*  
(MAP DISTANCE). IN RD 600 FT S OF CENTER OF SEC27. SAME AS  
(BL)7902-PC. JUST ABOVE RICH HILL LS. COLL WG PIERCE ET AL.  
\*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7864-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
RICH HILL LS\* MBR  
QUAD: ARMA 7.5  
SEC 21 TNSP 28 S RNGE 25 E  
DATE: 00/00/1934  
MAP NUM S1005. 1.5 MI S, 4.25 MI E OF SE LIMITS OF OSWEGO  
COLL: STRAUB CE\*  
(MAP DISTANCE). IN RD 600 FT S OF CENTER OF SEC27. SAME AS  
(BL)7902-PC. JUST ABOVE RICH HILL LS. COLL WG PIERCE ET AL.  
\*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7865-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
RICH HILL LS\* MBR  
QUAD: CATO 7.5  
SEC 25 TNSP 27 S RNGE 24 E  
DATE: 00/00/1934  
MAP NUM S1005. 1.5 MI S, 4.25 MI E OF SE LIMITS OF OSWEGO  
COLL: STRAUB CE\*  
(MAP DISTANCE). IN RD 600 FT S OF CENTER OF SEC27. SAME AS  
(BL)7902-PC. JUST ABOVE RICH HILL LS. COLL WG PIERCE ET AL.  
\*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7867-PC

CRAWFORD CO, KS                      SYSTEM: PENN  
SERIES: DESM                      GROUP: UNASSIGNED  
FM: CHEROKEE\*                      RICH HILL LS\* MBR  
QUAD: CATO 15.0  
SEC 31 TNSP 27 S RNGE 25 E  
DATE: 06/18/1934                      COLL: PIERCE WG  
1 MI N, 4 MI W OF ARCADIA (MAP DISTANCE). APPROX 1400 FT S  
OF NECORSEC31 ON N SIDE OF STREAM. ALONG E LINE SEC31.  
MAP NUM H92. FROM HOR B IN PIERCE'S NOTES. SAME LOC AS  
(BL)7813-PC. \*FM, MBR NOT LISTED IN KS GEOL SURVEY 189, 1968.

(BL)7868-PC

CRAWFORD CO, KS                      SYSTEM: PENN  
SERIES: DESM                      GROUP: UNASSIGNED  
FM: CHEROKEE\*                      MEMBER: UNASSIGNED  
QUAD: ARMA 7.5  
SEC 1 TNSP 29 S RNGE 25 E  
DATE: 05/19/1934                      COLL: PIERCE WG  
MAP NUM P95. SW EDGE OF MULBERRY. FROM TOP LS IN A  
SERIES OF 4 LS BEDS I/IN 3 FT ZN. 6 FT ABOVE IRONCLAD COAL.  
\*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7869-PC

CRAWFORD CO, KS                      SYSTEM: PENN  
SERIES: DESM                      GROUP: CHEROKEE?  
FM: CHEROKEE\*                      PRODUCTID LS? MBR  
QUAD: CHEROKEE 7.5  
SEC 11 TNSP 31 S RNGE 23 E  
DATE: 08/05/1934                      COLL: COURTIER WH  
MAP NUM C399. 1.5 MI N, 2 MI E OF CHEROKEE (MAP DISTANCE).  
CENTER W LINE NW1/4NW1/4SEC11. [09/1990-CARD SAYS  
CHEROKEE FM, PRODUCTID LS.] \*FM, MBR NOT LISTED IN KS  
GEOL SURVEY BULL 189, 1968.

(BL)7870-PC

UNASSIGNED CO, KS                      SYSTEM: PENN  
SERIES: DESM                      GROUP: UNASSIGNED  
FM: CHEROKEE\*                      MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 00/00/1934                      COLL:  
\*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7871-PC

LABETTE CO, KS                      SYSTEM: PENN  
SERIES: DESM                      GROUP: CHEROKEE  
FM: CABANISS FM                      BREEZY HILL LS MBR  
QUAD: BARTLETT 7.5  
SEC 36 TNSP 34 S RNGE 20 E  
DATE: 10/23/1934                      COLL: GRIFFIN EL  
MAP NUM G730. 3 MI W OF W LIMITS OF CHETOPA (MAP  
DISTANCE). RR CUT NEAR E LINE SEC36 & APPROX 1800 FT N OF  
SECORSEC36.

(BL)7872-PC

CRAWFORD CO, KS                      SYSTEM: PENN  
SERIES: DESM                      GROUP: UNASSIGNED  
FM: CHEROKEE\*                      MEMBER: UNASSIGNED  
QUAD: CHEROKEE 7.5  
SEC 7 TNSP 31 S RNGE 24 E  
DATE: 07/17/1934                      COLL: PIERCE WG  
MAP NUM G18D. 1 MI N OF CHEROKEE (MAP DISTANCE). S LINE  
NW1/4SEC7. SEE ALSO MAPNUM G18A, G18B, & G18C. SAME LOC  
AS (BL)7749-, 7756-PC. SAME LOC & HOR AS

(BL)7762-, 7769-PC. \*FM NOT LISTED IN KS GEOL SURVEY BULL  
189, 1968.

(BL)7873-PC

LABETTE CO, KS                      SYSTEM: PENN  
SERIES: DESM                      GROUP: CHEROKEE  
FM: CABANISS FM                      BREEZY HILL LS MBR  
QUAD: BARTLETT 7.5  
SEC 31 TNSP 34 S RNGE 21 E  
DATE: 11/10/1934                      COLL: WILSHIRE LM  
MAP NUM W317. 3 MI W OF W LIMITS CHETOPA (MAP DISTANCE).  
W LINE SEC31, APPROX 1200(?) FT S OF NWCORSEC31.

(BL)7874-PC

LABETTE CO, KS                      SYSTEM: PENN  
SERIES: DESM                      GROUP: MARMATON  
FM: FORT SCOTT LS                      MEMBER: UNASSIGNED  
QUAD: BARTLETT 7.5  
SEC 34 TNSP 34 S RNGE 20 E  
DATE: 00/00/1934                      COLL: GRIFFIN EL  
MAP NUM G713. 1 MI S, 0.5 MI E OF BARTLETT (MAP DISTANCE).  
NEAR SWCORNE1/4SEC34. MARMATON FM, LOWER FT SCOTT LS.

(BL)7875-PC

LABETTE CO, KS                      SYSTEM: PENN  
SERIES: DESM                      GROUP: MARMATON  
FM: FORT SCOTT LS                      MEMBER: UNASSIGNED  
QUAD: BARTLETT 7.5  
SEC 30 TNSP 34 S RNGE 21 E  
DATE: 11/10/1934                      COLL: WILSHIRE LM  
MAP NUM S1087. 0.5 MI N, 3 MI W OF CHETOPA (MAP DISTANCE).  
LOWER FT SCOTT LS.

(BL)7876-PC

LABETTE CO, KS                      SYSTEM: PENN  
SERIES: DESM                      GROUP: MARMATON  
FM: FORT SCOTT LS                      MEMBER: UNASSIGNED  
QUAD: BARTLETT 7.5  
SEC 30 TNSP 34 S RNGE 21 E  
DATE: 11/10/1934                      COLL: WILSHIRE LM  
MAP NUM W315. 0.5 MI N, 3 MI W OF CHETOPA (MAP DISTANCE).  
LOWER FT SCOTT LS.

(BL)7877-PC

LABETTE CO, KS                      SYSTEM: PENN  
SERIES: DESM                      GROUP: MARMATON  
FM: FORT SCOTT LS                      MEMBER: UNASSIGNED  
QUAD: BARTLETT 7.5  
SEC 16 TNSP 34 S RNGE 20 E  
DATE: 00/00/1934                      COLL: GRIFFIN EL  
MAP NUM G665. 1.75 MI N, 0.5 MI W BARTLETT (MAP DISTANCE).  
SE1/4SEC16. IN BED OF DRY CREEK NEAR W CENTER SE1/4SEC16.  
APPROX 2200 FT W, 1200 FT N OF SECORSEC16.

(BL)7878-PC

LABETTE CO, KS                      SYSTEM: PENN  
SERIES: DESM                      GROUP: MARMATON  
FM: FORT SCOTT LS                      MEMBER: UNASSIGNED  
QUAD: BARTLETT 7.5  
SEC 26 TNSP 34 S RNGE 20 E  
DATE: 00/00/1934                      COLL: GRIFFIN EL  
MAP NUM G704. 1.5 MI E OF BARTLETT (MAP DISTANCE).  
NWNWSE1/4SEC26. MARMATON FM, LOWER FT SCOTT LS.

(BL)7879-PC

LABETTE CO, KS                      SYSTEM: PENN  
SERIES: DESM                      GROUP: MARMATON  
FM: FORT SCOTT LS                      MEMBER: UNASSIGNED  
QUAD: OSWEGO 7.5  
SEC 15 TNSP 33 S RNGE 21 E  
DATE: 00/00/1934                      COLL: KOESTER EA  
CITY PARK, OSWEGO. OVERLOOKING NEOSHO RIVER.  
NW1/4SEC15. TAKEN FROM ROCKS AROUND A FLOWER GARDEN  
NEAR COMFORT STA IN NE PART OF PARK OVERLOOKING BLUFFS  
OF NEOSHO RIVER. LOWER FT SCOTT EXPOSED IN BLUFFS 20 FT  
AWAY. NOTEBOOK JS WILLIAMS, P2, 10/17/1934. FLOAT BUT  
KOESTER FEELS PRETTY SURE THAT COLL IS LOWER FT SCOTT.

(BL)7880-PC

LABETTE CO, KS                      SYSTEM: PENN  
SERIES: DESM                      GROUP: MARMATON  
FM: FORT SCOTT LS                      MEMBER: UNASSIGNED  
QUAD: BARTLETT 7.5  
SEC 4 TNSP 34 S RNGE 20 E  
DATE: 10/25/1934                      COLL: GRIFFIN EL\*  
MAP NUM G586. 4.25 MI N, 0.5 MI W OF BARTLETT (MAP  
DISTANCE). AT JOG IN RD APPROX 1700(?) FT W & 150 FT S OF  
NECORSEC4. ROCK QUARRY ON S SIDE OF BRIDGE. UPPER 5 FT  
OF FT SCOTT. COLL GLG, WG PIERCE, WORTHINGTON.

(BL)7881-PC

LABETTE CO, KS  
SERIES: DESM  
FM: FORT SCOTT LS  
SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED  
QUAD: BARTLETT 7.5  
SEC 30 TNSP 34 S RNGE 21 E  
DATE: 11/10/1934  
COLL: WILSHIRE LM  
MAP NUM S1088. 0.5 MI N, 3 MI W OF CHETOPA (MAP DISTANCE).  
900 FT E OF SWCORSEC30, ALONG RD ON S SIDE OF SEC. LOWER  
2 FT OF UPPER FT SCOTT.

(BL)7882-PC

LABETTE CO, KS  
SERIES: DESM  
FM: FORT SCOTT LS  
SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED  
QUAD: PARSONS E 7.5  
SEC 8 TNSP 32 S RNGE 21 E  
DATE: 00/00/1934  
COLL:  
0.75 MI W OF MONTANA. SW1/4NW1/4SEC8. UPPER FT SCOTT LS.  
NOTE ON CARD SAYS 'CAN'T TELL WHETHER UPPER OR L OR  
EXACT LOCALITY; CHECK WITH ORIGINAL LABEL. OMITTED  
FROM REPORT.'

(BL)7883-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: FORT SCOTT LS  
SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED  
QUAD: GRINDSTONE CK 7.5  
SEC 31 TNSP 29 S RNGE 23 E  
DATE: 08/30/1934  
COLL: STRAUB CE  
MAP NUM S593. 2 MI S, 4 MI W OF GIRARD (MAP DISTANCE). 700  
FT W, 1000 FT N OF SECORSEC31, ON N SIDE OF DRAW. UPPER FT  
SCOTT LS, OUT OF ACTUAL TOP NEAR LABETTE SH CONTACT.

(BL)7884-PC

LABETTE CO, KS  
SERIES: DESM  
FM: FORT SCOTT LS  
SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED  
QUAD: PARSONS E 7.5  
SEC 20 TNSP 34 S RNGE 20 E  
DATE: 11/15/1934  
COLL: GRIFFIN EL  
MAP NUM G674. 0.5 MI N, 1.25 MI W OF BARTLETT (MAP  
DISTANCE). NEAR SECORSEC20, ON W SIDE OF CREEK.  
MARMATON FM, UPPER FT SCOTT LS, NEAR TOP.

(BL)7885-PC

LABETTE CO, KS  
SERIES: DESM  
FM: FORT SCOTT LS  
SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED  
QUAD: PARSONS 7.5  
SEC 8 TNSP 32 S RNGE 21 E  
DATE: 10/22/1934  
COLL: WILSHIRE LM  
0.25 MI W OF MONTANA (MAP DISTANCE). CENTER W LINE  
NE1/4SEC8. WHERE N FLOWING GULLEY CROSSES W RD FROM N  
SIDE OF MONTANA. UPPER FT SCOTT LS, 5 FT BELOW TOP.  
NOTE ON CARD SAYS 'MAY BE LOWER FT SCOTT. OMITTED FROM  
REPORT.'

(BL)7886-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: FORT SCOTT LS  
SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED  
QUAD: ARMA 7.5  
SEC 23 TNSP 28 S RNGE 24 E  
DATE: 09/13/1934  
COLL: STRAUB CE  
MAP NUM S746. 1 MI W, 0.5 MI N ENGLEVALE (MAP DISTANCE).  
APPROX 1400 FT W OF NE CORSEC23, IN PASTURE TO S OF  
SECTION-LINE RD. SAME AS (BL)7794-PC. MARMATON FM, UPPER  
FT SCOTT LS, APPROX 5 FT BELOW TOP. SAMPLE B (ABOVE  
SAMPLE C).

(BL)7887-PC

LABETTE CO, KS  
SERIES: DESM  
FM: MARMATON\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: CHETOPA 7.5  
SEC 28 TNSP 34 S RNGE 21 E  
DATE: 11/02/1934  
COLL: PIERCE WG\*  
1.5 MI N, 1.25 MI W OF CHETOPA (MAP DISTANCE). W LINE  
NW1/4SEC28. FROM PIT AT E SIDE OF RD APPROX 700 FT S OF  
NWCOR. MARMATON FM; CAP ROCK OF MINERAL COAL. COLL  
PIERCE ET AL. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189,  
1968.

(BL)7888-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CABANISS FM  
SYSTEM: PENN  
GROUP: CHEROKEE  
BREEZY HILL LS MBR  
QUAD: BARTLETT 7.5  
SEC 31 TNSP 34 S RNGE 21 E  
DATE: 00/00/1934  
COLL:  
MAP NUM S1093. SPECIAL SEC. 3 MI W OF LIMITS CHETOPA (MAP  
DISTANCE). NEAR CENTER W LINE, SW1/4SEC31. AT N SIDE OF  
MISSOURI PACIFIC RR. APPROX BREEZY HILL, 15 FT +/- BELOW  
BASE OF FT SCOTT LS.

(BL)7889-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: BARTLETT 7.5  
SEC 5 TNSP 35 S RNGE 21 E  
DATE: 00/00/1934  
COLL:  
MAP NUM C515. 1 MI S, 2 MI W OF SW LIMITS OF CHETOPA (MAP  
DISTANCE). SW1/4SEC5. IN TEAM STRIP PIT, 1000 FT E OF  
SWCORSEC5, 40 FT N OF RD & 300 FT W OF DRAW. SAME LOC AS  
(BL)7890-, 7891-PC. 30 FT BELOW FT SCOTT LS. IN SPECIAL SEC.  
\*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7890-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: BARTLETT 7.5  
SEC 5 TNSP 35 S RNGE 21 E  
DATE: 11/15/1934  
COLL: PIERCE WG\*  
MAP NUM C515. 1 MI S, 2 MI W OF CHETOPA (MAP DISTANCE).  
SW1/4SEC5. SAME LOC AS (BL)7889-, 7891-PC. 30 FT BELOW  
LOWER FT SCOTT. IN SPECIAL SEC. COLL WGP, WH COURTIER, F  
HAASE. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7891-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: BARTLETT 7.5  
SEC 5 TNSP 35 S RNGE 21 E  
DATE: 11/15/1934  
COLL: PIERCE WG\*  
MAP NUM C515. 1 MI S, 2 MI W OF CHETOPA (MAP DISTANCE). IN  
TEAM STRIP PIT 40 FT N OF RD & 300 FT W OF DRAW. SAME LOC  
AS (BL)7889-, 7890-PC. 30 FT BELOW LOWER FT SCOTT LS. IN  
SPECIAL SEC. COLL WGP, WH COURTIER, FM HAASE. \*FM NOT  
LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7892-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: CHETOPA 7.5  
SEC 34 TNSP 33 S RNGE 21 E  
DATE: 10/27/1934  
COLL: WILSHIRE LM\*  
MAP NUM S1022. 3 MI S OF SE LIMITS OF OSWEGO (MAP  
DISTANCE). APPROX 1500 FT E, 900 FT N OF SWCORSEC34 IN  
SMALL STRIP PIT. CAP ROCK OF STICE COAL. IN SPECIAL SEC.  
COLL LMW & CE STRAUB. \*FM NOT LISTED IN KS GEOL SURVEY  
BULL 189, 1968.

(BL)7893-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: BARTLETT 7.5  
SEC 35 TNSP 34 S RNGE 20 E  
COLL: GRIFFIN EL  
DATE: 11/14/1934  
MAP NUM G851. 4 MI W OF CHETOPA (MAP DISTANCE).  
SE1/4SEC35. COAL STRIP MINES N OF RR IN NESESEC35. COAL IS  
STICE COAL. 70 FT BELOW TOP OF CHEROKEE FM IN SPECIAL  
SEC & 30 (FT?) ABOVE R(CH?) H(ILL?). \*FM NOT LISTED IN KS  
GEOL SURVEY BULL 189, 1968.

(BL)7894-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: BARTLETT 7.5  
SEC 13 TNSP 35 S RNGE 20 E  
COLL: PIERCE WG  
DATE: 10/08/1934  
MAP NUM G804. 2.25 MI S, 3 MI W OF SW LIMITS OF CHETOPA  
(MAP DISTANCE). IN RD DITCH ON KANSAS-OKLAHOMA STATE  
LINE. 800 FT W OF E LINE SEC13. APPROX 40 FT BELOW TOP OF  
CHEROKEE. IN SPECIAL SEC. \*FM NOT LISTED IN KS GEOL  
SURVEY BULL 189, 1968.

(BL)7896-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: CHETOPA 7.5  
SEC 2 TNSP 34 S RNGE 21 E  
COLL: PIERCE WG  
DATE: 11/02/1934  
MAP NUM S1028. 5 MI N OF CHETOPA (MAP DISTANCE).  
NWCOR.SW1/4NW1/4SEC2. IN STRIP PIT. 22 FT BELOW RICH HILL  
ABOVE A LOCAL COAL. \*FM NOT LISTED IN KS GEOL SURVEY  
BULL 189, 1968.

(BL)7897-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: CHETOPA 7.5  
SEC 28 TNSP 34 S RNGE 21 E  
COLL: COURTIER WH\*  
DATE: 11/08/1934  
MAP NUM S1039. 1.5 MI N, 1 MI W OF CHETOPA (MAP DISTANCE).  
N LINE SEC28 ON S SIDE OF RD & PIT EDGE. APPROX 1000(?) FT E  
OF NWCOR. SAME AS (BL)7903-PC. 16-18 FT ABOVE MINERAL  
COAL (FIELD NAME LIGHTNING CREEK COAL) IN SPECIAL SEC.  
RD LS, 35 FT BELOW R(CH?) H(ILL?) LS. COLL WHC, LM  
WILSHIRE, CE STRAUB. \*FM NOT LISTED IN KS GEOL SURVEY  
BULL 189, 1968.

(BL)7898-PC

UNASSIGNED CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

SEC 0 TNSP RNGE  
COLL:  
DATE: 00/00/1934  
\*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7899-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: CHETOPA 7.5  
SEC 27 TNSP 34 S RNGE 21 E  
COLL: WILSHIRE LM  
DATE: 11/15/1934  
MAP NUM S1124. 1 MI N OF NW LIMITS OF CHETOPA (MAP  
DISTANCE). SWSENW1/4SEC27; FROM OLD STRIP PIT. 15 FT  
BELOW 'RED LS' IN SPECIAL SEC. CAP OF MINERAL COAL. \*FM  
NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7900-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CABANISS FM

SYSTEM: PENN  
GROUP: CHEROKEE  
BREEZY HILL LS MBR

QUAD: BARTLETT 7.5  
SEC 36 TNSP 34 S RNGE 20 E  
COLL: GRIFFIN EL  
DATE: 11/23/1934  
MAP NUM G720. APPROX 3 MI W OF W LIMITS OF CHETOPA (MAP  
DISTANCE). IN RR CUT NEAR E LINE OF SEC36, APPROX 1800 FT N  
OF SECOR. LOWER PART BREEZY HILL LS. NOTE: SOME MIXUP  
ABOUT THIS AS STA G920 IS CENTER S LINE SEC35, SAME  
TOWNSHIP & RANGE. PIERCE THINKS OUGHT TO BE (MAP NUM)  
G730.

(BL)7901-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: OSWEGO 7.5  
SEC 27 TNSP 33 S RNGE 21 E  
COLL: STRAUB CE  
DATE: 10/24/1934  
1.5 MI S, 2.5 E OF SE LIMITS OF OSWEGO (MAP DISTANCE).  
SE1/4SE27, 100 FT N OF RD, ON W SIDE OF CREEK, 1600 FT W OF  
SECORSEC27 (SOUTH?). 4 FT ABOVE RICH HILL LS, SPECIAL SEC.  
\*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7902-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: OSWEGO 7.5  
SEC 27 TNSP 33 S RNGE 21 E  
COLL: WILSHIRE LM  
DATE: 10/24/1934  
1.5 MI S, 0.25 MI E OF SE LIMITS OF OSWEGO (MAP DISTANCE). IN  
RD 600 FT S OF CENTER OF SEC27. SAME AS (BL)7863-PC. 4 FT  
ABOVE RICH HILL LS. SPECIAL SEC. \*FM NOT LISTED IN KS GEOL  
SURVEY BULL 189, 1968.

(BL)7903-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: CHETOPA 7.5  
SEC 28 TNSP 34 S RNGE 21 E  
COLL: PIERCE WG\*  
DATE: 11/02/1934  
APPROX 1.5 MI N, 1 MI W OF CHETOPA (MAP DISTANCE). FOSS  
FROM LS 18 FT ABOVE MINERAL COAL AT MAP NUM S1039,  
APPROX 1000 FT E OF NWCORSEC28. STRIP PIT JUST S OF RD.  
SAME AS (BL)7897-PC. RED LS APPROX 35 FT BELOW RICH HILL  
LS. (PIERCE NOTES THAT COAL 18 FT BELOW (THIN?), THIS(?))  
LS W(?) FOSS RESEMBLES MINERAL (COAL?) RATHER THAN  
FIRECLAY. COLL WGP ET AL. \*FM NOT LISTED IN KS GEOL  
SURVEY BULL 189, 1968.

(BL)7904-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
RICH HILL LS\* MBR

QUAD: BARTLETT 7.5  
SEC 19 TNSP 34 S RNGE 21 E  
COLL: WILSHIRE LM\*  
DATE: 11/07/1934  
MAP NUM W301. 1.5 MI N, 3 MI W OF CHETOPA (MAP DISTANCE).  
500 FT NE OF MAP NUM W301 IN CREEK BED, APPROX 2000 FT N,  
& 400 FT E OF SWCORSEC19. SAMPLE B. 15 +/- FT ABOVE RICH  
HILL LS; BELOW IRONCLAD COAL IN CHANNEL, SPECIAL SEC.  
COLL LMW, CE STRAUB. \*FM, MBR NOT LISTED IN KS GEOL  
SURVEY 189, 1968.

(BL)7905-PC

CHEROKEE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*

SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED

QUAD: COLUMBUS 7.5  
SEC 34 TNSP 32 S RNGE 22 E  
COLL: PIERCE WG\*  
DATE: 10/19/1934  
APPROX 5 MI S, 3.5 MI W OF MINERAL (MAP DISTANCE). IN  
PASTURE APPROX 200 FT TO N OF RD WHICH IS ON S LINE OF  
SEC34. APPROX 800 FT W OF SECORSEC34. APPROX 50 FT W OF A  
SMALL STREAM WHICH CROSSES RD; AN ABANDONED STRIP PIT.  
SAME LOC AS (BL)7811-, 7814-PC. ABOVE FIRE CLAY COAL. COLL  
WGP, JS WILLIAMS. 4 OF 10/19/1934. \*FM NOT LISTED IN KS GEOL  
SURVEY BULL 189, 1968.

(BL)7906-PC

CHEROKEE CO, KS  
SERIES: DESM  
FM: FORT SCOTT LS  
SYSTEM: PENN  
GROUP: MARMATON  
MEMBER: UNASSIGNED  
QUAD: W MINERAL 7.5  
SEC 30 TNSP 31 S RNGE 23 E  
DATE: 10/15/1934  
APPROX 2-2.5 MI N OF MINERAL (MAP DISTANCE). IN FIELD W/IN 20-30 FT OF ROADSIDE DITCH & FENCE TO W OF N-S RD ALONG E LINE OF SEC30. NEAR TOP OF FIRST CONSPICUOUS RISE IN GOING N FROM SECORSEC30, BUT ANOTHER RISE W/ NO APPRECIABLE VALLEY BTWN TO N. SAME LOC AS (BL)7774-PC. MARMATION FM; LOWER FT SCOTT LS, FLOAT. COLL WGP & JS WILLIAMS.

(BL)7908-PC

CHEROKEE CO, KS  
SERIES: UPPER  
FM: MAYES\*  
SYSTEM: MISS  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: PEORIA 7.5  
SEC 13 TNSP 35 S RNGE 24 E  
DATE: 10/06/1934  
1.5 MI S OF BAXTER SPRINGS (MAP DISTANCE). SW1/4NW1/4NW1/4SEC13. CAVE IN TO E OF & W/IN 50 FT OF HWY 66. APPROX 50-100 FT N OF RD ALONG STATE LINE. TOP OF MAYES(?) W/IN 2 FT OF CHEROKEE SH. COLL WGP & JS WILLIAMS. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7909-PC

CHEROKEE CO, KS  
SERIES: UPPER  
FM: MAYES\*  
SYSTEM: MISS  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: BAXTER SPGS 7.5  
SEC 35 TNSP 34 S RNGE 24 E  
DATE: 10/05/1934  
BAXTER SPRINGS. W END OF FIRST STREET, FIRST HOUSE E OF RR ON N SIDE OF STREET. APPROX 200 YDS N 50 E OF FRISCO WATER TANK. APPROX CENTER OF SE1/4SEC35. WELL IN FRONT OF A RED SHACK HOUSE. MAYES OR BOONE; PIECES FROM WELL DUMP. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7912-PC

CHEROKEE CO, KS  
SERIES: UPPER  
FM: MAYES\*  
SYSTEM: MISS  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: CRESTLINE 7.5  
SEC 2 TNSP 33 S RNGE 25 E  
DATE: 11/14/1934  
APPROX 8 MI N OF GALENA (MAP DISTANCE). NE OF CENTER OF SEC2 ON BANK OF COW CREEK. MAP NUM H536. MAYES? COLL WGP & FM HAASE. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)7946-PC

CHEROKEE CO, KS  
SERIES: CHES  
FM: UNASSIGNED  
SYSTEM: MISS  
GROUP: KASKASKIA\*  
MEMBER: UNASSIGNED  
QUAD: BAXTER SPGS 7.5  
SEC 15 TNSP 34 S RNGE 25 E  
DATE:  
MINE DUMP SE1/4SEC15, JUST N OF CITY CEMETARY, GALENA. LOWER CARB KASKASKIA GROUP. SHALY & HARD LS & CLAY W/ FOSS. SEE ALSO FAUNAL CARDS. STA 52. GROUP NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)8263-PC

CHEROKEE CO, KS  
SERIES: MERA  
FM: BOONE\*  
SYSTEM: MISS  
GROUP: UNASSIGNED  
SHORT CREEK CH\* MBR  
QUAD: BAXTER SPGS 7.5  
SEC 14 TNSP 34 S RNGE 25 E  
DATE: 09/17/1934  
MAP NUM 39. SW PART OF EMPIRE, & APPROX SW1/4NW1/4SEC14. POINT OF BLUFF ON N SIDE OF SHORT CREEK APPROX 300 FT N OF W LINE OF SEC14, WHERE MK&T & ST LOUIS & SAN FRANCISCO RR CROSS, APPROX 25 FT ABOVE TRACKS. TYPE LOC OF SHORT CREEK OOLITE.

(BL)8263-PC

CHEROKEE CO, KS  
SERIES: MERA  
FM: BOONE\*  
SYSTEM: MISS  
GROUP: UNASSIGNED  
SHORT CREEK CH\* MBR  
QUAD: BAXTER SPGS 7.5  
SEC 14 TNSP 34 S RNGE 25 E  
DATE: 09/17/1934  
MAP NUM 39. SW PART OF EMPIRE, & APPROX SW1/4NW1/4SEC14. POINT OF BLUFF ON N SIDE OF SHORT CREEK APPROX 300 FT N OF W LINE OF SEC14, WHERE MK&T & ST LOUIS & SAN FRANCISCO RR CROSS, APPROX 25 FT ABOVE TRACKS. TYPE LOC OF SHORT CREEK OOLITE. \*FM, MBR NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)8376-PC

SERIES: UNASSIGNED  
FM: UNASSIGNED  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: COLUMBUS 0.0  
SEC 0 TNSP RNGE  
DATE: 00/00/1935  
MAP NUM 141. SAME LOC AS (BL)8371-PC. BALLARD SHAFT 116-137 FT #3.

(BL)8379-PC

CHEROKEE CO, KS  
SERIES: OSAG  
FM: BOONE\*  
SYSTEM: MISS  
GROUP: UNASSIGNED  
GRAND FALL\* MBR  
QUAD: COLUMBUS 0.0  
SEC 0 TNSP RNGE  
DATE: 00/00/1935  
MAP NUM 144. BALLARD SHAFT 272-280 FT. SAME LOC AS (BL)8371-PC. \*FM, MBR NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)8379-PC

CHEROKEE CO, KS  
SERIES: OSAG  
FM: BOONE\*  
SYSTEM: MISS  
GROUP: UNASSIGNED  
GRAND FALL\* MBR  
QUAD: COLUMBUS 0.0  
SEC 0 TNSP RNGE  
DATE: 00/00/1935  
MAP NUM 144. BALLARD SHAFT 272-280 FT. SAME LOC AS (BL)8371-PC. \*FM, MBR NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)8380-PC

CHEROKEE CO, KS  
SERIES: OSAG  
FM: BOONE\*  
SYSTEM: MISS  
GROUP: UNASSIGNED  
GRAND FALL\* MBR  
QUAD: COLUMBUS 15.0  
SEC 0 TNSP RNGE  
DATE: 00/00/1935  
MAP NUM 145. BALLARD SHAFT 280-284 FT. SAME LOC AS (BL)8371-PC. \*FM, MBR NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)8380-PC

CHEROKEE CO, KS  
SERIES: OSAG  
FM: BOONE\*  
SYSTEM: MISS  
GROUP: UNASSIGNED  
GRAND FALLS CHERT\* MBR  
QUAD: COLUMBUS 15.0  
NE-NE-NW SEC 10 TNSP 35 S RNGE 24 E  
DATE: 00/00/1935  
MAP NUM 145. FROM BALLARD SHAFT 280-284 FT BELOW SHAFT COLLAR (SURFACE); SHAFT 1000 FT N OF OKLA ST LINE; SITE APPROX 1.0 MI SW OF BAXTER SPRINGS, KS. SAME LOC AS (BL)8371-PC. [SEE GORDON, 1964 [1965], USGS PP 460, P.13 & 71]. LG INVERT FAUNA, INCLUDING AMMONELLIPSITES (STENOCYCLUS) BALLARDENSIS AND MUENSTEROCERAS?. TYPE COLL OF A. BALLARDENSIS. \*FM, MBR NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)8381-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: COLUMBUS 15.0  
SEC 0 TNSP RNGE  
DATE: 00/00/1935      COLL: ADDISON CC  
MAP NUM 146. BALLARD SHAFT 284-288 FT. SAME LOC AS  
(BL)8371-PC.

(BL)9124-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: MARION 7.5  
SEC 30 TNSP 20 S RNGE 04 E  
LAT: 38.1730 LONG: 97.0130  
DATE: 09/00/1925      COLL: GIRTY GH\*  
4.2 MI S OF MARION. NO MICRO FOSS. COLL GHG & PV ROUNDY.  
0.2 MI S OF PIPELINE, JUST OFF W SIDE OF HWY 50.

(BL)13427-PC

BROWN CO, KS      SYSTEM: PENN  
SERIES: VIRG      GROUP: WABAUNSEE  
FM: WOOD SIDING FM      BROWNVILLE LS MBR  
QUAD: RESERVE 7.5  
SEC 6 TNSP 02 S RNGE 17 E  
DATE: 08/18/1952      COLL: YOCHELSON E\*  
STREAM BANK (BRANCH OF EUCHRE CK). COLL ELY & MR  
MUDGE. FIELD NUM 1 OF COLL DATE. SEC P-7. SECS REFERRED  
TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCASIONALLY ASSIGNED TO UNITS IN A SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM TWO DIFF SECS ARE NOT NECESSARILY THE SAME UNIT  
W/IN THE HUGHES CREEK. COUNTY NEEDS TO BE VERIFIED: SEE  
(BL)13556-PC.

(BL)13428-PC

BROWN CO, KS      SYSTEM: PERM  
SERIES: WOLF      GROUP: UNASSIGNED  
FORMATION: UNASSIGNED      FALLS CITY LS MBR  
QUAD: HIAWATHA 7.5  
SEC 23 TNSP 02 S RNGE 16 E  
DATE: 08/18/1952      COLL: YOCHELSON E\*  
STREAM BANK & RD CUT, SW1/4NW1/4SEC23. COLL ELY & MR  
MUDGE. FIELD NUM 2 OF COLL DATE. SEC P-73 OF MUDGE.  
LOWER FALLS CITY. SECS REFERRED TO AS 'P-' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13429-PC

BROWN CO, KS      SYSTEM: PENN  
SERIES: VIRG      GROUP: WABAUNSEE  
FM: WOOD SIDING FM      BROWNVILLE LS MBR  
QUAD: HIAWATHA 7.5  
SEC 23 TNSP 02 S RNGE 16 E  
DATE: 08/18/1952      COLL: YOCHELSON E\*  
STREAM BANK & RD CUT SW1/4NW1/4SEC23. COLL ELY & MR  
MUDGE. FIELD NUM 3 OF COLL DATE. SEC P-73 OF MUDGE. SECS  
REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL  
BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN  
THE HUGHES CREEK.

(BL)13430-PC

BROWN CO, KS      SYSTEM: PERM  
SERIES: WOLF      GROUP: UNASSIGNED  
FORMATION: UNASSIGNED      FALLS CITY LS MBR  
QUAD: HIAWATHA 7.5  
SEC 23 TNSP 02 S RNGE 16 E  
DATE: 08/18/1952      COLL: YOCHELSON E\*  
RD CUT SW1/4NW1/4NW1/4SEC23. COLL ELY & MR MUDGE. FIELD  
NUM 4 OF COLL DATE. UPPER FALLS CITY LS. SECS REFERRED  
TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13432-PC

BROWN CO, KS      SYSTEM: PERM  
SERIES: LOWER      GROUP: COUNCIL GROVE  
FM: FORAKER LS      HUGHES CREEK SH MBR  
QUAD: MORRILL 7.5  
SEC 31 TNSP 01 S RNGE 16 E  
DATE: 08/19/1952      COLL: YOCHELSON E\*  
STREAM BANK; NE1/4NW1/4SEC31. COLL ELY & MR MUDGE.  
FIELD NUM 2 OF COLL DATE. SEC P-306 OF MUDGE, UNIT A. SECS  
REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL  
BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN  
THE HUGHES CREEK.

(BL)13433-PC

BROWN CO, KS      SYSTEM: PERM  
SERIES: LOWER      GROUP: COUNCIL GROVE  
FM: FORAKER LS      HUGHES CREEK SH MBR  
QUAD: MORRILL 7.5  
SEC 31 TNSP 01 S RNGE 16 E  
DATE: 08/19/1952      COLL: YOCHELSON E\*  
SAME LOC AS (BL)13432-PC. FIELD NUM 3 OF COLL DATE. SEC P-  
306 UNIT B OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED  
TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13434-PC

BROWN CO, KS      SYSTEM: PERM  
SERIES: LOWER      GROUP: COUNCIL GROVE  
FM: FORAKER LS      HUGHES CREEK SH MBR  
QUAD: MORRILL 7.5  
SEC 31 TNSP 01 S RNGE 16 S  
DATE: 08/19/1952      COLL: YOCHELSON E\*  
SAME LOC AS (BL)13432-PC. FIELD NUM 4 OF COLL DATE. SEC P-  
306, UNIT C, LOWER ZN OF MUDGE. COLL ELY & MR MUDGE.  
SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING  
GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC  
REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK  
BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT  
W/IN THE HUGHES CREEK.

(BL)13435-PC

BROWN CO, KS      SYSTEM: PERM  
SERIES: LOWER      GROUP: COUNCIL GROVE  
FM: FORAKER LS      HUGHES CREEK SH MBR  
QUAD: MORRILL 7.5  
SEC 31 TNSP 01 S RNGE 16 E  
DATE: 08/19/1952      COLL: YOCHELSON E\*  
SAME LOC AS (BL)13432-PC. FIELD NUM 5 OF COLL DATE. SEC P-  
306, UNIT C, MIDDLE & LOWER HALF OF MUDGE. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13437-PC

BROWN CO, KS      SYSTEM: PERM  
SERIES: LOWER      GROUP: COUNCIL GROVE  
FM: FORAKER LS      HUGHES CREEK SH MBR  
QUAD: MORRILL 7.5  
SEC 31 TNSP 01 S RNGE 16 E  
DATE: 08/19/1952      COLL: YOCHELSON E\*  
SAME LOC AS (BL)13432-PC. FIELD NUM 7 OF COLL DATE. SEC P-  
306, UNIT E-F OF MUDGE. COLL ELY & MR MUDGE. SECS  
REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL  
BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN  
THE HUGHES CREEK.

(BL)13439-PC

WABAUNSEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: ZEANDALE LS MAPLE HILL LS MBR  
QUAD: WILLARD 7.5  
SEC 27 TNSP 11 S RNGE 13 E  
DATE: 08/21/1952 COLL: YOCHELSON E\*  
RD CUT ST HWY 10, SW1/4SE1/4SEC27. FIELD NUM 2 OF COLL  
DATE. COLL ELY & MR MUDGE. [8/1989-STATE HIGHWAY 10 IS  
NOW I-70.] SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13440-PC

WABAUNSEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: STOTLER LS DOVER LS MBR  
QUAD: WILLARD 7.5  
SEC 28 TNSP 11 S RNGE 13 E  
DATE: 08/21/1952 COLL: YOCHELSON E\*  
RD CUT ST HWY 10, SW1/4SW1/4SEC28. FIELD NUM 3 OF COLL  
DATE. COLL ELY & MR MUDGE. SEC P-1 OF MUDGE. LANGDON  
SH. [8/1989-STATE HWY 10 IS NOW I-70.] SECS REFERRED TO AS 'P-'  
MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS  
OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT  
PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF  
SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES  
CREEK.

(BL)13441-PC

WABAUNSEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: STOTLER LS DOVER LS MBR  
QUAD: WILLARD 7.5  
SEC 28 TNSP 11 S RNGE 13 E  
DATE: 08/21/1952 COLL: YOCHELSON E\*  
RD CUT ST HWY 10, SW1/4SW1/4SEC28. SAME LOC AS (BL)13440-  
PC. LOWER DOVER LS. FIELD NUM 4 OF COLL DATE. SEC P-1 OF  
MUDGE. COLL ELY & MR MUDGE. [8/1989-STATE HWY 10 IS NOW  
I-70.] SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13442-PC

WABAUNSEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: STOTLER LS DOVER LS MBR  
QUAD: WILLARD 7.5  
SEC 28 TNSP 11 S RNGE 13 E  
DATE: 08/21/1952 COLL: YOCHELSON E\*  
RD CUT ST HWY 10, SW1/4SW1/4SEC28. SAME LOC AS (BL)13440-  
PC. UPPER DOVER LS. FIELD NUM 5 OF COLL DATE. SEC P-1 OF  
MUDGE. COLL ELY & MR MUDGE. [8/1989-STATE HWY 10 IS NOW  
I-70.] SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13443-PC

WABAUNSEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: STOTLER LS GRANDHAVEN LS MBR  
QUAD: MAPLE HILL 7.5  
SEC 30 TNSP 11 S RNGE 13 E  
DATE: 08/21/1952 COLL: YOCHELSON E\*  
RD CUT ST HWY 10, SE1/4SW1/4SEC30. FIELD NUM 6 OF COLL  
DATE. SEC P-77 OF MUDGE. COLL ELY & MR MUDGE. [8/1989-  
STATE HWY 10 IS NOW I-70.] SECS REFERRED TO AS 'P-' MEAS BY  
MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13444-PC

WABAUNSEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: WOOD SIDING FM PONY CREEK SH MBR  
QUAD: MAPLE HILL 7.5  
SEC 28 TNSP 11 S RNGE 12 E  
DATE: 08/21/1952 COLL: YOCHELSON E\*  
RD CUT ST HWY 10, SW1/4SW1/4SEC28. FIELD NUM 7 OF COLL  
DATE. SEC P-169 OF MUDGE. COLL ELY & MR MUDGE. [8/1989-  
STATE HWY 10 IS NOW I-70.] SECS REFERRED TO AS 'P-' MEAS BY  
MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13445-PC

WABAUNSEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: WOOD SIDING FM BROWNVILLE LS MBR  
QUAD: MAPLE HILL 7.5  
SEC 28 TNSP 11 S RNGE 12 E  
DATE: 08/21/1952 COLL:  
RD CUT ST WY 10, SW1/4SW1/4SEC28. FIELD NUM 7 OF COLL  
DATE. SEC P-169 OF MUDGE. COLL ELY & MR MUDGE. [12/1988-  
CARD IN FILE, BUT NOT ON ORIG DATA BASE, THEREFORE CASE  
& DRWR LOC NOT KNOWN.] [8/1989-STATE HWY 10 IS NOW I-70.]  
SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING  
GEOL BR, DENVER. LETTERS OCCASIONALLY ASSIGNED SOME  
UNITS IN A SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13446-PC

POTTAWATOMIE CO, KS SYSTEM: PENN  
SERIES: UPPER GROUP: WABAUNSEE  
FM: WOOD SIDING FM GRAYHORSE LS MBR  
QUAD: FLUSH 7.5  
SEC 16 TNSP 09 S RNGE 09 E  
DATE: 08/21/1952 COLL: YOCHELSON E\*  
STREAM CUTBANK, NW1/4NW1/4SEC16. FIELD NUM 9 OF COLL  
DATE. SEC P-94 OF MUDGE. COLL ELY & MR MUDGE.  
CANEYVILLE LS, GRAYHORSE LS MBR. SECS REFERRED TO AS 'P-'  
MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS  
OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT  
PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF  
SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES  
CREEK.

(BL)13447-PC

POTTAWATOMIE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: WOOD SIDING FM BROWNVILLE LS MBR  
QUAD: FLUSH 7.5  
SEC 16 TNSP 09 S RNGE 09 E  
DATE: 08/21/1952 COLL: YOCHELSON E\*  
SAME LOC AS (BL)13446-PC. NW1/4NW1/4SEC16. FIELD NUM 10 OF  
COLL DATE. SEC P-94 OF MUDGE. COLL ELY & MR MUDGE. SECS  
REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL  
BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN  
THE HUGHES CREEK.

(BL)13448-PC

POTTAWATOMIE CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: COUNCIL GROVE  
FM: FORAKER LS AMERICUS LS MBR  
QUAD: FLUSH 7.5  
SEC 17 TNSP 09 S RNGE 09 E  
DATE: 08/21/1952 COLL: YOCHELSON E\*  
STREAM BANK NE1/4NW1/4SEC17. FIELD NUM 11 OF COLL DATE.  
SEC P-229 OF MUDGE. COLL ELY & MR MUDGE. FORAKER LS. SH  
BTWN UPPER & LOWER AMERICUS LS MEMBER. SECS REFERRED  
TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13449-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
AMERICUS LS MBR  
QUAD: FLUSH 7.5  
SEC 17 TNSP 09 S RNGE 09 E  
DATE: 08/21/1952  
COLL: YOCHELSONE\*  
SAME LOC AS (BL)13448-PC. STREAM BANK NE1/4NW1/4SEC17.  
FORAKER LS, UPPER AMERICUS LS MEMBER. FIELD NUM 12 OF  
COLL DATE. SEC P-229 OF MUDGE. COLL ELY & MR MUDGE. SECS  
REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL  
BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN  
THE HUGHES CREEK.

(BL)13450-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
QUAD: FLUSH 7.5  
SEC 17 TNSP 09 S RNGE 09 E  
DATE: 08/21/1952  
COLL: YOCHELSONE\*  
SAME LOC AS (BL)13448-PC. FORAKER LS; LOWER PART HUGHES  
CREEK SH MBR. FIELD NUM 13 OF COLL DATE. SEC P-229 OF  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13451-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
QUAD: TUTTLE CK DAM 7.5  
SEC 3 TNSP 08 S RNGE 09 E  
DATE: 08/22/1952  
COLL: YOCHELSONE\*  
STREAM BANK NE1/4NW1/4SEC3. FIELD NUM 1 OF COLL DATE.  
SEC P-128, LOWER SH UNIT OF UNIT A OR A1 OF MUDGE. COLL  
ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13453-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
QUAD: TUTTLE CK DAM 7.5  
SEC 3 TNSP 08 S RNGE 09 E  
DATE: 08/22/1952  
COLL: YOCHELSONE\*  
SAME LOC AS (BL)13451-PC. STREAM BANK NE1/4NW1/4SEC3.  
FIELD NUM 3 OF COLL DATE. SEC P-128, UPPER SH BED IN UNIT A  
OR A3 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO  
AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13454-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
QUAD: TUTTLE CK DAM 7.5  
SEC 3 TNSP 08 S RNGE 09 E  
DATE: 08/22/1952  
COLL: YOCHELSONE\*  
STREAM BANK NE1/4NW1/4SEC3. SAME LOC AS (BL)13451-PC.  
FIELD NUM 4 OF COLL DATE. SEC P-128, UNIT B1 OF MUDGE.  
COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13455-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
QUAD: TUTTLE CK DAM 7.5  
SEC 3 TNSP 08 S RNGE 09 E  
DATE: 08/22/1952  
COLL: YOCHELSONE\*  
STREAM BANK NE1/4NW1/4SEC3. SAME LOC AS (BL)13451-PC.  
FIELD NUM 5 OF COLL DATE. SEC P-128, UNIT B2 OF MUDGE.  
COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13456-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
QUAD: TUTTLE CK DAM 7.5  
SEC 3 TNSP 08 S RNGE 09 E  
DATE: 08/22/1952  
COLL: YOCHELSONE\*  
STREAM BANK NE1/4NW1/4SEC3. SAME AS (BL)13451-PC. FIELD  
NUM 6 OF COLL DATE. SEC P-128, UNIT B3 OF MUDGE. COLL ELY  
& MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13457-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
QUAD: TUTTLE CK DAM 7.5  
SEC 3 TNSP 08 S RNGE 09 E  
DATE: 08/22/1952  
COLL: YOCHELSONE\*  
STREAM BANK NE1/4NW1/4SEC3. SAME LOC AS (BL)13451-PC.  
FIELD NUM 7 OF COLL DATE. SEC P-128, UNIT C OF MUDGE. COLL  
ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13458-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
QUAD: TUTTLE CK DAM 7.5  
SEC 3 TNSP 08 S RNGE 09 E  
DATE: 08/22/1952  
COLL: YOCHELSONE\*  
STREAM BANK NE1/4NW1/4SEC3. SAME LOC AS (BL)13451-PC.  
FIELD NUM 8 OF COLL DATE. SEC P-128, UNIT D1 OF MUDGE.  
COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13460-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
QUAD: TUTTLE CK DAM 7.5  
SEC 3 TNSP 08 S RNGE 09 E  
DATE: 08/22/1952  
COLL: YOCHELSONE\*  
STREAM BANK NE1/4NW1/4SEC3. SAME LOC AS (BL)13451-PC.  
FIELD NUM 10 OF COLL DATE. SEC P-128, UNIT D3 OF MUDGE.  
COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.



(BL)13461-PC

BROWN CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR

QUAD: RESERVE 7.5  
SEC 6 TNSP 02 S RNGE 17 E

DATE: 08/22/1952  
COLL: YOCHELSON E\*  
STREAM BANK (BRANCH OF EUCHRE CK.) NE1/4NE1/4SEC6. SAME LOC AS (BL)13427-PC. FIELD NUM 11 OF COLL DATE. SEC P-128, LOWER 2N OF UNIT E OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13462-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR

QUAD: TUTTLE CK DAM 7.5  
SEC 3 TNSP 08 S RNGE 09 E

DATE: 08/22/1952  
COLL: YOCHELSON E\*  
STREAM BANK NE1/4NW1/4SEC3. SAME LOC AS (BL)13451-PC. FIELD NUM 12 OF COLL DATE. SEC P-128, UPPER 2N UNIT E OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13463-PC

BROWN CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR

QUAD: RESERVE 7.5  
SEC 6 TNSP 02 S RNGE 17 E

DATE: 08/22/1952  
COLL: YOCHELSON E\*  
STREAM BANK NE1/4NE1/4SEC6. SAME AS (BL)13427-PC. FIELD NUM 13 OF COLL DATE. SEC P-128, UNIT F OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13465-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: RED EAGLE LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BENNETT SH MBR

QUAD: TUTTLE CK DAM 7.5  
SEC 3 TNSP 08 S RNGE 09 E

DATE: 08/22/1952  
COLL: YOCHELSON E\*  
STREAM BANK NE1/4NW1/4SEC3. SAME LOC AS (BL)13451-PC. FIELD NUM 15 OF COLL DATE. SEC P-128 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13468-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR

QUAD: TUTTLE CK DAM 7.5  
SEC 3 TNSP 08 S RNGE 09 E

DATE: 08/22/1952  
COLL: YOCHELSON E\*  
STREAM BANK NE1/4NW1/4SEC3. SAME LOC AS (BL)13451-PC. SH IN LOWER NEVA MBR, FRENOLA LS. FIELD NUM 18 OF COLL DATE. SEC P-128 B OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13469-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR

QUAD: TUTTLE CK DAM 7.5  
SEC 3 TNSP 08 S RNGE 09 E

DATE: 08/22/1952  
COLL: YOCHELSON E\*  
STREAM BANK NE1/4NW1/4SEC3. SAME LOC AS (BL)13451-PC. SH PARTING NEAR TOP OF MIDDLE NEVA MBR. FIELD NUM 19 OF COLL DATE. SEC P-128 FOF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13470-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: JANESVILLE SH

SYSTEM: PERM  
GROUP: ADMIRE  
HAMLIN SH MBR

QUAD: SEE COMMENT 7.5  
SEC 9 TNSP 08 S RNGE 10 E

DATE: 08/22/1952  
COLL: YOCHELSON E\*  
RD DITCH NW1/4NW1/4SEC9. HOUGHENCK MBR, HAMLIN SH. FIELD NUM 20 OF COLL DATE. SEC P-231 OF MUDGE. COLL ELY & MR MUDGE. QUAD IS WESTMORELAND NE OR LOUISVILLE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13471-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
AMERICUS LS MBR

QUAD: SEE COMMENT 7.5  
SEC 9 TNSP 08 S RNGE 10 E

DATE: 08/22/1952  
COLL: YOCHELSON E\*  
RD CUT NW1/4NW1/4SEC9. FIELD NUM 21 OF COLL DATE. SEC P-231 OF MUDGE. FORAKER LS. SH IN UPPER AMERICUS LS MBR. COLL ELY & MR MUDGE. QUAD IS WESTMORELAND NE OR LOUISVILLE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13472-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: JANESVILLE SH

SYSTEM: PERM  
GROUP: ADMIRE  
WEST BRANCH SH MBR

QUAD: SEE COMMENT 7.5  
SEC 10 TNSP 08 S RNGE 10 E

DATE: 08/22/1952  
COLL: YOCHELSON E\*  
RD SIDE NE1/4NW1/4SEC10. FIELD NUM 22 OF COLL DATE. SEC P-232 OF MUDGE. W BRANCH SH. COLL ELY & MR MUDGE. QUAD IS WESTMORELAND NE OR LOUISVILLE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13474-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: JANESVILLE SH

SYSTEM: PERM  
GROUP: ADMIRE  
FIVE POINT LS MBR

QUAD: SEE COMMENT 7.5  
SEC 10 TNSP 08 S RNGE 10 E

DATE: 08/22/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13472-PC. NE1/4NW1/4SEC10. FIELD NUM 24 OF COLL DATE. SEC P-232 OF MUDGE. MSSV 1.8 FT LS, FIVE POINT LS. COLL ELY & MR MUDGE. QUAD IS WESTMORELAND NE OR LOUISVILLE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13475-PC

POTTAWATOMIE CO, KS                      SYSTEM: PERM  
SERIES: WOLF                                  GROUP: UNASSIGNED  
FORMATION: UNASSIGNED                      FALLS CITY LS MBR  
QUAD: WESTMORELAND NE 7.5  
SEC 2 TNSP 08 S RNGE 10 E  
DATE: 08/22/1952                              COLL: YOCHELSON E\*  
RD SEC SW1/4SW1/4SEC2. FIELD NUM 25 OF COLL DATE. SEC P-233 OF MUDGE. MIDDLE FALLS CITY LS. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13476-PC

POTTAWATOMIE CO, KS                      SYSTEM: PERM  
SERIES: WOLF                                  GROUP: UNASSIGNED  
FORMATION: UNASSIGNED                      FALLS CITY LS MBR  
QUAD: WESTMORELAND NE 7.5  
SEC 2 TNSP 08 S RNGE 10 E  
DATE: 08/22/1952                              COLL: YOCHELSON E\*  
SAME LOC AS (BL)13475-PC. RD SEC SW1/4SW1/4SEC2. FIELD NUM 26 OF COLL DATE. SEC P-233 OF MUDGE. SH BELOW UPPER FALLS CITY LS. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13478-PC

RILEY CO, KS                                      SYSTEM: PERM  
SERIES: LOWER                                  GROUP: COUNCIL GROVE  
FM: FORAKER LS                                  HUGHES CREEK SH MBR  
QUAD: MANHATTAN 7.5  
SEC 7 TNSP 10 S RNGE 08 E  
DATE: 08/23/1952                              COLL: YOCHELSON E\*  
RR CUT SW1/4SE1/4SE1/4SEC7. JUST N OF MANHATTEN. FIELD NUM 1 OF COLL DATE. SEC P-235, UNIT A1 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13480-PC

RILEY CO, KS                                      SYSTEM: PERM  
SERIES: LOWER                                  GROUP: COUNCIL GROVE  
FM: FORAKER LS                                  HUGHES CREEK SH MBR  
QUAD: MANHATTAN 7.5  
SEC 7 TNSP 10 S RNGE 08 E  
DATE: 08/23/1952                              COLL: YOCHELSON E\*  
SAME LOC AS (BL)13478-PC. RR CUT SW1/4SE1/4SE1/4SEC7. JUST N OF MANHATTEN. FIELD NUM 3 OF COLL DATE. SEC P-235 UNIT B1 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13483-PC

RILEY CO, KS                                      SYSTEM: PERM  
SERIES: LOWER                                  GROUP: COUNCIL GROVE  
FM: FORAKER LS                                  HUGHES CREEK SH MBR  
QUAD: MANHATTAN 7.5  
SEC 7 TNSP 10 S RNGE 08 E  
DATE: 08/23/1952                              COLL: YOCHELSON E\*  
RD CUT SW1/4SE1/4SE1/4SEC7. JUST N OF MANHATTEN. SAME LOC AS (BL)13478-PC. FIELD NUM 6 OF COLL DATE. SEC P-235, UNIT B3 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13484-PC

RILEY CO, KS                                      SYSTEM: PERM  
SERIES: LOWER                                  GROUP: COUNCIL GROVE  
FM: FORAKER LS                                  HUGHES CREEK SH MBR  
QUAD: MANHATTAN 7.5  
SEC 7 TNSP 10 S RNGE 08 E  
DATE: 08/23/1952                              COLL: YOCHELSON E\*  
SAME LOC AS (BL)13478-PC. RR CUT SW1/4SE1/4SE1/4SEC7, JUST N OF MANHATTEN. FIELD NUM 7 OF COLL DATE. SEC P-235, UNIT C OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13485-PC

RILEY CO, KS                                      SYSTEM: PERM  
SERIES: LOWER                                  GROUP: COUNCIL GROVE  
FM: FORAKER LS                                  HUGHES CREEK SH MBR  
QUAD: MANHATTAN 7.5  
SEC 7 TNSP 10 S RNGE 08 E  
DATE: 08/23/1952                              COLL: YOCHELSON E\*  
SAME LOC AS (BL)13478-PC. RR CUT SW1/4SE1/4SE1/4SEC7, JUST N OF MANHATTEN. FIELD NUM 8 OF COLL DATE. SEC P-235, UNIT D2 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13486-PC

RILEY CO, KS                                      SYSTEM: PERM  
SERIES: LOWER                                  GROUP: COUNCIL GROVE  
FM: FORAKER LS                                  HUGHES CREEK SH MBR  
QUAD: MANHATTAN 7.5  
SEC 7 TNSP 10 S RNGE 08 E  
DATE: 08/23/1952                              COLL: YOCHELSON E\*  
SAME LOC AS (BL)13478-PC. RR CUT SW1/4SE1/4SE1/4SEC7, JUST N OF MANHATTEN. FIELD NUM 9 OF COLL DATE. SEC P-235 UNIT LOWER F. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13487-PC

RILEY CO, KS                                      SYSTEM: PERM  
SERIES: LOWER                                  GROUP: COUNCIL GROVE  
FM: FORAKER LS                                  HUGHES CREEK SH MBR  
QUAD: MANHATTAN 7.5  
SEC 7 TNSP 10 S RNGE 08 E  
DATE: 08/23/1952                              COLL: YOCHELSON E\*  
SAME LOC AS (BL)13478-PC. RR CUT SW1/4SE1/4SE1/4SEC7, JUST N OF MANHATTEN. FIELD NUM 10 OF COLL DATE. SEC P-235, UNIT MIDDLE F OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13489-PC

RILEY CO, KS                                      SYSTEM: PERM  
SERIES: LOWER                                  GROUP: COUNCIL GROVE  
FM: RED EAGLE LS                                  BENNETT SH MBR  
QUAD: MANHATTAN 7.5  
SEC 7 TNSP 10 S RNGE 08 E  
DATE: 08/23/1952                              COLL: YOCHELSON E\*  
SAME LOC AS (BL)13478-PC. RR CUT SW1/4SE1/4SE1/4SEC7, JUST N OF MANHATTEN. FIELD NUM 12 OF COLL DATE. SEC P-235, BED A OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13490-PC

RILEY CO, KS  
SERIES: LOWER  
FM: RED EAGLE LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BENNETT SH MBR

QUAD: MANHATTAN 7.5  
SEC 7 TNSP 10 S RNGE 08 E

DATE: 08/23/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13478-PC. RR CUT SW1/4SE1/4SEC7, JUST N OF MANHATTEN. FIELD NUM 13 OF COLL DATE. SEC P-235, BED C OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13492-PC

RILEY CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
AMERICUS LS MBR

QUAD: MANHATTAN 7.5  
SEC 20 TNSP 10 S RNGE 08 E

DATE: 08/23/1952  
COLL: YOCHELSON E\*  
STREAM CUT NE1/4NW1/4SEC20. FIELD NUM 15 OF COLL DATE. SEC P-225 OF MUDGE. LOWER LS OF AMERICUS LS. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13494-PC

RILEY CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
AMERICUS LS MBR

QUAD: MANHATTAN 7.5  
SEC 20 TNSP 10 S RNGE 08 E

DATE: 08/23/1952  
COLL: YOCHELSON E\*  
SAME AS (BL)13492-PC. STREAM CUT NE1/4NW1/4SEC 20. FIELD NUM 17 OF COLL DATE. SEC P-225 OF MUDGE. UPPER LS OF AMERICUS LS. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13495-PC

RILEY CO, KS  
SERIES: LOWER  
FM: JANESVILLE SH

SYSTEM: PERM  
GROUP: ADMIRE  
FIVE POINTS LS MBR

QUAD: ST GEORGE 7.5  
SEC 30 TNSP 10 S RNGE 09 E

DATE: 08/23/1952  
COLL: YOCHELSON E\*  
OLD QUARRY ON HILLTOP NEAR TOP CENTER SW1/4SEC30. FIELD NUM 18 OF COLL DATE. SEC P-212 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13496-PC

RILEY CO, KS  
SERIES: VIRG  
FM: ZEANDALE LS

SYSTEM: PENN  
GROUP: WABAUNSEE  
TARKIO LS MBR

QUAD: ST GEORGE 7.5  
SEC 5 TNSP 11 S RNGE 09 E

DATE: 08/23/1952  
COLL: YOCHELSON E\*  
PILSBURY'S CROSSING. NE1/4NW1/4SECS. FIELD NUM 19 OF COLL DATE. SEC P-237 OF MUDGE. COLL ELY & MR MUDGE. LOWER TARKIO LS. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13497-PC

RILEY CO, KS  
SERIES: VIRG  
FM: ZEANDALE LS

SYSTEM: PENN  
GROUP: WABAUNSEE  
TARKIO LS MBR

QUAD: ST GEORGE 7.5  
SEC 5 TNSP 11 S RNGE 09 E

DATE: 08/23/1952  
COLL: YOCHELSON E\*  
PILSBURY'S CROSSING. NE1/4NW1/4SECS. SAME LOC AS (BL)13496-PC. FIELD NUM 20 OF COLL DATE. SEC P-237 OF MUDGE. SH IN TARKIO LS. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13500-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: BEATTIE LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR

QUAD: ST GEORGE 7.5  
SEC 0 TNSP RNGE

DATE: 08/24/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13499-PC. [12/1988-CARD NOT IN FILE.] FIELD NUM 2 OF COLL DATE. COLL ELY & MR MUDGE. BEATTIE LS. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13501-PC

RILEY CO, KS  
SERIES: VIRG  
FM: STOTLER LS

SYSTEM: PENN  
GROUP: WABAUNSEE  
DOVER LS MBR

QUAD: ST GEORGE 7.5  
SEC 28 TNSP 10 S RNGE 09 E

DATE: 08/25/1952  
COLL: YOCHELSON E\*  
PASTURE GULLY SW1/4SE1/4SEC28. FIELD NUM 1 OF COLL DATE. SEC P-216 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13502-PC

RILEY CO, KS  
SERIES: VIRG  
FM: STOTLER LS

SYSTEM: PENN  
GROUP: WABAUNSEE  
DRY SHALE MBR

QUAD: ST GEORGE 7.5  
SEC 28 TNSP 10 S RNGE 09 E

DATE: 08/25/1952  
COLL: YOCHELSON E\*  
PASTURE GULLY SW1/4SE1/4SEC28. SAME LOC AS (BL)13500-PC. FIELD NUM 2 OF COLL DATE. SEC P-216 OF MUDGE. LIME LENSE IN DRY SH. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13503-PC

RILEY CO, KS  
SERIES: VIRG  
FM: STOTLER LS

SYSTEM: PENN  
GROUP: WABAUNSEE  
GRANDHAVEN LS MBR

QUAD: ST GEORGE 7.5  
SEC 28 TNSP 10 S RNGE 09 E

DATE: 08/25/1952  
COLL: YOCHELSON E\*  
PASTURE GULLY SW1/4SE1/4SEC28. SAME AS (BL)13500-PC. FIELD NUM 3 OF COLL DATE. OF COLL DATE. 216 OF MUDGE. UPPER & LOWER LIMES OF GRANDHAVEN LS. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CK.

(BL)13504-PC

RILEY CO, KS  
SERIES: VIRG  
FM: ZEANDALE LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
MAPLE HILL LS MBR  
QUAD: ST GEORGE 7.5  
SEC 27 TNSP 10 S RNGE 09 E  
COLL: YOCHELSON E\*  
DATE: 08/25/1952  
RD SIDE SW1/4NW1/4NW1/4SEC27. FIELD NUM 4 OF COLL DATE.  
SEC P-211 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED  
TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13505-PC

RILEY CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM  
SYSTEM: PENN  
GROUP: WABAUNSEE  
BROWNVILLE LS MBR  
QUAD: ST GEORGE 7.5  
SEC 31 TNSP 10 S RNGE 09 E  
COLL: YOCHELSON E\*  
DATE: 08/25/1952  
PASTURE GULLY, NW1/4NE1/4SEC31. FIELD NUM 5 OF COLL DATE.  
SEC P-222 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED  
TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13506-PC

RILEY CO, KS  
SERIES: WOLF  
FM: ONAGA SH  
SYSTEM: PERM  
GROUP: ADMIRE  
ASPINWALL LS MBR  
QUAD: ST GEORGE 7.5  
SEC 31 TNSP 10 S RNGE 09 E  
COLL: YOCHELSON E\*  
DATE: 08/25/1952  
PASTURE GULLY, NE1/4NE1/4SEC31. SAME AS (BL)13505-PC.  
FIELD NUM 6 OF COLL DATE. SEC P-222 OF MUDGE. COLL ELY &  
MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13507-PC

RILEY CO, KS  
SERIES: WOLF  
FORMATION: UNASSIGNED  
SYSTEM: PERM  
GROUP: UNASSIGNED  
FALLS CITY LS MBR  
QUAD: WAMEGO SW 7.5  
SEC 9 TNSP 11 S RNGE 09 E  
COLL: YOCHELSON E\*  
DATE: 08/25/1952  
SW1/4SE1/4NW1/4SEC9. FIELD NUM 7 OF COLL DATE. SEC P-215  
OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-'  
MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS  
OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT  
PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF  
SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES  
CREEK.

(BL)13508-PC

RILEY CO, KS  
SERIES: WOLF  
FORMATION: UNASSIGNED  
SYSTEM: PERM  
GROUP: UNASSIGNED  
FALLS CITY LS MBR  
QUAD: WAMEGO SW 7.5  
SEC 10 TNSP 11 S RNGE 09 E  
COLL: YOCHELSON E\*  
DATE: 08/25/1952  
RD CUT NE1/4SW1/4SEC10. FIELD NUM 8 OF COLL DATE. COLL  
ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13509-PC

RILEY CO, KS  
SERIES: LOWER  
FM: JANESVILLE SH  
SYSTEM: PERM  
GROUP: ADMIRE  
FIVE POINT LS MBR  
QUAD: WAMEGO SW 7.5  
SEC 7 TNSP 11 S RNGE 09 E  
COLL: YOCHELSON E\*  
DATE: 08/25/1952  
NE1/4SE1/4SEC7. FIELD NUM 9 OF COLL DATE. SEC P-213 OF  
MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-'  
MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS  
OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT  
PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF  
SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES  
CREEK.

(BL)13510-PC

WABAUNSEE CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM  
SYSTEM: PENN  
GROUP: WABAUNSEE  
PONY CREEK SH MBR  
QUAD: WAMEGO SW 7.5  
SEC 11 TNSP 11 S RNGE 09 E  
COLL: YOCHELSON E\*  
DATE: 08/25/1952  
STREAM CUT NE1/4SE1/4SEC11. FIELD NUM 10 OF COLL DATE.  
SEC P-46 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED  
TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13511-PC

WABAUNSEE CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM  
SYSTEM: PENN  
GROUP: WABAUNSEE  
BROWNVILLE LS MBR  
QUAD: WAMEGO SW 7.5  
SEC 11 TNSP 11 S RNGE 09 E  
COLL: YOCHELSON E\*  
DATE: 08/25/1952  
STREAM CUT NE1/4SE1/4SEC11. FIELD NUM 11 OF COLL DATE.  
SEC P-46 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED  
TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13512-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: JANESVILLE SH  
SYSTEM: PERM  
GROUP: ADMIRE  
FIVE POINT LS MBR  
QUAD: ALMA 7.5  
SEC 12 TNSP 11 S RNGE 09 E  
COLL: YOCHELSON E\*  
DATE: 08/25/1952  
RD DITCH SW1/4SW1/4SEC12. FIELD NUM 12 OF COLL DATE. SEC  
P-164 OF MUDGE. LS- SH- LS SEQUENCE. COLL ELY & MR MUDGE.  
SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING  
GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC  
REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK  
BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT  
W/IN THE HUGHES CREEK.

(BL)13513-PC

WABAUNSEE CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM  
SYSTEM: PENN  
GROUP: WABAUNSEE  
NEBRASKA CITY LS MBR  
QUAD: WAMEGO 7.5  
SEC 33 TNSP 10 S RNGE 10 E  
COLL: YOCHELSON E\*  
DATE: 08/25/1952  
STREAM BANK, NE1/4SW1/4SW1/4SEC33. FIELD NUM 13 OF COLL  
DATE. SEC P-242 OF MUDGE. CANEYVILLE LS, NEBRASKA CITY  
MBR. COLL ELY & MR MUDGE. (5/1989-STREAM IS BRANCH OF  
ANTELOPE CK.) SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13514-PC

WABAUNSEE CO, KS                    SYSTEM: PERM  
SERIES: WOLF                        GROUP: ADMIRE  
FM: ONAGA SH                      TOWLE SH MBR  
QUAD: WAMEGO 7.5  
SEC 33 TNSP 10 S RNGE 10 E  
DATE: 08/25/1952                  COLL: YOCHELSON E\*  
RD DITCH SW1/4SW1/4SEC33. FIELD NUM 14 OF COLL DATE. SEC  
P-243 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO  
AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13515-PC

POTTAWATOMIE CO, KS                SYSTEM: PENN  
SERIES: VIRG                        GROUP: WABAUNSEE  
FM: ROOT SH                        JIM CREEK LS MBR  
QUAD: ONAGA 7.5  
SEC 7 TNSP 08 S RNGE 11 E  
DATE: 08/26/1952                  COLL: YOCHELSON E\*  
STREAM CUT NW1/4NE1/4NE1/4SEC7. FIELD NUM 1 OF COLL DATE.  
SEC P-104 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED  
TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13516-PC

POTTAWATOMIE CO, KS                SYSTEM: PENN  
SERIES: VIRG                        GROUP: WABAUNSEE  
FM: WOOD SIDING FM                NEBRASKA CITY LS MBR  
QUAD: ONAGA 7.5  
SEC 7 TNSP 08 S RNGE 11 E  
DATE: 08/26/1952                  COLL: YOCHELSON E\*  
STREAM CUT NE1/4NE1/4NE1/4SEC7. SAME LOC AS (BL)13515-PC.  
FIELD NUM 2 OF COLL DATE. SEC P-104 OF MUDGE. COLL ELY &  
MR MUDGE. CANEYVILLE LS, NEBRASKA CITY MBR. SECS  
REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL  
BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN  
THE HUGHES CREEK.

(BL)13517-PC

POTTAWATOMIE CO, KS                SYSTEM: PENN  
SERIES: VIRG                        GROUP: WABAUNSEE  
FM: WOOD SIDING FM                BROWNVILLE LS MBR  
QUAD: ONAGA 7.5  
SEC 7 TNSP 08 S RNGE 11 E  
DATE: 08/26/1952                  COLL: YOCHELSON E\*  
STREAM CUT NE1/4NE1/4NE1/4SEC7. SAME LOC AS (BL)13515-PC.  
FIELD NUM 3 OF COLL DATE. SEC P-104 OF MUDGE. COLL ELY &  
MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13518-PC

POTTAWATOMIE CO, KS                SYSTEM: PERM  
SERIES: WOLF                        GROUP: ADMIRE  
FM: ONAGA SH                        ASPINWALL LS MBR  
QUAD: ONAGA 7.5  
SEC 7 TNSP 08 S RNGE 11 E  
DATE: 08/26/1952                  COLL: YOCHELSON E\*  
STREAM CUT NE1/4NE1/4NE1/4SEC7. SAME LOC AS (BL)13515-PC.  
FIELD NUM 4 OF COLL DATE. SEC P-104 OF MUDGE. COLL ELY &  
MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13519-PC

POTTAWATOMIE CO, KS                SYSTEM: PERM  
SERIES: WOLF                        GROUP: UNASSIGNED  
FORMATION: UNASSIGNED            FALLS CITY LS MBR  
QUAD: ONAGA 7.5  
SEC 33 TNSP 07 S RNGE 11 E  
DATE: 08/26/1952                  COLL: YOCHELSON E\*  
CENTER OF SE1/4SEC33. FIELD NUM 5 OF COLL DATE. SEC P-244  
OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-'  
MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS  
OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT  
PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF  
SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES  
CREEK.

(BL)13520-PC

POTTAWATOMIE CO, KS                SYSTEM: PERM  
SERIES: LOWER                      GROUP: ADMIRE  
FM: JANESVILLE SH                FIVE POINT LS MBR  
QUAD: ONAGA 7.5  
SEC 33 TNSP 07 S RNGE 11 E  
DATE: 08/26/1952                  COLL: YOCHELSON E\*  
CENTER OF SE1/4SEC33. SAME AS (BL)13519-PC. FIELD NUM 6 OF  
COLL DATE. SEC P-244 OF MUDGE. COLL ELY & MR MUDGE. SECS  
REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL  
BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN  
THE HUGHES CREEK.

(BL)13521-PC

POTTAWATOMIE CO, KS                SYSTEM: PERM  
SERIES: LOWER                      GROUP: ADMIRE  
FM: JANESVILLE SH                HAMLIN SH MBR  
QUAD: ONAGA 7.5  
SEC 33 TNSP 07 S RNGE 11 E  
DATE: 08/26/1952                  COLL: YOCHELSON E\*  
CENTER OF SE1/4SEC33. SAME AS  
(BL)13519-PC. FIELD NUM 7 OF COLL DATE. SEC P-244 OF MUDGE.  
LS IN HAMLIN SH, STINE SH MBR. COLL ELY & MR MUDGE. SECS  
REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL  
BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN  
THE HUGHES CREEK.

(BL)13522-PC

POTTAWATOMIE CO, KS                SYSTEM: PERM  
SERIES: LOWER                      GROUP: ADMIRE  
FM: JANESVILLE SH                HAMLIN SH MBR  
QUAD: ONAGA 7.5  
SEC 33 TNSP 07 S RNGE 11 E  
DATE: 08/26/1952                  COLL: YOCHELSON E\*  
CENTER OF SE1/4SEC33. SAME AS (BL)13519-PC. FIELD NUM 8 OF  
COLL DATE. SEC P-244 OF MUDGE. HAMLIN SH, HOUGHEN CREEK  
LS MBR. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-'  
MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS  
OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT  
PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF  
SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES  
CREEK.

(BL)13523-PC

POTTAWATOMIE CO, KS                SYSTEM: PENN  
SERIES: VIRG                        GROUP: WABAUNSEE  
FM: WOOD SIDING FM                BROWNVILLE LS MBR  
QUAD: WHEATON 7.5  
SEC 1 TNSP 06 S RNGE 10 E  
DATE: 08/26/1952                  COLL: YOCHELSON E\*  
STREAM CUT, SE1/4SW1/4SW1/4SEC1. FIELD NUM 9 OF COLL  
DATE. SEC P-245 OF MUDGE. COLL ELY & MR MUDGE. SECS  
REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL  
BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN  
THE HUGHES CREEK.

(BL)13524-PC

POTTAWATOMIE CO, KS                    SYSTEM: PERM  
SERIES: WOLF                            GROUP: ADMIRE  
FM: ONAGA SH                        ASPINWALL LS MBR  
QUAD: WHEATON 7.5  
SEC 1 TNSP 06 S RNGE 10 E  
DATE: 08/26/1952                    COLL: YOCHELSON E\*  
STREAM CUT, SE1/4SW1/4SW1/4SECI. SAME LOC AS (BL)13523-PC.  
FIELD NUM 10 OF COLL DATE. SEC P-245 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13526-PC

POTTAWATOMIE CO, KS                    SYSTEM: PERM  
SERIES: WOLF                            GROUP: ADMIRE  
FM: ONAGA SH                        ASPINWALL LS MBR  
QUAD: ONAGA 7.5  
SEC 0 TNSP RNGE  
DATE: 08/26/1952                    COLL: YOCHELSON E\*  
SAME LOC AS (BL)13525-PC. [12/1988-CARD NOT IN FILE.] FIELD NUM 12 OF COLL DATE. SEC P-246 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13527-PC

POTTAWATOMIE CO, KS                    SYSTEM: PERM  
SERIES: LOWER                        GROUP: ADMIRE  
FM: JANESVILLE SH                    FIVE POINT LS MBR  
QUAD: FLUSH 7.5  
SEC 8 TNSP 09 S RNGE 09 E  
DATE: 08/26/1952                    COLL: YOCHELSON E\*  
STREAM CUT SE1/4SW1/4SECI. FIELD NUM 13 OF COLL DATE. SEC P-247 OF MUDGE. SH BTWN LOWER & MIDDLE LIMES. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13528-PC

POTTAWATOMIE CO, KS                    SYSTEM: PERM  
SERIES: LOWER                        GROUP: ADMIRE  
FM: JANESVILLE SH                    FIVE POINT LS MBR  
QUAD: FLUSH 7.5  
SEC 8 TNSP 09 S RNGE 09 E  
DATE: 08/26/1952                    COLL: YOCHELSON E\*  
STREAM CUT SE1/4SW1/4SECI. SAME LOC AS (BL)13527-PC. FIELD NUM 14 OF COLL DATE. SEC P-247 OF MUDGE. MIDDLE LIME OF FIVE POINT LS. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13529-PC

POTTAWATOMIE CO, KS                    SYSTEM: PERM  
SERIES: LOWER                        GROUP: ADMIRE  
FM: JANESVILLE SH                    HAMLIN SH MBR  
QUAD: FLUSH 7.5  
SEC 8 TNSP 09 S RNGE 09 E  
DATE: 08/26/1952                    COLL: YOCHELSON E\*  
STREAM CUT SE1/4SW1/4SECI. SAME LOC AS (BL)13527-PC. FIELD NUM 15 OF COLL DATE. SEC P-247 OF MUDGE. LS IN HAMLIN SH (4 FT FROM BASE). COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13531-PC

POTTAWATOMIE CO, KS                    SYSTEM: PERM  
SERIES: LOWER                        GROUP: COUNCIL GROVE  
FM: BEATTIE LS                        FLORENA SH MBR  
SEC 0 TNSP RNGE  
DATE: 08/27/1952                    COLL: YOCHELSON E\*  
SAME LOC AS (BL)13530-PC. [12/1988-CARD NOT IN FILE.] FIELD NUM 2 OF COLL DATE. SEC P-248 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13532-PC

POTTAWATOMIE CO, KS                    SYSTEM: PENN  
SERIES: VIRG                            GROUP: WABAUNSEE  
FM: ZEANDALE LS                        TARKIO LS MBR  
QUAD: ONAGA 7.5  
SEC 35 TNSP 06 S RNGE 11 E  
DATE: 08/27/1952                    COLL: YOCHELSON E\*  
RD CUT SE1/4SE1/4SECI. FIELD NUM 3 OF COLL DATE. SEC P-249 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13533-PC

POTTAWATOMIE CO, KS                    SYSTEM: PENN  
SERIES: VIRG                            GROUP: WABAUNSEE  
FM: STOTLER LS                        GRANDHAVEN LS MBR  
QUAD: ONAGA NE 7.5  
SEC 28 TNSP 06 S RNGE 12 E  
DATE: 08/27/1952                    COLL: YOCHELSON E\*  
RD CUT SE1/4SW1/4NW1/4SECI. FIELD NUM 4 OF COLL DATE. SEC P-250 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13535-PC

POTTAWATOMIE CO, KS                    SYSTEM: PENN  
SERIES: VIRG                            GROUP: WABAUNSEE  
FM: WOOD SIDING FM                    NEBRASKA CITY LS MBR  
QUAD: ONAGA NE 7.5  
SEC 28 TNSP 06 S RNGE 12 E  
DATE: 08/27/1952                    COLL: YOCHELSON E\*  
SE1/4SW1/4NW1/4SECI. SAME LOC AS (BL)13533-PC. FIELD NUM 6 OF COLL DATE. SEC P-113 OF MUDGE. CANEYVILLE LS, NEBRASKA CITY MBR. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13536-PC

POTTAWATOMIE CO, KS                    SYSTEM: PENN  
SERIES: VIRG                            GROUP: WABAUNSEE  
FM: WOOD SIDING FM                    BROWNVILLE LS MBR  
SEC 0 TNSP RNGE  
DATE: 08/27/1952                    COLL: YOCHELSON E\*  
SAME LOC AS (BL)13534-PC. [12/1988-CARD NOT IN FILE.] FIELD NUM 7 OF COLL DATE. SEC P-113 OF MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13537-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: ESKRIDGE SH  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: ONAGA NE 7.5  
SEC 13 TNSP 07 S RNGE 11 E  
DATE: 08/27/1952  
COLL: YOCHELSON E\*  
NE1/4SE1/4SEC13. FIELD NUM 8 OF COLL DATE. SEC P-252 OF MUDGE. LIME LENS IN ESKRIDGE SH. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13539-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: BEATTIE LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR  
QUAD: ONAGA NE 7.5  
SEC 13 TNSP 07 S RNGE 11 E  
DATE: 08/27/1952  
COLL: YOCHELSON E\*  
NE1/4SE1/4SEC13. SAME LOC AS (BL)13537-PC. FIELD NUM 8 OF COLL DATE. SEC P-252 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13541-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: RED EAGLE LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BENNETT SH MBR  
QUAD: ONAGA NE 7.5  
SEC 0 TNSP RNGE  
DATE: 08/27/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13540-PC. [12/1988-NO CARD IN FILE FOR 13540.] FIELD NUM 12 OF COLL DATE. SEC P-253 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13544-PC

RILEY CO, KS  
SERIES: VIRG  
FM: ZEANDALE LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
MAPLE HILL LS MBR  
QUAD: WAMEGO 7.5  
SEC 6 TNSP 10 S RNGE 10 E  
DATE: 08/28/1952  
COLL: YOCHELSON E\*  
RD DITCH US HWY 24-40, SE1/4NE1/4SEC6. FIELD NUM 1 OF COLL DATE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13545-PC

RILEY CO, KS  
SERIES: VIRG  
FM: STOTLER LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
DOVER LS MBR  
QUAD: WAMEGO 7.5  
SEC 6 TNSP 10 S RNGE 10 E  
DATE: 08/28/1952  
COLL: YOCHELSON E\*  
RD DITCH US HWY 24-40, SE1/4NE1/4SEC6. SAME AS (BL)13544-PC. FIELD NUM 2 OF COLL DATE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13548-PC

RILEY CO, KS  
SERIES: LOWER  
FM: BEATTIE LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR  
SEC 0 TNSP RNGE  
DATE: 08/28/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13547-PC. [12/1988-CARD FOR 13547 NOT IN FILE.] FIELD NUM 5 OF COLL DATE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13549-PC

RILEY CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BURR LS MBR  
QUAD: MANHATTAN 7.5  
SEC 26 TNSP 10 S RNGE 07 E  
DATE: 08/28/1952  
COLL: YOCHELSON E\*  
RD CUT & QUARRY NW1/4NW1/4SEC26. FIELD NUM 6 OF COLL DATE. SEC P-239 OF MUDGE. GRENOLA LS, TOP OF BURR LS. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13550-PC

RILEY CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR  
QUAD: MANHATTAN 7.5  
SEC 26 TNSP 10 S RNGE 07 E  
DATE: 08/28/1952  
COLL: YOCHELSON E\*  
RD CUT & QUARRY NW1/4NW1/4SEC26. SAME AS (BL)13549-PC. FIELD NUM 7 OF COLL DATE. SEC P-236 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13551-PC

RILEY CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR  
QUAD: MANHATTAN 7.5  
SEC 26 TNSP 10 S RNGE 07 E  
DATE: 08/28/1952  
COLL: YOCHELSON E\*  
RD CUT & QUARRY NW1/4NW1/4SEC26. SAME AS (BL)13549-PC. FIELD NUM 8 OF COLL DATE. SEC P-236 OF MUDGE. GRENOLA LS, SH IN UNIT E OF NEVA LS. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13552-PC

RILEY CO, KS  
SERIES: LOWER  
FM: ESKRIDGE SH  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: MANHATTAN 7.5  
SEC 26 TNSP 10 S RNGE 07 E  
DATE: 08/28/1952  
COLL: YOCHELSON E\*  
RD CUT & QUARRY NW1/4NW1/4SEC26. SAME AS (BL)13549-PC. FIELD NUM 9 OF COLL DATE. SEC P-236 OF MUDGE. TWO LIME LENSES IN ESKRIDGE SH. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13553-PC

RILEY CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
SALLYARDS LS MBR

QUAD: MANHATTAN 7.5  
SEC 7 TNSP 10 S RNGE 08 E

DATE: 08/28/1952 COLL: YOCHELSON E\*  
RD CUT SW1/4SE1/4SEC7. FIELD NUM 10 OF COLL DATE. SEC  
P-235 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO  
AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13554-PC

RILEY CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BURR LS MBR

QUAD: MANHATTAN 7.5  
SEC 7 TNSP 10 S RNGE 08 E

DATE: 08/28/1952 COLL: YOCHELSON E\*  
RD CUT SW1/4SE1/4SEC7. SAME AS (BL)13553-PC. FIELD  
NUM 12 OF COLL DATE. SEC P-235 OF MUDGE. GRENOLA LS, SH  
MBR BTWN UPPER & LOWER LIMES OF BURR LS MBR. COLL ELY  
& MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13556-PC

RILEY CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR

QUAD: RESERVE 7.5  
SEC 6 TNSP 2 S RNGE 17 E

DATE: 08/28/1952 COLL: YOCHELSON E\*  
SAME LOC AS (BL)13427-PC. (STREAM BANK-BRANCH OF EUCHRE  
CK.) FIELD NUM 13 OF COLL DATE. SEC P-235 B OF MUDGE. COLL  
ELY & MR MUDGE. COUNTY NEEDS TO BE VERIFIED; SEE

(BL) 13427-PC. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13557-PC

WABAUNSEE CO, KS  
SERIES: VIRG  
FM: ROOT SH

SYSTEM: PENN  
GROUP: WABAUNSEE  
JIM CREEK LS MBR

QUAD: WILLARD 7.5  
SEC 29 TNSP 11 S RNGE 13 E

DATE: 08/30/1952 COLL: YOCHELSON E\*  
PASTURE GULLY, NE1/4SW1/4SEC29. FIELD NUM 1 OF COLL DATE.  
SEC P-81 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED  
TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13558-PC

WABAUNSEE CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM

SYSTEM: PENN  
GROUP: WABAUNSEE  
NEBRASKA CITY LS MBR

QUAD: WILLARD 7.5  
SEC 29 TNSP 11 S RNGE 13 E

DATE: 08/30/1952 COLL: YOCHELSON E\*  
PASTURE GULLY, NE1/4SW1/4SEC29. SAME LOC AS (BL)13557-PC.  
FIELD NUM 2 OF COLL DATE. SEC P-81 OF MUDGE. CANEYVILLE  
LS. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY  
MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13559-PC

WABAUNSEE CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM

SYSTEM: PENN  
GROUP: WABAUNSEE  
BROWNVILLE LS MBR

QUAD: WILLARD 7.5  
SEC 28 TNSP 11 S RNGE 13 E

DATE: 08/30/1952 COLL: YOCHELSON E\*  
PASTURE GULLY NE1/4SW1/4SEC29. FIELD NUM 3 OF COLL DATE.  
SEC P-81 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED  
TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13561-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
AMERICUS LS MBR

SEC 0 TNSP RNGE

DATE: 08/30/1952 COLL: YOCHELSON E\*  
SAME LOC AS (BL)13560-PC. [12/1988-CARD FOR

(BL)13560-PC NOT IN FILE.] (

(BL)13567-PC IS 100 YDS E OF THIS LOC.) FIELD NUM 5 OF COLL  
DATE. SEC P-76 OF MUDGE. COLL ELY & MR MUDGE. SECS  
REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL  
BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN  
THE HUGHES CREEK.

(BL)13562-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR

SEC 0 TNSP RNGE

DATE: 08/30/1952 COLL: YOCHELSON E\*  
SAME LOC AS (BL)13560-PC. [12/1988-CARD FOR

(BL)13560-PC NOT IN FILE.] (

(BL)13567-PC IS 100 YDS E OF THIS LOC.) FIELD NUM 6 OF COLL  
DATE. SEC P-76 UNIT A OF MUDGE. COLL ELY & MR MUDGE.  
SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING  
GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC  
REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK  
BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT  
W/IN THE HUGHES CREEK.

(BL)13564-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR

SEC 0 TNSP RNGE

DATE: 08/30/1952 COLL: YOCHELSON E\*  
SAME LOC AS (BL)13560-PC. [12/1988-CARD FOR

(BL)13560-PC NOT IN FILE.] (

(BL)13567-PC IS 100 YDS E OF THIS LOC.) FIELD NUM 8 OF COLL  
DATE. SEC P-76 UNIT C OF MUDGE. COLL ELY & MR MUDGE.  
SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING  
GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC  
REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK  
BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT  
W/IN THE HUGHES CREEK.

(BL)13565-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR

SEC 0 TNSP RNGE

DATE: 08/30/1952 COLL: YOCHELSON E\*  
SAME LOC AS (BL)13560-PC. [12/1988-CARD FOR (BL)13560-PC NOT  
IN FILE.] (BL)13567-PC IS 100 YDS E OF THIS LOC.) FIELD NUM 9  
OF COLL DATE. SEC P-76 UNIT D OF MUDGE. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.



(BL)13566-PC

WABAUNSEE CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: COUNCIL GROVE  
FM: FORAKER LS HUGHES CREEK SH MBR  
SEC 0 TNSP R NGE  
DATE: 08/30/1952 COLL: YOCHELSON E\*  
SAME LOC AS (BL)13560-PC. [12/1988-CARD FOR (BL)13560-PC NOT  
IN FILE.] (BL)13567-PC IS 100 YDS E OF THIS LOC.) FIELD NUM 10  
OF COLL DATE. SEC P-76 UNIT E OF MUDGE. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13567-PC

WABAUNSEE CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: COUNCIL GROVE  
FM: FORAKER LS LONG CREEK LS MBR  
QUAD: MCFARLAND 7.5  
SEC 30 TNSP 11 S R NGE 12 E  
DATE: 08/30/1952 COLL: YOCHELSON E\*  
RD CUT N SIDE ST HWY 10. SW1/4SW1/4SEC30. 100 YDS E OF  
(BL)13560-PC. CLAY LENS IN MIDDLE PART OF LONG CREEK LS  
MBR. FIELD NUM 11 OF COLL DATE. SEC P-76 OF MUDGE. COLL  
ELY & MR MUDGE. SECS REFERRED TO AS 'P' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13571-PC

WABAUNSEE CO, KS SYSTEM: PERM  
SERIES: WOLF GROUP: UNASSIGNED  
FORMATION: UNASSIGNED FALLS CITY LS MBR  
QUAD: MCFARLAND 7.5  
SEC 19 TNSP 11 S R NGE 12 E  
DATE: 08/30/1952 COLL: YOCHELSON E\*  
RD DITCH SE1/4SW1/4SEC19. FIELD NUM 15 OF COLL DATE. SEC  
P-41 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS  
'P' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13572-PC

WABAUNSEE CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: ADMIRE  
FM: JANESVILLE SH WEST BRANCH SH MBR  
QUAD: MCFARLAND 7.5  
SEC 19 TNSP 11 S R NGE 12 E  
DATE: 08/30/1952 COLL: YOCHELSON E\*  
RD DITCH SE1/4SW1/4SEC19. SAME LOC AS (BL)13571-PC. FIELD  
NUM 16 OF COLL DATE. SEC P-41 OF MUDGE. LS IN WEST  
BRANCH SH. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P'  
MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS  
OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT  
PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF  
SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES  
CREEK.

(BL)13573-PC

WABAUNSEE CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: ADMIRE  
FM: JANESVILLE SH FIVE POINT LS MBR  
QUAD: MCFARLAND 7.5  
SEC 19 TNSP 11 S R NGE 12 E  
DATE: 08/30/1952 COLL: YOCHELSON E\*  
RD DITCH SE1/4SW1/4SEC19. SAME LOC AS (BL)13571-PC. FIELD  
NUM 17 OF COLL DATE. SEC P-41 OF MUDGE. SH BTWN UPPER &  
LOWER LIMES OF FIVE POINT LS. COLL ELY & MR MUDGE. SECS  
REFERRED TO AS 'P' MEAS BY MR MUDGE, ENGINEERING GEOL  
BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN  
THE HUGHES CREEK.

(BL)13574-PC

POTTAWATOMIE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: ROOT SH JIM CREEK LS MBR  
QUAD: LACLEDE 7.5  
SEC 24 TNSP 09 S R NGE 10 E  
DATE: 08/31/1952 COLL: YOCHELSON E\*  
STREAM CUT SW1/4NE1/4SEC24. FIELD NUM 1 OF COLL DATE.  
SEC P-254 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED  
TO AS 'P' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13575-PC

POTTAWATOMIE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: WOOD SIDING FM BROWNVILLE LS MBR  
QUAD: LACLEDE 7.5  
SEC 24 TNSP 09 S R NGE 10 E  
DATE: 08/31/1952 COLL: YOCHELSON E\*  
RD DITCH SW1/4NE1/4SEC24. FIELD NUM 2 OF COLL DATE. SEC P-  
254 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS  
'P' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13576-PC

POTTAWATOMIE CO, KS SYSTEM: PERM  
SERIES: WOLF GROUP: ADMIRE  
FM: ONAGA SH ASPINWALL LS MBR  
QUAD: LACLEDE 7.5  
SEC 5 TNSP 09 S R NGE 11 E  
DATE: 08/31/1952 COLL: YOCHELSON E\*  
FARM YARD SW1/4SE1/4SECS. LOWER LS & SH OF ASPINWALL  
LS. FIELD NUM 3 OF COLL DATE. SEC P-255 OF MUDGE. COLL  
ELY & MR MUDGE. SECS REFERRED TO AS 'P' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13577-PC

POTTAWATOMIE CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: COUNCIL GROVE  
FM: GRENOLA LS SALLYARDS LS MBR  
QUAD: LACLEDE 7.5  
SEC 22 TNSP 08 S R NGE 11 E  
DATE: 08/31/1952 COLL: YOCHELSON E\*  
RD CUT & DITCH CENTER SEC22. FIELD NUM 4 OF COLL DATE.  
SEC P-256 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED  
TO AS 'P' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13578-PC

POTTAWATOMIE CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: COUNCIL GROVE  
FM: GRENOLA LS BURR LS MBR  
QUAD: LACLEDE 7.5  
SEC 22 TNSP 08 S R NGE 11 E  
DATE: 08/31/1952 COLL: YOCHELSON E\*  
RD CUT & DITCH CENTER SEC22. SAME LOC AS (BL)13577-PC.  
FIELD NUM 5 OF COLL DATE. SEC P-256 OF MUDGE. LOWER LS &  
SH OF BURR LS MBR. COLL ELY & MR MUDGE. SECS REFERRED  
TO AS 'P' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13579-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BURR LS MBR

QUAD: LACLEDE 7.5  
SEC 22 TNSP 08 S RNGE 11 E

DATE: 08/31/1952 COLL: YOCHELSON E\*  
RD CUT & DITCH CENTER SEC22. SAME LOC AS (BL)13577-PC. FIELD NUM 6 OF COLL DATE. SEC P-256 OF MUDGE. UPPER LIME OF BURR LS MBR. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13580-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR

QUAD: LACLEDE 7.5  
SEC 22 TNSP 08 S RNGE 11 E

DATE: 08/31/1952 COLL: YOCHELSON E\*  
RD CUT & DITCH CENTER SEC22. SAME LOC AS (BL)13577-PC. FIELD NUM 7 OF COLL DATE. SEC P-256 (UNIT B7) OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13581-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
AMERICUS LS MBR

QUAD: LACLEDE 7.5  
SEC 21 TNSP 09 S RNGE 11 E

DATE: 08/31/1952 COLL: YOCHELSON E\*  
RD DITCH NW1/4SW1/4SEC21. FIELD NUM 8 OF COLL DATE. SEC P-257 OF MUDGE. MIDDLE LIME OF AMERICUS LS MBR. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13582-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
AMERICUS LS MBR

QUAD: LACLEDE 7.5  
SEC 2 TNSP 09 S RNGE 11 E

DATE: 08/31/1952 COLL: YOCHELSON E\*  
RD DITCH NW1/4SW1/4SEC21. SAME LOC AS (BL)13581-PC. FIELD NUM 9 OF COLL DATE. SEC P-257 OF MUDGE. UPPER LIME OF AMERICUS LS MBR. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13583-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR

QUAD: LACLEDE 7.5  
SEC 21 TNSP 09 S RNGE 11 E

DATE: 08/31/1952 COLL: YOCHELSON E\*  
RD DITCH NW1/4SW1/4SEC21. SAME LOC AS (BL)13581-PC. FIELD NUM 10 OF COLL DATE. SEC P-257, LOWER SH OF UNIT A OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13584-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR

QUAD: LACLEDE 7.5  
SEC 21 TNSP 09 S RNGE 11 E

DATE: 08/31/1952 COLL: YOCHELSON E\*  
[12/1988-COUNTY, COMMENTS, SEC, TNSP, & RNGE, QUAD, FIELDNUM & DATECOLL ARE SPECULATION BASED ON NUMBERS IN SEQ; NO CARD.] RD DITCH NW1/4SW1/4SEC21. SAME LOC AS (BL)13581-PC. FIELD NUM 11 OF COLL DATE. SEC P-257 UNIT B OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13585-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR

QUAD: LACLEDE 7.5  
SEC 21 TNSP 09 S RNGE 11 E

DATE: 08/31/1952 COLL: YOCHELSON E\*  
RD DITCH NW1/4SW1/4SEC21. SAME LOC AS (BL)13581-PC. FIELD NUM 12 OF COLL DATE. SEC P-257, UNIT C OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13586-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR

QUAD: LACLEDE 7.5  
SEC 21 TNSP 09 S RNGE 11 E

DATE: 08/31/1952 COLL: YOCHELSON E\*  
RD DITCH NW1/4SW1/4SEC21. SAME LOC AS (BL)13581-PC. FIELD NUM 14 OF COLL DATE. SEC P-257, UNIT D OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13587-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR

QUAD: LACLEDE 7.5  
SEC 21 TNSP 09 S RNGE 11 E

DATE: 08/31/1952 COLL: YOCHELSON E\*  
RD DITCH NW1/4SW1/4SEC21. SAME LOC AS (BL)13581-PC. FIELD NUM 14 OF COLL DATE. SEC P-257, UNIT E OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13588-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: JANESVILLE SH

SYSTEM: PERM  
GROUP: ADMIRE  
FIVE POINT LS MBR

QUAD: BELVUE 7.5  
SEC 27 TNSP 09 S RNGE 11 E

DATE: 08/31/1952 COLL: YOCHELSON E\*  
RD SIDE SE1/4NE1/4NW1/4SEC7. FIELD NUM 15 OF COLL DATE. SEC P-258 OF MUDGE. SH BTWN UPPER & LOWER LIMES OF FIVE POINT LS. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13590-PC

SHAWNEE CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM  
SYSTEM: PENN  
GROUP: WABAUNSEE  
NEBRASKA CITY LS MBR  
SEC 0 TNSP RNGE  
DATE: 08/31/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13589-PC. [12/1988-CARD FOR (BL)13589-PC NOT IN FILE.] FIELD NUM 17 OF COLL DATE. SEC P-114 OF MUDGE. CANEYVILLE LS. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P.' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13591-PC

SHAWNEE CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM  
SYSTEM: PENN  
GROUP: WABAUNSEE  
BROWNVILLE LS MBR  
SEC 0 TNSP RNGE  
DATE: 08/31/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13589-PC. FIELD NUM 18 OF COLL DATE. SEC P-114 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P.' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13593-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 09/01/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13592-PC. [12/1988-CARD FOR (BL)13592-PC NOT IN FILE.] FIELD NUM 2 OF COLL DATE. SEC P-261, LOWER SH OF UNIT B OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P.' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13594-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 09/01/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13592-PC. [12/1988-CARD FOR (BL)13592-PC NOT IN FILE.] FIELD NUM 3 OF COLL DATE. SEC P-261, UNIT B1 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P.' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13595-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 09/01/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13592-PC. [12/1988-CARD FOR (BL)13592-PC NOT IN FILE.] FIELD NUM 4 OF COLL DATE. SEC P-261, UNIT B2 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P.' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13596-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 09/01/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13592-PC. [12/1988-CARD FOR (BL)13592-PC NOT IN FILE.] FIELD NUM 5 OF COLL DATE. SEC P-261, UNIT D OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P.' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13597-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 09/01/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13592-PC. [12/1988-CARD FOR (BL)13592-PC NOT IN FILE.] FIELD NUM 6 OF COLL DATE. SEC P-261, UNIT E OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P.' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13598-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BURR LS MBR  
QUAD: ALMA 7.5  
SEC 27 TNSP 11 S RNGE 10 E  
DATE: 09/01/1952  
COLL: YOCHELSON E\*  
RD CUT NE1/4SE1/4SEC17. FIELD NUM 7 OF COLL DATE. SEC P-75 OF MUDGE. LOWER LS OF BURR LS MBR. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P.' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13600-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR  
QUAD: ALMA 7.5  
SEC 27 TNSP 11 S RNGE 10 E  
DATE: 09/01/1952  
COLL: YOCHELSON E\*  
RD CUT NE1/4SW1/4SEC27. SAME AS (BL)13598-PC. FIELD NUM 9 OF COLL DATE. SEC P-75 (UNIT B7) OF MUDGE. LOWER SH OF NEVA LS MBR. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P.' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13601-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR  
QUAD: ALMA 7.5  
SEC 27 TNSP 11 S RNGE 10 E  
DATE: 09/01/1952  
COLL: YOCHELSON E\*  
RD CUT NE1/4SE1/4SEC27. SAME LOC AS (BL)13598-PC. FIELD NUM 10 OF COLL DATE. SEC P-75 OF MUDGE. UPPER SH OF NEVA LS MBR. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P.' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13602-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: RED EAGLE LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BENNETT SH MBR  
QUAD: ALMA 7.5  
SEC 26 TNSP 11 S RNGE 10 E  
DATE: 09/01/1952  
COLL: YOCHELSON E\*  
NE1/4SW1/4SW1/4SEC26. FIELD NUM 11 OF COLL DATE. SEC P-147 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13605-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: JANESVILLE SH  
SYSTEM: PERM  
GROUP: ADMIRE  
WEST BRANCH SH MBR  
QUAD: MCFARLAND 7.5  
SEC 32 TNSP 11 S RNGE 11 E  
DATE: 09/01/1952  
COLL: YOCHELSON E\*  
STREAM CUT NE1/4SW1/4SEC32. FIELD NUM 14 OF COLL DATE. SEC P-262 OF MUDGE. LS IN WEST BRANCH SH. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13606-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: JANESVILLE SH  
SYSTEM: PERM  
GROUP: ADMIRE  
FIVE POINT LS MBR  
QUAD: MCFARLAND 7.5  
SEC 32 TNSP 11 S RNGE 11 E  
DATE: 09/01/1952  
COLL: YOCHELSON E\*  
STREAM CUT NE1/4SW1/4SEC32. SAME LOC AS (BL)13605-PC. FIELD NUM 15 OF COLL DATE. SEC P-262 OF MUDGE. LOWER SH OF FIVE POINT LS. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13608-PC

JACKSON CO, KS  
SERIES: LOWER  
FM: BEATTIE LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
COTTONWOOD LS MBR  
QUAD: HAVENSVILLE 7.5  
SEC 1 TNSP 06 S RNGE 12 E  
DATE: 09/02/1952  
COLL: YOCHELSON E\*  
RD CUT NE1/4NE1/4SEC1. FIELD NUM 2 OF COLL DATE. SEC P-264 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13609-PC

JACKSON CO, KS  
SERIES: LOWER  
FM: BEATTIE LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR  
QUAD: HAVENSVILLE 7.5  
SEC 1 TNSP 06 S RNGE 12 E  
DATE: 09/02/1952  
COLL: YOCHELSON E\*  
RD CUT NE1/4NE1/4SEC1. SAME LOC AS (BL)13608-PC. FIELD NUM 3 OF COLL DATE. SEC P-264 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13611-PC

NEMAHA CO, KS  
SERIES: VIRG  
FM: ROOT SH  
SYSTEM: PENN  
GROUP: WABAUNSEE  
FALLS CITY LS MBR  
QUAD: BERN 7.5  
SEC 23 TNSP 01 S RNGE 13 E  
DATE: 09/02/1952  
COLL: YOCHELSON E\*  
STREAM CUT SE1/4SW1/4SEC23. FIELD NUM 5 OF COLL DATE. SEC P-124 OF MUDGE. CALC ZN NEAR TOP OF FRIEDRICH SH. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13612-PC

NEMAHA CO, KS  
SERIES: VIRG  
FM: ROOT SH  
SYSTEM: PENN  
GROUP: WABAUNSEE  
FRIEDRICH SH MBR  
QUAD: BERN 7.5  
SEC 23 TNSP 01 S RNGE 13 E  
DATE: 09/02/1952  
COLL: YOCHELSON E\*  
STREAM CUT SE1/4SW1/4SEC23. SAME LOC AS (BL)13611-PC. FIELD NUM 6 OF COLL DATE. SEC P-125 OF MUDGE. UPPERMOST BED OF FRIEDRICH SH. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13613-PC

NEMAHA CO, KS  
SERIES: VIRG  
FM: ROOT SH  
SYSTEM: PENN  
GROUP: WABAUNSEE  
JIM CREEK LS MBR  
QUAD: BERN 7.5  
SEC 23 TNSP 01 S RNGE 13 E  
DATE: 09/02/1952  
COLL: YOCHELSON E\*  
STREAM CUT SE1/4SW1/4SEC23. SAME LOC AS (BL)13611-PC. FIELD NUM 7 OF COLL DATE. SEC P-125 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13615-PC

NEMAHA CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM  
SYSTEM: PENN  
GROUP: WABAUNSEE  
NEBRASKA CITY LS MBR  
QUAD: BERN 7.5  
SEC 23 TNSP 01 S RNGE 13 E  
DATE: 09/02/1952  
COLL: YOCHELSON E\*  
STREAM CUT SE1/4SW1/4SEC23. SAME LOC AS (BL)13611-PC. FIELD NUM 9 OF COLL DATE. SEC P-125 OF MUDGE. CANEYVILLE LS; NEBRASKA CITY LS MBR. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13616-PC

NEMAHA CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM  
SYSTEM: PENN  
GROUP: WABAUNSEE  
BROWNVILLE LS MBR  
QUAD: BERN 7.5  
SEC 23 TNSP 01 S RNGE 13 E  
DATE: 09/02/1952  
COLL: YOCHELSON E\*  
STREAM CUT SE1/4SW1/4SEC23. SAME LOC AS (BL)13611-PC. FIELD NUM 10 OF COLL DATE. SEC P-126 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13617-PC

NEMAHA CO, KS  
SERIES: WOLF  
FM: ROOT SH?

SYSTEM: PERM  
GROUP: WABAUNSEE  
FALLS CITY LS MBR

QUAD: BERN 7.5

SEC 1 TNSP 02 S RNGE 13 E

COLL: YOCHELSON E\*

DATE: 09/02/1952  
STREAM CUT SW1/4NW1/4SEC1. FIELD NUM 11 OF COLL DATE.  
SEC P-135 OF MUDGE. UPPER LS IN FALLS CITY. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13619-PC

NEMAHA CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR

QUAD: BERN 7.5

SEC 1 TNSP 02 S RNGE 03 E

COLL: YOCHELSON E\*

DATE: 09/02/1952  
STREAM CUT NE1/4SW1/4SEC1. FIELD NUM 13 OF COLL DATE.  
SEC P-132 UNIT D1 OF MUDGE. COLL ELY & MR MUDGE. SECS  
REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL  
BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN  
THE HUGHES CREEK.

(BL)13620-PC

NEMAHA CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR

QUAD: BERN 7.5

SEC 1 TNSP 02 S RNGE 03 E

COLL: YOCHELSON E\*

DATE: 09/02/1952  
STREAM CUT NE1/4SW1/4SEC1. SAME LOC AS (BL)13619-PC.  
FIELD NUM 14 OF COLL DATE. SEC P-132 UNIT D2 OF MUDGE.  
COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13621-PC

NEMAHA CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR

QUAD: BERN 7.5

SEC 1 TNSP 02 S RNGE 03 E

COLL: YOCHELSON E\*

DATE: 09/02/1952  
STREAM CUT NE1/4SW1/4SEC1. SAME LOC AS (BL)13619-PC.  
FIELD NUM 15 OF COLL DATE. SEC P-132 UNITS E-F OF MUDGE.  
COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13623-PC

NEMAHA CO, KS  
SERIES: LOWER  
FM: RED EAGLE LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BENNETT SH MBR

QUAD: BERN 7.5

SEC 1 TNSP 02 S RNGE 03 E

COLL: YOCHELSON E\*

DATE: 09/02/1952  
STREAM CUT NE1/4SW1/4SEC1. SAME LOC AS (BL)13619-PC.  
FIELD NUM 17 OF COLL DATE. SEC P-132 OF MUDGE. COLL ELY &  
MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13625-PC

NEMAHA CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
SALLYARDS LS MBR

QUAD: BERN 7.5

SEC 1 TNSP 02 S RNGE 13 E

COLL: YOCHELSON E\*

DATE: 09/02/1952  
STREAM CUT NW1/4SE1/4SEC1. FIELD NUM 19 OF COLL DATE.  
SEC P-131 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED  
TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13626-PC

NEMAHA CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BURR LS MBR

QUAD: BERN 7.5

SEC 1 TNSP 02 S RNGE 13 E

COLL: YOCHELSON E\*

DATE: 09/02/1952  
STREAM CUT NW1/4SE1/4SEC1. SAME LOC AS (BL)13625-PC.  
FIELD NUM 20 OF COLL DATE. GRENOLA LS; UPPER LLIME OF  
BURR LS MBR. COLL ELY & MR MUDGE. SECS REFERRED TO AS  
'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13627-PC

NEMAHA CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BURR LS MBR

QUAD: BERN 7.5

SEC 1 TNSP 02 S RNGE 13 E

COLL: YOCHELSON E\*

DATE: 09/02/1952  
STREAM CUT NW1/4SE1/4SEC1. SAME LOC AS (BL)13625-PC.  
FIELD NUM 21 OF COLL DATE. GRENOLA LS; UPPER SURFACE OF  
UPPER LLIME OF BURR LS MBR. COLL ELY & MR MUDGE. SECS  
REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL  
BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN  
THE HUGHES CREEK.

(BL)13628-PC

NEMAHA CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR

QUAD: ST BENEDICT 7.5

SEC 7 TNSP 02 S RNGE 13 E

COLL: YOCHELSON E\*

DATE: 09/02/1952  
STREAM CUT NE1/4SW1/4SEC7. FIELD NUM 22 OF COLL DATE.  
(SEC P-130 UNIT A OF MUDGE?) COLL ELY & MR MUDGE. SECS  
REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL  
BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN  
THE HUGHES CREEK.

(BL)13629-PC

NEMAHA CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR

QUAD: ST BENEDICT 0.0

SEC 7 TNSP 02 S RNGE 13 E

COLL: YOCHELSON E\*

DATE: 09/02/1952  
STREAM CUT NE1/4SW1/4SEC7. SAME LOC AS (BL)13628-PC.  
FIELD NUM 23 OF COLL DATE. SEC P-130 UNIT D OF MUDGE.  
GRENOLA LS; MID SH OF NEVA LS MBR. COLL ELY & MR MUDGE.  
SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING  
GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC  
REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK  
BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT  
W/IN THE HUGHES CREEK.

(BL)13631-PC

NEMAHA CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR

QUAD: ST BENEDICT 7.5  
SEC 7 TNSP 02 S RNGE 13 E

DATE: 09/02/1952 COLL: YOCHELSON E\*  
STREAM CUT NE1/4SW1/4SEC7. SAME LOC AS (BL)13628-PC.  
FIELD NUM 25 OF COLL DATE. SEC P-130 SH IN LOWER E OF  
MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-'  
MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS  
OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT  
PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF  
SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES  
CREEK.

(BL)13632-PC

NEMAHA CO, KS  
SERIES: LOWER  
FM: BEATTIE LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
COTTONWOOD LS MBR

QUAD: BERN 7.5  
SEC 1 TNSP 02 S RNGE 13 E

DATE: 09/02/1952 COLL: YOCHELSON E\*  
SPILLWAY AT SABETHA CITY LAKE, NW1/4SE1/4NE1/4SEC1. FIELD  
NUM 26 OF COLL DATE. SEC P-137 OF MUDGE. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-'. MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13633-PC

NEMAHA CO, KS  
SERIES: LOWER  
FM: BEATTIE LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR

QUAD: BERN 7.5  
SEC 1 TNSP 02 S RNGE 13 E

DATE: 09/02/1952 COLL: YOCHELSON E\*  
SPILLWAY AT SABETHA CITY LAKE, NE1/4SE1/4NE1/4SEC1. SAME  
AS (BL)13632-PC. FIELD NUM 27 OF COLL DATE. SEC P-137 OF  
MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-'  
MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS  
OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT  
PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF  
SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES  
CREEK.

(BL)13635-PC

SHAWNEE CO, KS  
SERIES: VIRG  
FM: PILLSBURY SH

SYSTEM: PENN  
GROUP: WABAUNSEE  
MEMBER: UNASSIGNED

QUAD: ROSSVILLE 7.5  
SEC 22 TNSP 10 S RNGE 13 E

DATE: 09/03/1952 COLL: YOCHELSON E\*  
RD CUT NW1/4NE1/4SEC22. FIELD NUM 1 OF COLL DATE. SEC P-  
265 OF MUDGE. UPPER 2.2 FT OF LANGDON SH. COLL ELY & MR  
MUDGE. PILLSBURY SH FORMERLY CALLED 'LANGDON' PER KS  
GEOL SURVEY BULL 189, 1986. SECS REFERRED TO AS 'P-'. MEAS  
BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS  
OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT  
PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF  
SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES  
CREEK.

(BL)13639-PC

JACKSON CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM

SYSTEM: PENN  
GROUP: WABAUNSEE  
NEBRASKA CITY LS MBR

QUAD: SOLDIER CK SW 7.5  
SEC 19 TNSP 09 S RNGE 14 E

DATE: 09/03/1952 COLL: YOCHELSON E\*  
RD DITCH SW1/4NW1/4SEC19. FIELD NUM 5 OF COLL DATE. SEC  
P-33 OF MUDGE. CANEYVILLE LS, NEBRASKA CITY MBR. COLL  
ELY & MR MUDGE. SECS REFERRED TO AS 'P-'. MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13641-PC

JACKSON CO, KS  
SERIES: LOWER  
FM: JANESVILLE SH

SYSTEM: PERM  
GROUP: ADMIRE  
FIVE POINT LS MBR

QUAD: SOLDIER CK SW 7.5  
SEC 15 TNSP 09 S RNGE 13 E

DATE: 09/03/1952 COLL: YOCHELSON E\*  
RD DITCH NW1/4SW1/4SW1/4SEC15. FIELD NUM 7 OF COLL DATE.  
SEC P-268 OF MUDGE. SH BTWN UPPER & LOWER LIMES OF FIVE  
POINT LS. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-'  
MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS  
OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT  
PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF  
SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES  
CREEK.

(BL)13642-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
SALLYARDS LS MBR

QUAD: ST MARYS 7.5  
SEC 34 TNSP 09 S RNGE 12 E

DATE: 09/03/1952 COLL: YOCHELSON E\*  
RD CUT W SIDE ST HWY 63, NE1/4SW1/4SEC34. FIELD NUM 8 OF  
COLL DATE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-'  
MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS  
OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT  
PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF  
SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES  
CREEK.

(BL)13644-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR

QUAD: EMMETT 7.5  
SEC 23 TNSP 08 S RNGE 12 E

DATE: 09/04/1952 COLL: YOCHELSON E\*  
RD DITCH, SW1/4SE1/4SE1/4SEC23. FIELD NUM 1 OF COLL DATE.  
SEC P-269 UNIT A2 OR LS IN MIDDLE OF MUDGE. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-'. MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13645-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR

QUAD: EMMETT 7.5  
SEC 23 TNSP 08 S RNGE 12 E

DATE: 09/04/1952 COLL: YOCHELSON E\*  
RD DITCH, SW1/4SE1/4SE1/4SEC23. SAME AS (BL)13644-PC. FIELD  
NUM 2 OF COLL DATE. SEC P-269 UNIT C OF MUDGE. COLL ELY &  
MR MUDGE. SECS REFERRED TO AS 'P-'. MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13648-PC

JACKSON CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR

SEC 0 TNSP RNGE

DATE: 09/04/1952 COLL: YOCHELSON E\*  
SAME AS (BL)13646-PC. [12/1988-

(BL)13646-PC NOT IN CARD FILE.] FIELD NUM 5 OF COLL DATE.  
SEC P-270. LOWER LS UNIT OF A2 OF MUDGE. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-'. MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13649-PC

JACKSON CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 09/04/1952  
COLL: YOCHELSON E\*  
SAME AS (BL)13646-PC. [12/1988-(BL)13646-PC NOT IN CARD FILE.]  
FIELD NUM 6 OF COLL DATE. SEC P-270, UPPER LS UNIT OF A2 OF  
MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-'  
MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS  
OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT  
PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF  
SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES  
CREEK.

(BL)13650-PC

JACKSON CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 09/04/1952  
COLL: YOCHELSON E\*  
SAME AS (BL)13646-PC. [12/1988-  
(BL)13646-PC NOT IN CARD FILE.] FIELD NUM 7 OF COLL DATE.  
SEC P-270 UNIT B2 OF MUDGE. COLL ELY & MR MUDGE. SECS  
REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL  
BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN  
THE HUGHES CREEK.

(BL)13651-PC

JACKSON CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 09/04/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13646-PC. [12/1988-CARD FOR (BL)13646-PC NOT  
IN FILE.] FIELD NUM 8 OF COLL DATE. SEC P-270 UNIT C OF  
MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-'  
MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS  
OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT  
PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF  
SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES  
CREEK.

(BL)13652-PC

JACKSON CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 09/04/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13646-PC. [12/1988-CARD FOR (BL)13646-PC NOT  
IN FILE.] FIELD NUM 9 OF COLL DATE. SEC P-270 UNIT E OF  
MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-'  
MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS  
OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT  
PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF  
SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES  
CREEK.

(BL)13653-PC

JACKSON CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 09/04/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13646-PC. [12/1988-CARD FOR (BL)13646-PC NOT  
IN FILE.] FIELD NUM 10 OF COLL DATE. SEC P-270 UNIT F OF  
MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-'  
MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS  
OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT  
PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF  
SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES  
CREEK.

(BL)13656-PC

JACKSON CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM  
SYSTEM: PENN  
GROUP: WABAUNSEE  
NEBRASKA CITY LS MBR  
SEC 0 TNSP RNGE  
DATE: 09/04/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13655-PC. [12/1988-(BL)13655-PC NOT IN CARD  
FILE.] FIELD NUM 13 OF COLL DATE. SEC P-271 OF MUDGE.  
CANEVILLE LS; NEBRASKA CITY MBR. COLL ELY & MR MUDGE.  
SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING  
GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC  
REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK  
BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT  
W/IN THE HUGHES CREEK.

(BL)13658-PC

JACKSON CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR  
QUAD: SOLDIER CK NW 7.5  
SEC 3 TNSP 07 S RNGE 13 E  
DATE: 09/04/1952  
COLL: YOCHELSON E\*  
RD CUT ST HWY 62, NW1/4SW1/4SEC3. FIELD NUM 15 OF  
COLL DATE. SEC P-273 (UNIT? B) OF MUDGE. GRENOLA LS;  
LOWER SH OF NEVA LS MBR. COLL ELY & MR MUDGE. SECS  
REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL  
BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN  
THE HUGHES CREEK.

(BL)13661-PC

JACKSON CO, KS  
SERIES: LOWER  
FM: BEATTIE LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR  
SEC 0 TNSP RNGE  
DATE: 09/04/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13660-PC. [12/1988-(BL)13660-PC NOT IN CARD  
FILE.] FIELD NUM 18 OF COLL DATE. COLL ELY & MR MUDGE.  
SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING  
GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC  
REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK  
BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT  
W/IN THE HUGHES CREEK.

(BL)13662-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
AMERICUS LS MBR  
QUAD: KEENE 7.5  
SEC 21 TNSP 13 S RNGE 12 E  
DATE: 09/05/1952  
COLL: YOCHELSON E\*  
RD DITCH SW1/4NE1/4NE1/4SEC21. FIELD NUM 1 OF COLL DATE.  
SEC P-186 OF MUDGE. LOWER LIME OF AMERICUS LS. COLL ELY  
& MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13664-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
QUAD: KEENE 7.5  
SEC 22 TNSP 13 S RNGE 12 E  
DATE: 09/05/1952  
COLL: YOCHELSON E\*  
RD DITCH SW1/4NW1/4NW1/4SEC22. FIELD NUM 3 OF COLL DATE.  
SEC P-185 BED A (UNIT A?) OF MUDGE. COLL ELY & MR MUDGE.  
SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING  
GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC  
REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK  
BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT  
W/IN THE HUGHES CREEK.

(BL)13665-PC

WABAUNSEE CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: COUNCIL GROVE  
FM: FORAKER LS                    HUGHES CREEK SH MBR  
QUAD: KEENE 7.5  
SEC 22 TNSP 13 S RNGE 12 E  
DATE: 09/05/1952                    COLL: YOCHELSON E\*  
RD DITCH SW1/4NW1/4NW1/4SEC22. SAME AS LOC (BL)13664-PC.  
FIELD NUM 4 OF COLL DATE. SEC P-185 UNIT C OF MUDGE. COLL  
ELY & MR MUDGE. SECS REFERRED TO AS 'P.' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13666-PC

WABAUNSEE CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: COUNCIL GROVE  
FM: FORAKER LS                    HUGHES CREEK SH MBR  
QUAD: KEENE 7.5  
SEC 2 TNSP 13 S RNGE 12 E  
DATE: 09/05/1952                    COLL: YOCHELSON E\*  
RD DITCH SW1/4NW1/4NW1/4SEC22. SAME AS LOC (BL)13664-PC.  
FIELD NUM 5 OF COLL DATE. SEC P-185 UNIT E-F OF MUDGE.  
COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P.' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13667-PC

WABAUNSEE CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: ADMIRE  
FM: JANESVILLE SH                    FIVE POINT LS MBR  
QUAD: KEENE 7.5  
SEC 14 TNSP 13 S RNGE 12 E  
DATE: 09/05/1952                    COLL: YOCHELSON E\*  
RD CUT NE1/4NW1/4SEC14. FIELD NUM 6 OF COLL DATE. SEC P-83  
OF MUDGE. LOWER SH OF FIVE POINT LS. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P.' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13668-PC

WABAUNSEE CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: ADMIRE  
FM: JANESVILLE SH                    FIVE POINT LS MBR  
QUAD: KEENE 7.5  
SEC 14 TNSP 13 S RNGE 12 E  
DATE: 09/05/1952                    COLL: YOCHELSON E\*  
RD CUT NE1/4NW1/4SEC14. SAME AS (BL)13667-PC. FIELD NUM 7  
OF COLL DATE. SEC P-83 OF MUDGE. MID LIME OF FIVE POINT LS.  
COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P.' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13669-PC

WABAUNSEE CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: ADMIRE  
FM: JANESVILLE SH                    FIVE POINT LS MBR  
QUAD: KEENE 7.5  
SEC 14 TNSP 13 S RNGE 12 E  
DATE: 09/05/1952                    COLL: YOCHELSON E\*  
RD CUT NE1/4NW1/4SEC14. SAME AS (BL)13667-PC. FIELD NUM 8  
OF COLL DATE. SEC P-83 OF MUDGE. UPPER LIME OF FIVE POINT  
LS. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P.' MEAS BY  
MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13670-PC

WABAUNSEE CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: COUNCIL GROVE  
FM: FORAKER LS                    AMERICUS LS MBR  
QUAD: MCFARLAND 7.5  
SEC 12 TNSP 12 S RNGE 11 E  
DATE: 09/05/1952                    COLL: YOCHELSON E\*  
RD CUT SW1/4SE1/4SEC12. FIELD NUM 9 OF COLL DATE. SEC P-  
116 OF MUDGE. FORAKER LS, LOWER AMERICUS LS. COLL ELY &  
MR MUDGE. SECS REFERRED TO AS 'P.' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13674-PC

WABAUNSEE CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: COUNCIL GROVE  
FM: BEATTIE LS                    FLORENA SH MBR  
SEC 0 TNSP RNGE  
DATE: 09/05/1952                    COLL: YOCHELSON E\*  
SAME LOC AS (BL)13673-PC. [12/1988-

(BL)13673-PC NOT IN CARD FILE.] FIELD NUM 13 OF COLL DATE.  
COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P.' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13675-PC

WABAUNSEE CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: COUNCIL GROVE  
FM: FORAKER LS                    AMERICUS LS MBR  
QUAD: ALMA 7.5  
SEC 11 TNSP 12 S RNGE 10 E  
DATE: 09/05/1952                    COLL: YOCHELSON E\*  
STREAM CUT SW1/4NE1/4SEC11. FIELD NUM 14 OF COLL DATE.  
SEC P-274 OF MUDGE. LOWER LIME OF AMERICUS LS MBR. COLL  
ELY & MR MUDGE. SECS REFERRED TO AS 'P.' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13678-PC

WABAUNSEE CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: COUNCIL GROVE  
FM: BEATTIE LS                    FLORENA SH MBR  
SEC 0 TNSP RNGE  
DATE: 09/05/1952                    COLL: YOCHELSON E\*  
SAME LOC AS (BL)13677-PC. [12/1988-

(BL)13677-PC NO IN CARD FILE.] FIELD NUM 17 OF COLL DATE.  
SEC P-200 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED  
TO AS 'P.' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13679-PC

WABAUNSEE CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: COUNCIL GROVE  
FM: GRENOLA LS                    BURR LS MBR  
QUAD: KEENE 7.5  
SEC 30 TNSP 12 S RNGE 12 E  
DATE: 09/05/1952                    COLL: YOCHELSON E\*  
RD CUT NW1/4SE1/4SEC30. FIELD NUM 18 OF COLL DATE. SEC P-  
199 OF MUDGE. GRENOLA LS, LOWER LIME OF BURR LS. COLL  
ELY & MR MUDGE. SECS REFERRED TO AS 'P.' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.



(BL)13680-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BURR LS MBR

QUAD: KEENE 7.5  
SEC 30 TNSP 12 S RNGE 12 E

DATE: 09/05/1952 COLL: YOCHELSON E\*  
RD CUT NW1/4SE1/4SEC30. SAME LOC AS (BL)13679-PC. FIELD  
NUM 19 OF COLL DATE. SEC P-199 OF MUDGE. GRENOLA LS,  
UPPER SURFACE OF UPPER LIME OF BURR LS. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13682-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR

QUAD: KEENE 7.5  
SEC 30 TNSP 12 S RNGE 12 E

DATE: 09/05/1952 COLL: YOCHELSON E\*  
RD CUT NW1/4SE1/4SEC30. SAME LOC AS (BL)13679-PC. FIELD  
NUM 21 OF COLL DATE. SEC P-199 (UNIT B?) OF MUDGE.  
GRENOLA LS, LOWER SH OF NEVA LS MBR. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13683-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR

QUAD: KEENE 7.5  
SEC 30 TNSP 12 S RNGE 12 E

DATE: 09/05/1952 COLL: YOCHELSON E\*  
RD CUT NW1/4SE1/4SEC30. SAME LOC AS (BL)13679-PC. FIELD  
NUM 22 OF COLL DATE. SEC P-199 (UNIT D?) OF MUDGE.  
GRENOLA LS, SH OF NEVA LS MBR. COLL ELY & MR MUDGE.  
SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING  
GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC  
REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK  
BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME  
UNIT W/IN THE HUGHES CREEK.

(BL)13685-PC

WABAUNSEE CO, KS  
SERIES: VIRG  
FM: ROOT SH

SYSTEM: PENN  
GROUP: WABAUNSEE  
FRIEDRICH SH MBR

QUAD: KEENE 7.5  
SEC 0 TNSP RNGE

DATE: 09/05/1952 COLL: YOCHELSON E\*  
SAME LOC AS (BL)13684-PC. [12/1988-(BL)13684 NOT IN CARD  
FILE.] FIELD NUM 24 OF COLL DATE. SEC P-175 OF MUDGE. BASE  
OF FRIEDRICH SH. COLL ELY & MR MUDGE. SECS REFERRED TO  
AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13688-PC

WABAUNSEE CO, KS  
SERIES: WOLF  
FM: ONAGA SH

SYSTEM: PERM  
GROUP: ADMIRE  
ASPINWALL LS MBR

QUAD: DOVER 7.5  
SEC 10 TNSP 13 S RNGE 13 E

DATE: 09/07/1952 COLL: YOCHELSON E\*  
RD DITCH SE1/4SE1/4SEC10. FIELD NUM 3 OF COLL DATE. SEC P-  
84 OF MUDGE. LIMES IN ASPINWALL LS. COLL ELY & MR MUDGE.  
SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING  
GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC  
REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK  
BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT  
W/IN THE HUGHES CREEK.

(BL)13689-PC

WABAUNSEE CO, KS  
SERIES: WOLF  
FORMATION: UNASSIGNED

SYSTEM: PERM  
GROUP: UNASSIGNED  
FALLS CITY LS MBR

QUAD: DOVER 7.5  
SEC 10 TNSP 13 S RNGE 13 E

DATE: 09/07/1952 COLL: YOCHELSON E\*  
RD DITCH SE1/4SE1/4SEC10. SAME LOC AS (BL)13688-PC. FIELD  
NUM 4 OF COLL DATE. SEC P-84 OF MUDGE. LIMES IN FALLS CITY  
LS. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY  
MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13690-PC

WABAUNSEE CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM

SYSTEM: PENN  
GROUP: WABAUNSEE  
BROWNVILLE LS MBR

QUAD: DOVER 7.5  
SEC 32 TNSP 12 S RNGE 13 E

DATE: 09/07/1952 COLL: YOCHELSON E\*  
RD CUT SE1/4SW1/4NW1/4SEC32. FIELD NUM 5 OF COLL DATE.  
COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13691-PC

WABAUNSEE CO, KS  
SERIES: VIRG  
FM: STOTLER LS

SYSTEM: PENN  
GROUP: WABAUNSEE  
DOVER LS MBR

QUAD: HARVEYVILLE 7.5  
SEC 3 TNSP 15 S RNGE 13 E

DATE: 09/07/1952 COLL: YOCHELSON E\*  
STREAM CUT SW1/4NW1/4SEC3. FIELD NUM 6 OF COLL DATE.  
SEC P-85 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED  
TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13693-PC

WABAUNSEE CO, KS  
SERIES: VIRG  
FM: ZEANDALE LS

SYSTEM: PENN  
GROUP: WABAUNSEE  
PIERSON POINT SH MBR

QUAD: HARVEYVILLE 7.5  
SEC 15 TNSP 15 S RNGE 13 E

DATE: 09/07/1952 COLL: YOCHELSON E\*  
STREAM CUT SE1/4NW1/4SEC15. FIELD NUM 8 OF COLL DATE.  
SEC P-90 OF MUDGE. FOSS ZN IN PIERSON POINT SH. SECS  
REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL  
BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN  
THE HUGHES CREEK.

(BL)13695-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR

QUAD: DOVER 7.5  
SEC 4 TNSP 14 S RNGE 11 E

DATE: 09/07/1952 COLL: YOCHELSON E\*  
SPILLWAY OF LANKE WABAUNSEE, NE1/4NW1/4SEC4. FIELD NUM  
1 OF COLL DATE. SEC P-209 OF MUDGE. LOWER SH OF NEVA LS  
MBR. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS  
BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS  
OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT  
PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF  
SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES  
CREEK.

(BL)13696-PC

WABAUNSEE CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: COUNCIL GROVE  
FM: GRENOLA LS NEVA LS MBR  
QUAD: LAKE WABAUNSEE 7.5  
SEC 4 TNSP 14 S RNGE 11 E  
DATE: 09/07/1952 COLL: YOCHELSON E\*  
SPILLWAY OF LAKE WABAUNSEE NE1/4NW1/4SEC4. SAME LOC AS  
(BL)13695-PC. FIELD NUM 1 OF COLL DATE. SEC P-209 (UNIT F?)  
OF MUDGE. UPPER SH OF NEVA LS. COLL ELY & MR MUDGE.  
SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING  
GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC  
REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK  
BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME  
UNIT W/IN THE HUGHES CREEK.

(BL)13697-PC

WABAUNSEE CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: COUNCIL GROVE  
FM: FORAKER LS HUGHES CREEK SH MBR  
QUAD: ESKRIDGE 7.5  
SEC 6 TNSP 14 S RNGE 12 E  
DATE: 09/07/1952 COLL: YOCHELSON E\*  
STREAM CUT SW1/4SE1/4SE1/4SEC6. FIELD NUM 3 OF COLL DATE.  
UNIT E-F OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED  
TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13698-PC

WABAUNSEE CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: ADMIRE  
FM: JANESVILLE SH FIVE POINT LS MBR  
QUAD: ESKRIDGE 7.5  
SEC 23 TNSP 14 S RNGE 12 E  
DATE: 09/07/1952 COLL: YOCHELSON E\*  
RD CUT NE1/4SE1/4SEC23. FIELD NUM 4 OF COLL DATE. SEC P-87  
OF MUDGE. LOWER LIME OF FIVE POINT LS. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13699-PC

WABAUNSEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: STOTLER LS GRANDHAVEN LS MBR  
QUAD: HARVEYVILLE 7.5  
SEC 9 TNSP 15 S RNGE 13 E  
DATE: 09/07/1952 COLL: YOCHELSON E\*  
RD CUT NW1/4SW1/4SW1/4SEC9. FIELD NUM 5 OF COLL DATE.  
SEC P-189 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED  
TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13700-PC

WABAUNSEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: ROOT SH FRIEDRICH SH MBR  
QUAD: MILLER 7.5  
SEC 17 TNSP 15 S RNGE 13 E  
DATE: 09/07/1952 COLL: YOCHELSON E\*  
STREAM CUT SE1/4NE1/4SEC17. FIELD NUM 6 OF COLL DATE. SEC  
P-86 OF MUDGE. UPPER PART OF FRIEDRICH SH. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13702-PC

WABAUNSEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: WOOD SIDING FM PONY CREEK SH MBR  
QUAD: MILLER 7.5  
SEC 17 TNSP 15 S RNGE 13 E  
DATE: 09/07/1952 COLL: YOCHELSON E\*  
RD DITCH SE1/4SW1/4SEC17. FIELD NUM 8 OF COLL DATE. SEC P-  
187 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS  
'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13703-PC

WABAUNSEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: WOOD SIDING FM BROWNVILLE LS MBR  
QUAD: MILLER 7.5  
SEC 17 TNSP 15 S RNGE 13 E  
DATE: 09/07/1952 COLL: YOCHELSON E\*  
RD DITCH SE1/4SW1/4SEC17. SAME LOC AS (BL)13702-PC. FIELD  
NUM 9 OF COLL DATE. SEC P-187 OF MUDGE. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13704-PC

WABAUNSEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: WOOD SIDING FM NEBRASKA CITY LS  
MBR  
QUAD: MILLER 7.5  
SEC 16 TNSP 15 S RNGE 13 E  
DATE: 09/07/1952 COLL: YOCHELSON E\*  
RD DITCH SW1/4NE1/4SEC16. FIELD NUM 10 OF COLL DATE. COLL  
ELY & MR MUDGE. CANEYVILLE LS.

(BL)13707-PC

WABAUNSEE CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: COUNCIL GROVE  
FM: RED EAGLE LS BENNETT SH MBR  
SEC 0 TNSP RNGE  
DATE: 09/07/1952 COLL: YOCHELSON E\*  
SAME LOC AS (BL)13706-PC. [12/1988-  
(BL)13706-PC NOT IN CARD FILE.] FIELD NUM 13 OF COLL DATE.  
SEC P-152 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED  
TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13708-PC

WABAUNSEE CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: COUNCIL GROVE  
FM: RED EAGLE LS HOWE LS MBR  
SEC 0 TNSP RNGE  
DATE: 09/07/1952 COLL: YOCHELSON E\*  
SAME LOC AS (BL)13706-PC. [12/1988-  
(BL)13706-PC NOT IN CARD FILE.] FIELD NUM 14 OF COLL DATE.  
SEC P-152 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED  
TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13709-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: RED EAGLE LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HOWE LS MBR

SEC 0 TNSP RNGE

DATE: 09/07/1952 COLL: YOCHELSONE\*  
SAME LOC AS (BL)13706-PC. [12/1988-(BL)13706-PC NOT IN CARD  
FILE.] FIELD NUM 15 OF COLL DATE. SEC P-152 OF MUDGE. RED  
EAGLE LS, BRACHIOPOD ZN OF HOWE LS MBR. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13710-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
SALLYARDS LS MBR

QUAD: ESKRIDGE 7.5

SEC 17 TNSP 14 S RNGE 12 E

DATE: 09/07/1952 COLL: YOCHELSONE\*  
RD CUT SE1/4NE1/4SEC17. FIELD NUM 16 OF COLL DATE. SEC P-  
151 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS  
'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13711-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BURR LS MBR

QUAD: ESKRIDGE 7.5

SEC 17 TNSP 14 S RNGE 12 E

DATE: 09/07/1952 COLL: YOCHELSONE\*  
RD CUT SE1/4NE1/4SEC17. SAME LOC AS (BL)13710-PC. FIELD  
NUM 17 OF COLL DATE. SEC P-151 OF MUDGE. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13712-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: RED EAGLE LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BENNETT SH MBR

QUAD: ESKRIDGE 7.5

SEC 31 TNSP 14 S RNGE 12 E

DATE: 09/07/1952 COLL: YOCHELSONE\*  
QUARRY NW1/4NE1/4SEC31. FIELD NUM 18 OF COLL DATE. SEC P-  
88 OF MUDGE. RED EAGLE LS; BIOHERM IN BENNETT SH. COLL  
ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13714-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: ESKRIDGE SH

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED

QUAD: LAKE WABAUNSEE 7.5

SEC 36 TNSP 14 S RNGE 11 E

DATE: 09/07/1952 COLL: YOCHELSONE\*  
RD DITCH SW1/4NW1/4NW1/4SEC36. FIELD NUM 20 OF COLL DATE.  
SEC P-206 OF MUDGE. UPPER LIME OF ESKRIDGE SH. COLL ELY &  
MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13715-PC

LYON CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM

SYSTEM: PENN  
GROUP: WABAUNSEE  
NEBRASKA CITY LS MBR

QUAD: ADMIRE 7.5

SEC 3 TNSP 16 S RNGE 12 E

DATE: 09/08/1952 COLL: YOCHELSONE\*  
PASTURE GULLY, NW1/4SW1/4SW1/4SEC3. FIELD NUM 1 OF COLL  
DATE. SEC P-65 OF MUDGE. CANEYVILLE LS, NEBRASKA CITY LS  
MBR. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS  
BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS  
OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT  
PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF  
SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES  
CREEK.

(BL)13716-PC

LYON CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM

SYSTEM: PENN  
GROUP: WABAUNSEE  
BROWNVILLE LS MBR

QUAD: ADMIRE 7.5

SEC 3 TNSP 16 S RNGE 12 E

DATE: 09/08/1952 COLL: YOCHELSONE\*  
PASTURE GULLY, NW1/4SW1/4SW1/4SEC3. SAME LOC AS  
(BL)13715-PC. FIELD NUM 2 OF COLL DATE. SEC P-65 OF MUDGE.  
COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13719-PC

LYON CO, KS  
SERIES: WOLF  
FM: ONAGA SH

SYSTEM: PERM  
GROUP: ADMIRE  
ASPINWALL LS MBR

QUAD: ADMIRE 7.5

SEC 16 TNSP 16 S RNGE 12 E

DATE: 09/08/1952 COLL: YOCHELSONE\*  
RD DITCH, SE1/4SE1/4SEC16. FIELD NUM 5 OF COLL DATE. SEC P-  
277 OF MUDGE. LOWER LIME OF ASPINWALL. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13720-PC

LYON CO, KS  
SERIES: WOLF  
FORMATION: UNASSIGNED

SYSTEM: PERM  
GROUP: UNASSIGNED  
FALLS CITY LS MBR

QUAD: ADMIRE 7.5

SEC 16 TNSP 16 S RNGE 12 E

DATE: 09/08/1952 COLL: YOCHELSONE\*  
RD DITCH, SE1/4SE1/4SEC16. SAME LOC AS (BL)13719-PC. FIELD  
NUM 6 OF COLL DATE. SEC P-277 OF MUDGE. LOWER LIME OF  
FALLS CITY LS. COLL ELY & MR MUDGE. SECS REFERRED TO AS  
'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13721-PC

MORRIS CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
SALLYARDS LS MBR

QUAD: AMERICUS 7.5

SEC 24 TNSP 17 S RNGE 09 E

DATE: 09/08/1952 COLL: YOCHELSONE\*  
RD CUT NW1/4SW1/4SW1/4SEC24. FIELD NUM 7 OF COLL DATE.  
SEC P-278 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED  
TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13722-PC

MORRIS CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BURR LS MBR

QUAD: AMERICUS 7.5  
SEC 24 TNSP 17 S RGE 09 E

DATE: 09/08/1952 COLL: YOCHELSON E\*  
RD CUT NW1/4SW1/4SW1/4SEC24. SAME LOC AS (BL)13721-PC.  
FIELD NUM 8 OF COLL DATE. SEC P-278 OF MUDGE. COLL ELY &  
MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13725-PC

MORRIS CO, KS  
SERIES: LOWER  
FM: BEATTIE LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR

SEC 0 TNSP RGE

DATE: 09/08/1952 COLL: YOCHELSON E\*  
SAME LOC AS (BL) 13724-PC. [12/1988-

(BL)13724-PC NOT IN CARD FILE.] FIELD NUM 11 OF COLL DATE.  
SEC P-279 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED  
TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13726-PC

CHASE CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
AMERICUS LS MBR

QUAD: COTTONWOOD FALL 7.5  
SEC 26 TNSP 19 S RGE 07 E

DATE: 09/08/1952 COLL: YOCHELSON E\*  
STREAM CUT SE1/4SW1/4NW1/4SEC26. FIELD NUM 12 OF COLL  
DATE. SEC P-280 OF MUDGE. COLL ELY & MR MUDGE. SECS  
REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL  
BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN  
THE HUGHES CREEK.

(BL)13727-PC

CHASE CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR

QUAD: COTTONWOOD FALL 7.5  
SEC 26 TNSP 19 S RGE 07 E

DATE: 09/08/1952 COLL: YOCHELSON E\*  
STREAM CUT SE1/4SW1/4NW1/4SEC26. SAME LOC AS (BL)13726-  
PC. FIELD NUM 13 OF COLL DATE. SEC P-280 UNIT A OF MUDGE.  
COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13728-PC

CHASE CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR

QUAD: COTTONWOOD FALL 7.5  
SEC 26 TNSP 19 S RGE 07 E

DATE: 09/08/1952 COLL: YOCHELSON E\*  
STREAM CUT SE1/4SW1/4NW1/4SEC26. SAME LOC AS (BL)13726-  
PC. FIELD NUM 14 OF COLL DATE. SEC P-280 UNIT B OF MUDGE.  
COLL ELY & MR MUDGE. CARD IN FILE, BUT NOT RECORD OF  
COLL ON ORIGNIAL DATA BASE; CASE & DRWR ARE  
SPECULATIVE, BUT MAY BE LOC NEARBY. SECS REFERRED TO AS  
'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13729-PC

CHASE CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR

QUAD: COTTONWOOD FALL 7.5  
SEC 26 TNSP 19 S RGE 07 E

DATE: 09/08/1952 COLL: YOCHELSON E\*  
STREAM CUT SE1/4SW1/4NW1/4SEC26. SAME LOC AS (BL)13726-  
PC. FIELD NUM 15 OF COLL DATE. SEC P-280 UNIT C OF MUDGE.  
COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13730-PC

CHASE CO, KS  
SERIES: LOWER  
FM: RED EAGLE LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
GLEN ROCK LS MBR

QUAD: COTTONWOOD FALL 7.5  
SEC 26 TNSP 19 S RGE 07 E

DATE: 09/08/1952 COLL: YOCHELSON E\*  
RD CUT SE1/4SW1/4NW1/4SEC26. FIELD NUM 16 OF COLL DATE.  
SEC P-280 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED  
TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13731-PC

CHASE CO, KS  
SERIES: LOWER  
FM: RED EAGLE LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BENNETT SH MBR

QUAD: COTTONWOOD FALL 7.5  
SEC 26 TNSP 19 S RGE 07 E

DATE: 09/08/1952 COLL: YOCHELSON E\*  
RD CUT SE1/4SW1/4NW1/4SEC26. SAME LOC AS (BL)13730-PC.  
FIELD NUM 17 OF COLL DATE. SEC P-280 OF MUDGE. COLL ELY &  
MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13733-PC

CHASE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
SALLYARDS LS MBR

QUAD: COTTONWOOD FALL 7.5  
SEC 26 TNSP 19 S RGE 07 E

DATE: 09/08/1952 COLL: YOCHELSON E\*  
RD CUT SE1/4SW1/4NW1/4SEC26. SAME LOC AS (BL)13730-PC.  
FIELD NUM 19 OF COLL DATE. SEC P-280 OF MUDGE. COLL ELY &  
MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13734-PC

CHASE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BURR LS MBR

QUAD: COTTONWOOD FALL 7.5  
SEC 26 TNSP 19 S RGE 07 E

DATE: 09/08/1952 COLL: YOCHELSON E\*  
RD CUT SE1/4SW1/4NW1/4SEC26. SAME LOC AS (BL)13730-PC.  
FIELD NUM 20 OF COLL DATE. SEC P-280 OF MUDGE. COLL ELY &  
MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13735-PC

CHASE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BURR LS MBR  
QUAD: COTTONWOOD FALL 7.5  
SEC 26 TNSP 19 S RNGE 07 E  
DATE: 09/08/1952  
RD CUT SE1/4SW1/4NW1/4SEC26. SAME LOC AS (BL)13730-PC.  
FIELD NUM 21 OF COLL DATE. SEC P-280 OF MUDGE. GRENOLA  
LS, LIMES & SH NEAR MIDDLE OF BURR LS MBR. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13736-PC

CHASE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR  
QUAD: COTTONWOOD FALL 7.5  
SEC 26 TNSP 19 S RNGE 07 E  
DATE: 09/08/1952  
RD CUT SE1/4SW1/4NW1/4SEC26. SAME LOC AS (BL)13730-PC.  
FIELD NUM 22 OF COLL DATE. SEC P-280 BED B OF MUDGE. COLL  
ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13738-PC

CHASE CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR  
QUAD: COTTONWOOD FALL 7.5  
SEC 26 TNSP 19 S RNGE 07 E  
DATE: 09/08/1952  
RD CUT SE1/4SW1/4NW1/4SEC26. SAME LOC AS (BL)13730-PC.  
FIELD NUM 24 OF COLL DATE. SEC P-280 BED D OF MUDGE. COLL  
ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13740-PC

CHASE CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
AMERICUS LS MBR  
QUAD: PLYMOUTH 7.5  
SEC 24 TNSP 19 S RNGE 09 E  
DATE: 09/08/1952  
RD DITCH SE1/4NE1/4SEC24. FIELD NUM 26 OF COLL DATE. SEC P-  
281 OF MUDGE. LOWER AMERICUS. COLL ELY & MR MUDGE.  
SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING  
GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC  
REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK  
BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT  
W/IN THE HUGHES CREEK.

(BL)13742-PC

CHAUTAUQUA CO, KS  
SERIES: VIRG  
FM: ZEANDALE LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
PIERSON POINT SH MBR  
QUAD: GRENOLA 7.5  
SEC 1 TNSP 32 S RNGE 08 E  
DATE: 09/09/1952  
STREAM GULLY NE1/4NE1/4SEC1. FIELD NUM 2 OF COLL DATE.  
SEC P-283 OF MUDGE. LIME IN PIERSON POINT SH. COLL ELY &  
MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13744-PC

CHAUTAUQUA CO, KS  
SERIES: VIRG  
FM: PILLSBURY SH  
SYSTEM: PENN  
GROUP: WABAUNSEE  
MEMBER: UNASSIGNED  
QUAD: GRENOLA 7.5  
SEC 1 TNSP 32 S RNGE 08 E  
DATE: 09/09/1952  
STREAM GULLY NE1/4NE1/4SEC1. SAME LOC AS (BL)13742-PC.  
FIELD NUM 4 OF COLL DATE. SEC P-283 OF MUDGE. UPPER SH OF  
LANGDON SH. COLL ELY & MR MUDGE. PILLSBURY SH  
FORMERLY CALLED 'LANGDON' PER KS GEOL SURVEY BULL 189,  
1968. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13745-PC

CHAUTAUQUA CO, KS  
SERIES: VIRG  
FM: STOTLER LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
GRANDHAVEN LS MBR  
QUAD: DEXTER 7.5  
SEC 22 TNSP 32 S RNGE 08 E  
DATE: 09/09/1952  
RD CUT SW1/4SW1/4SEC22. FIELD NUM 5 OF COLL DATE. SEC P-  
284 OF MUDGE. COLL ELY & MR MUDGE. [6/1989-NO ROAD IS  
SHOWN AT THIS LOC ON THE 1979 7.5 MIN QUAD.] SECS REFERRED  
TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13746-PC

CHAUTAUQUA CO, KS  
SERIES: VIRG  
FM: ROOT SH  
SYSTEM: PENN  
GROUP: WABAUNSEE  
FRIEDRICH SH MBR  
QUAD: DEXTER NE 7.5  
SEC 22 TNSP 32 S RNGE 08 E  
DATE: 09/09/1952  
RD DITCH SW1/4SW1/4SEC22. FIELD NUM 6 OF COLL DATE. SEC P-  
285 OF MUDGE. UPPER PART OF FRIEDRICH SH. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13747-PC

CHAUTAUQUA CO, KS  
SERIES: VIRG  
FM: ROOT SH  
SYSTEM: PENN  
GROUP: WABAUNSEE  
JIM CREEK LS MBR  
QUAD: DEXTER NE 7.5  
SEC 22 TNSP 32 S RNGE 08 E  
DATE: 09/09/1952  
RD DITCH SW1/4SW1/4SEC22. SAME LOC AS (BL)13746-PC. FIELD  
NUM 7 OF COLL DATE. SEC P-285 OF MUDGE. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13748-PC

CHAUTAUQUA CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM  
SYSTEM: PENN  
GROUP: WABAUNSEE  
BROWNVILLE LS MBR  
QUAD: DEXTER NE 7.5  
SEC 22 TNSP 32 S RNGE 08 E  
DATE: 09/09/1952  
RD CUT SW1/4SW1/4SEC22. FIELD NUM 8 OF COLL DATE. SEC P-52  
OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-'  
MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS  
OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT  
PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF  
SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES  
CREEK.

(BL)13749-PC

CHAUTAUQUA CO, KS  
SERIES: WOLF  
FM: ONAGA SH  
SYSTEM: PERM  
GROUP: ADMIRE  
ASPINWALL LS MBR  
QUAD: DEXTER NE 7.5  
SEC 22 TNSP 32 S RNGE 08 E  
DATE: 09/09/1952 COLL: YOCHELSON E\*  
RD CUT SW1/4SW1/4SEC22. SAME LOC AS (BL)13748-PC. FIELD  
NUM 9 OF COLL DATE. SEC P-52 OF MUDGE. SH BTWN UPPER &  
LOWER LIMES OF ASPINWALL LS. COLL ELY & MR MUDGE. SECS  
REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL  
BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN  
THE HUGHES CREEK.

(BL)13751-PC

CHAUTAUQUA CO, KS  
SERIES: WOLF  
FORMATION: UNASSIGNED  
SYSTEM: PERM  
GROUP: UNASSIGNED  
FALLS CITY LS MBR  
QUAD: DEXTER NE 7.5  
SEC 22 TNSP 32 S RNGE 08 E  
DATE: 09/09/1952 COLL: YOCHELSON E\*  
RD CUT SW1/4SW1/4SEC22. SAME LOC AS (BL)13748-PC. FIELD  
NUM 11 OF COLL DATE. SEC P-52 OF MUDGE. UPPER LIME OF  
FALL CITY LS. COLL ELY & MR MUDGE. SECS REFERRED TO AS  
'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13752-PC

CHAUTAUQUA CO, KS  
SERIES: LOWER  
FM: JANESVILLE SH  
SYSTEM: PERM  
GROUP: ADMIRE  
FIVE POINT LS MBR  
QUAD: DEXTER NE 7.5  
SEC 2 TNSP 32 S RNGE 08 E  
DATE: 09/09/1952 COLL: YOCHELSON E\*  
RD CUT SW1/4SW1/4SEC22. SAME LOC AS (BL)13748-PC. FIELD  
NUM 12 OF COLL DATE. SEC P-52 OF MUDGE. SH BTWN UPPER &  
LOWER LIMES OF FIVE POINT LS. COLL ELY & MR MUDGE. SECS  
REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL  
BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN  
THE HUGHES CREEK.

(BL)13753-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: JANESVILLE SH  
SYSTEM: PERM  
GROUP: ADMIRE  
WEST BRANCH SH MBR  
QUAD: DEXTER NE 7.5  
SEC 21 TNSP 32 S RNGE 08 E  
DATE: 09/09/1952 COLL: YOCHELSON E\*  
RD CUT SE1/4SEC21. FIELD NUM 13 OF COLL DATE. SEC P-286 OF  
MUDGE. UPPER PART OF WEST BRANCH SH. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13755-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: JANESVILLE SH  
SYSTEM: PERM  
GROUP: ADMIRE  
FIVE POINT LS MBR  
QUAD: DEXTER NE 7.5  
SEC 21 TNSP 32 S RNGE 08 E  
DATE: 09/09/1952 COLL: YOCHELSON E\*  
RD CUT SE1/4SEC21. SAME LOC AS (BL)13753-PC. FIELD NUM 15  
OF COLL DATE. SEC P-286 OF MUDGE. UPPER PART OF UPPER  
FIVE POINT LS. COLL ELY & MR MUDGE. SECS REFERRED TO AS  
'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13756-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
AMERICUS LS MBR  
QUAD: DEXTER NE 7.5  
SEC 21 TNSP 32 S RNGE 08 E  
DATE: 09/09/1952 COLL: YOCHELSON E\*  
RD CUT SE1/4SEC21. SAME LOC AS (BL)13753-PC. FIELD NUM 16  
OF COLL DATE. SEC P-286 OF MUDGE. LOWER AMERICUS LS.  
COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13757-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
AMERICUS LS MBR  
QUAD: DEXTER NE 7.5  
SEC 21 TNSP 32 S RNGE 08 E  
DATE: 09/09/1952 COLL: YOCHELSON E\*  
RD CUT SE1/4SEC21. SAME LOC AS (BL)13753-PC. FIELD NUM 17  
OF COLL DATE. SEC P-286 OF MUDGE. UPPER & MIDDLE LIMES  
OF AMERICUS LS. COLL ELY & MR MUDGE. SECS REFERRED TO  
AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13758-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
QUAD: DEXTER NE 7.5  
SEC 21 TNSP 32 S RNGE 08 E  
DATE: 09/09/1952 COLL: YOCHELSON E\*  
RD CUT SE1/4SEC21. SAME LOC AS (BL)13753-PC. FIELD NUM 18  
OF COLL DATE. SEC P-286 UNIT A OF MUDGE. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13759-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
QUAD: DEXTER NE 7.5  
SEC 21 TNSP 32 S RNGE 08 E  
DATE: 09/09/1952 COLL: YOCHELSON E\*  
RD CUT SE1/4SEC21. SAME LOC AS (BL)13753-PC. FIELD NUM 19  
OF COLL DATE. SEC P-286 UNIT A3 OF MUDGE. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13760-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
QUAD: DEXTER NE 7.5  
SEC 21 TNSP 32 S RNGE 08 E  
DATE: 09/09/1952 COLL: YOCHELSON E\*  
RD CUT SE1/4SEC21. SAME LOC AS (BL)13753-PC. FIELD NUM 20  
OF COLL DATE. SEC P-286 UNIT B1 OF MUDGE. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13762-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR

QUAD: DEXTER NE 7.5  
SEC 21 TNSP 32 S RNGE 08 E

DATE: 09/09/1952 COLL: YOCHELSON E\*  
RD CUT SE1/4SEC21. SAME LOC AS (BL)13753-PC. FIELD NUM 22  
OF COLL DATE. SEC P-286 UNIT C OF MUDGE. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13763-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR

QUAD: DEXTER NE 7.5  
SEC 21 TNSP 32 S RNGE 08 E

DATE: 09/09/1952 COLL: YOCHELSON E\*  
RD CUT SE1/4SEC21. SAME LOC AS (BL)13753-PC. FIELD NUM 23  
OF COLL DATE. SEC P-286 UNIT D2 OF MUDGE. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13764-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR

QUAD: DEXTER NE 7.5  
SEC 21 TNSP 32 S RNGE 08 E

DATE: 09/09/1952 COLL: YOCHELSON E\*  
RD CUT SE1/4SEC21. SAME LOC AS (BL)13753-PC. FIELD NUM 24  
OF COLL DATE. SEC P-286 D3 OF MUDGE. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13765-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: FORAKER LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR

QUAD: DEXTER NE 7.5  
SEC 21 TNSP 32 S RNGE 08 E

DATE: 09/09/1952 COLL: YOCHELSON E\*  
RD CUT SE1/4SEC21. SAME LOC AS (BL)13753-PC. FIELD NUM 25  
OF COLL DATE. SEC P-286 E1 OF MUDGE. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13767-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: JOHNSON SH

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED

QUAD: DEXTER NE 7.5  
SEC 21 TNSP 32 S RNGE 08 E

DATE: 09/10/1952 COLL: YOCHELSON E\*  
RD CUT SE1/4SEC21. FIELD NUM 1 OF COLL DATE. SEC P-286 OF  
MUDGE. UPPER PART OF JOHNSON SH. COLL ELY & MR MUDGE.  
SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING  
GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC  
REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK  
BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT  
W/IN THE HUGHES CREEK.

(BL)13768-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: RED EAGLE LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
GLEN ROCK LS MBR

QUAD: DEXTER NE 7.5  
SEC 21 TNSP 32 S RNGE 08 E

DATE: 09/10/1952 COLL: YOCHELSON E\*  
RD CUT SE1/4SEC21. SAME LOC AS (BL)13767-PC. FIELD NUM 2 OF  
COLL DATE. SEC P-286 OF MUDGE. COLL ELY & MR MUDGE. SECS  
REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL  
BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN  
THE HUGHES CREEK.

(BL)13769-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
LEGION LS MBR

QUAD: DEXTER NE 7.5  
SEC 30 TNSP 32 S RNGE 08 E

DATE: 09/10/1952 COLL: YOCHELSON E\*  
RD CUT NW1/4NE1/4SEC30. FIELD NUM 3 OF COLL DATE. SEC P-  
287 OF MUDGE. LEGION SH MBR. COLL ELY & MR MUDGE. SECS  
REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL  
BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN  
THE HUGHES CREEK.

(BL)13770-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BURR LS MBR

QUAD: DEXTER NE 7.5  
SEC 30 TNSP 32 S RNGE 08 E

DATE: 09/10/1952 COLL: YOCHELSON E\*  
RD CUT NW1/4NE1/4SEC30. SAME LOC AS (BL)13769-PC. FIELD  
NUM 4 OF COLL DATE. SEC P-287 OF MUDGE. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13771-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
SALEM POINT SH MBR

QUAD: DEXTER NE 7.5  
SEC 30 TNSP 32 S RNGE 08 E

DATE: 09/10/1952 COLL: YOCHELSON E\*  
RD CUT NW1/4NE1/4SEC30. SAME LOC AS (BL)13769-PC. FIELD  
NUM 5 OF COLL DATE. SEC P-287 OF MUDGE. SALEM POINT SH  
MBR. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS  
BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS  
OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT  
PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF  
SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES  
CREEK.

(BL)13772-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
SALEM POINT SH MBR

QUAD: DEXTER NE 7.5  
SEC 30 TNSP 32 S RNGE 08 E

DATE: 09/10/1952 COLL: YOCHELSON E\*  
RD CUT NW1/4NE1/4SEC30. SAME LOC AS (BL)13769-PC. FIELD  
NUM 6 OF COLL DATE. SEC P-287 OF MUDGE. UPPER PART OF  
SALEM PT SH. COLL ELY & MR MUDGE. SECS REFERRED TO AS  
'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13773-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR

QUAD: SEE COMMENTS 7.5  
SEC 4 TNSP 31 S RNGE 08 E

DATE: 09/10/1952  
HILLSIDE EXPOSURE SE1/4SW1/4SW1/4SEC4. FIELD NUM 7 OF COLL DATE. SEC P-288 (F7) OF MUDGE. UPPER SH OF NEVA LS MBR. COLL ELY & MR MUDGE. 7.5 MIN QUAD MAP IS GRAND SUMMIT OR CAMBRIDGE NE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13774-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: ESKRIDGE SH

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED

QUAD: SEE COMMENTS 7.5  
SEC 4 TNSP 31 S RNGE 08 E

DATE: 09/10/1952  
HILLSIDE EXPOSURE SE1/4SW1/4SW1/4SEC4. SAME LOC AS (BL)13773-PC. FIELD NUM 8 OF COLL DATE. SEC P-288 OF MUDGE. LS IN ESKRIDGE SH. COLL ELY & MR MUDGE. 7.5 MIN QUAD IS GRAND SUMMIT OR CAMBRIDGE NE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13775-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: BEATTIE LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR

QUAD: SEE COMMENT 7.5  
SEC 4 TNSP 31 S RNGE 08 E

DATE: 09/10/1952  
HILLSIDE EXPOSURE SE1/4SW1/4SW1/4SEC4. SAME LOC AS (BL)13773-PC. FIELD NUM 9 OF COLL DATE. SEC P-288 OF MUDGE. COLL ELY & MR MUDGE. 7.5 MIN QUAD IS GRAND SUMMIT OR CAMBRIDGE NE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13776-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
SALEM POINT SH MBR

QUAD: CEDAR VALE WEST 7.5  
SEC 12 TNSP 34 S RNGE 07 E

DATE: 09/11/1952  
RR CUT SE1/4NW1/4SEC12. FIELD NUM 1 OF COLL DATE. SEC P-289 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13777-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR

QUAD: CEDAR VALE WEST 7.5  
SEC 12 TNSP 34 S RNGE 07 E

DATE: 09/11/1952  
RR CUT SE1/4NW1/4SEC12. SAME LOC AS (BL)13776-PC. FIELD NUM 2 OF COLL DATE. SEC P-289 BED B OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13779-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR

QUAD: CEDAR VALE WEST 7.5  
SEC 12 TNSP 34 S RNGE 07 E

DATE: 09/11/1952  
RR CUT SE1/4NW1/4SEC12. SAME LOC AS (BL)13776-PC. FIELD NUM 4 OF COLL DATE. SEC P-289 BED D OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13780-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: GRENOLA LS

SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR

QUAD: CEDAR VALE WEST 7.5  
SEC 12 TNSP 34 S RNGE 07 E

DATE: 09/11/1952  
RR CUT SE1/4NW1/4SEC12. SAME LOC AS (BL)13776-PC. FIELD NUM 5 OF COLL DATE. SEC P-289 UPPER E OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13783-PC

ELK CO, KS  
SERIES: VIRG  
FM: ZEANDALE LS

SYSTEM: PENN  
GROUP: WABAUNSEE  
PIERSON POINT SH MBR

SEC 0 TNSP RNGE

DATE: 09/11/1952  
SAME LOC AS (BL)13782-PC. [01/1989-CARD FOR

(BL)13782-PC NOT IN CARD FILE.] FIELD NUM 8 OF COLL DATE. SEC P-291 OF MUDGE. MIDDLE PART OF PIERSON POINT SH. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13784-PC

ELK CO, KS  
SERIES: VIRG  
FM: ZEANDALE LS

SYSTEM: PENN  
GROUP: WABAUNSEE  
PIERSON POINT SH MBR

SEC 0 TNSP RNGE

DATE: 09/11/1952  
SAME LOC AS (BL)13782-PC. [01/1989-CARD FOR

(BL)13782-PC NOT IN CARD FILE.] FIELD NUM 9 OF COLL DATE. SEC P-291 OF MUDGE. LIME IN PIERSON POINT SH. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13787-PC

ELK CO, KS  
SERIES: VIRG  
FM: ROOT SH

SYSTEM: PENN  
GROUP: WABAUNSEE  
FRIEDRICH SH MBR

QUAD: PIEDMONT SW 7.5  
SEC 28 TNSP 29 S RNGE 09 E

DATE: 09/11/1952  
RD DITCH NE1/4NE1/4SEC28. FIELD NUM 12 OF COLL DATE. SEC P-58 OF MUDGE. LS IN FRIEDRICH SH. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.



(BL)13789-PC

ELK CO, KS  
SERIES: UPPER  
FM: WOOD SIDING FM  
SYSTEM: PENN  
GROUP: WABAUNSEE  
GRAYHORSE LS MBR  
QUAD: PIEDMONT SW 7.5  
SEC 8 TNSP 29 S RNGE 09 E  
DATE: 09/11/1952  
RD DITCH SE1/4NW1/4NW1/4SECS. FIELD NUM 14 OF COLL DATE.  
SEC P-59 OF MUDGE. CANEYVILLE LS, GRAYHORSE LS MBR.  
COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13790-PC

ELK CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM  
SYSTEM: PENN  
GROUP: WABAUNSEE  
BROWNVILLE LS MBR  
QUAD: PIEDMONT SW 7.5  
SEC 8 TNSP 29 S RNGE 09 E  
DATE: 09/11/1952  
RD DITCH SE1/4NW1/4NW1/4SECS. SAME LOC AS (BL)13789-PC.  
FIELD NUM 15 OF COLL DATE. SEC P-59 OF MUDGE. COLL ELY &  
MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE

(BL)13791-PC

ELK CO, KS  
SERIES: WOLF  
FM: ONAGA SH  
SYSTEM: PERM  
GROUP: ADMIRE  
TOWLE SH MBR  
QUAD: PIEDMONT SW 7.5  
SEC 6 TNSP 29 S RNGE 09 E  
DATE: 09/11/1952  
RD DITCH SE1/4SE1/4SEC6. FIELD NUM 16 OF COLL DATE. SEC P-  
60 OF MUDGE. LS IN TOWLE SH. COLL ELY & MR MUDGE. SECS  
REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL  
BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN  
THE HUGHES CREEK.

(BL)13792-PC

ELK CO, KS  
SERIES: WOLF  
FORMATION: UNASSIGNED  
SYSTEM: PERM  
GROUP: UNASSIGNED  
FALLS CITY LS MBR  
QUAD: PIEDMONT SW 7.5  
SEC 6 TNSP 29 S RNGE 09 E  
DATE: 09/11/1952  
RD DITCH SE1/4SE1/4SEC6. SAME LOC AS (BL)13791-PC. FIELD  
NUM 17 OF COLL DATE. SEC P-60 OF MUDGE. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13793-PC

ELK CO, KS  
SERIES: LOWER  
FM: JANESVILLE SH  
SYSTEM: PERM  
GROUP: ADMIRE  
FIVE POINT LS MBR  
QUAD: LATHAM SE 7.5  
SEC 31 TNSP 28 S RNGE 08 E  
DATE: 09/11/1952  
RD DITCH SE1/4SEC31. FIELD NUM 18 OF COLL DATE. SEC P-292  
OF MUDGE. UPPER LIME OF FIVE POINT LS. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13794-PC

ELK CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
AMERICUS LS MBR  
QUAD: LATHAM SE 7.5  
SEC 31 TNSP 28 S RNGE 08 E  
DATE: 09/11/1952  
RD DITCH SE1/4SEC31. SAME LOC AS (BL)13793-PC. FIELD NUM 19  
OF COLL DATE. SEC P-292 OF MUDGE. LOWER AMERICUS SH.  
COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13795-PC

ELK CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
AMERICUS LS MBR  
QUAD: LATHAM SE 7.5  
SEC 31 TNSP 28 S RNGE 08 E  
DATE: 09/11/1952  
STREAM CUT SE1/4SEC31. FIELD NUM 20 OF COLL DATE. SEC P-  
292 OF MUDGE. MIDDLE LIME OF AMERICUS LS. COLL ELY & MR  
MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13799-PC

ELK CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 09/11/1952  
SAME LOC AS (BL)13796-PC. [01/1989-  
FIELD NUM 24 OF COLL DATE. SEC P-293 UNIT B2 OF MUDGE.  
COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13800-PC

ELK CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 09/11/1952  
SAME LOC AS (BL)13796-PC. [01/1989-  
FIELD NUM 25 OF COLL DATE. SEC P-293 B3 OF MUDGE. COLL  
ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR  
MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13801-PC

ELK CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 09/11/1952  
SAME LOC AS (BL)13796-PC. FIELD NUM 26 OF COLL DATE. SEC P-  
293 UNIT D2 OF MUDGE. COLL ELY & MR MUDGE. SECS  
REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL  
BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER  
ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A  
FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN  
THE HUGHES CREEK.

(BL)13803-PC

ELK CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 09/11/1952  
SAME LOC AS (BL)13796-PC. [01/1989-(BL)13796-PC NOT IN CARD FILE.] FIELD NUM 28 OF COLL DATE. SEC P-293 UNIT E-F OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13806-PC

ELK CO, KS  
SERIES: LOWER  
FM: ESKRIDGE SH  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: PEIDMONT SW 7.5  
SEC 13 TNSP 29 S RNGE 08 E  
DATE: 09/12/1952  
STREAM GULLY NW1/4SEC13. FIELD NUM 3 OF COLL DATE. SEC P-293 OF MUDGE. UPPER ESKRIDGE SH. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13807-PC

ELK CO, KS  
SERIES: LOWER  
FM: BEATTIE LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
COTTONWOOD LS MBR  
QUAD: PEIDMONT SW 7.5  
SEC 13 TNSP 29 S RNGE 08 E  
DATE: 09/12/1952  
STREAM GULLY NW1/4SEC13. SAME LOC AS (BL)13806-PC. FIELD NUM 4 OF COLL DATE. SEC P-293 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13808-PC

ELK CO, KS  
SERIES: LOWER  
FM: BEATTIE LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR  
QUAD: PEIDMONT SW 7.5  
SEC 13 TNSP 29 S RNGE 08 E  
DATE: 09/12/1952  
STREAM GULLY NW1/4SEC13. SAME LOC AS (BL)13806-PC. FIELD NUM 5 OF COLL DATE. SEC P-293 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13809-PC

GREENWOOD CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM  
SYSTEM: PENN  
GROUP: WABAUNSEE  
PONY CREEK SH MBR  
QUAD: REECE 7.5  
SEC 26 TNSP 26 S RNGE 09 E  
DATE: 09/12/1952  
RD DITCH NW1/4NW1/4SEC26. FIELD NUM 6 OF COLL DATE. SEC P-62 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13810-PC

GREENWOOD CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM  
SYSTEM: PENN  
GROUP: WABAUNSEE  
BROWNVILLE LS MBR  
QUAD: REECE 7.5  
SEC 26 TNSP 26 S RNGE 09 E  
DATE: 09/12/1952  
RD DITCH NW1/4NW1/4SEC26. SAME LOC AS (BL)13809-PC. FIELD NUM 7 OF COLL DATE. SEC P-62 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13811-PC

GREENWOOD CO, KS  
SERIES: VIRG  
FM: STOTLER LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
DOVER LS MBR  
QUAD: EUREKA NE 7.5  
SEC 10 TNSP 25 S RNGE 10 E  
DATE: 09/13/1952  
QUARRY NEAR SPILLWAY OF LAKE NW1/4SE1/4SEC10. FIELD NUM 1 OF COLL DATE. SEC P-294 OF MUDGE. LOWER LIME OF DOVER LS. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13812-PC

GREENWOOD CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM  
SYSTEM: PENN  
GROUP: WABAUNSEE  
PONY CREEK SH MBR  
QUAD: THRALL 7.5  
SEC 23 TNSP 23 S RNGE 10 E  
DATE: 09/13/1952  
RD DITCH SW1/4SE1/4SEC23. FIELD NUM 2 OF COLL DATE. SEC P-69 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13814-PC

GREENWOOD CO, KS  
SERIES: WOLF  
FORMATION: UNASSIGNED  
SYSTEM: PERM  
GROUP: UNASSIGNED  
FALLS CITY LS MBR  
QUAD: THRALL 7.5  
SEC 23 TNSP 23 S RNGE 10 E  
DATE: 09/13/1952  
RD DITCH SW1/4SE1/4SEC23. SAME LOC AS (BL)13812-PC. FIELD NUM 4 OF COLL DATE. SEC P-69 OF MUDGE. LIMES IN FALLS CITY SH. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13815-PC

GREENWOOD CO, KS  
SERIES: LOWER  
FM: JANESVILLE SH  
SYSTEM: PERM  
GROUP: ADMIRE  
FIVE POINT LS MBR  
QUAD: THRALL 7.5  
SEC 23 TNSP 23 S RNGE 10 E  
DATE: 09/13/1952  
RD DITCH SW1/4SE1/4SEC23. SAME LOC AS (BL)13812-PC. FIELD NUM 5 OF COLL DATE. SEC P-69 OF MUDGE. SH & UPPER LIME OF FIVE POINT LS. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13816-PC

GREENWOOD CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
AMERICUS LS MBR  
QUAD: THRALL 7.5  
SEC 23 TNSP 23 S RNGE 10 E  
DATE: 09/13/1952  
COLL: YOCHELSON E\*  
RD DITCH SW1/4SE1/4SEC23. SAME LOC AS (BL)13812-PC. FIELD NUM 6 OF COLL DATE. SEC P-69 OF MUDGE. LOWER AMERICUS. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13819-PC

GREENWOOD CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 09/13/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13817-PC. FIELD NUM 9 OF COLL DATE. SEC P-295 UNIT D3 (LOWER PART) OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13820-PC

GREENWOOD CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 09/13/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13817-PC. FIELD NUM 10 OF COLL DATE. SEC P-295 UNIT E OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13821-PC

GREENWOOD CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 09/13/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13817-PC. FIELD NUM 11 OF COLL DATE. SEC P-295 UNIT E OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13822-PC

GREENWOOD CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 09/13/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13817-PC. FIELD NUM 12 OF COLL DATE. SEC P-295 OF MUDGE. FLOAT SPEC ON TOP OF UNIT D3, STRAT POSITION NOT CERTAIN. PROB VERY NEARLY IN PLACE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13825-PC

GREENWOOD CO, KS  
SERIES: LOWER  
FM: RED EAGLE LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BENNETT SH MBR  
SEC 0 TNSP RNGE  
DATE: 09/13/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13824-PC. [FIELD NUM 15 OF COLL DATE. SEC P-297 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13826-PC

GREENWOOD CO, KS  
SERIES: LOWER  
FM: ROCA SH  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: 09/13/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13824-PC. [01/1989-  
(BL)13824-PC NOT IN CARD FILE.] FIELD NUM 16 OF COLL DATE. SEC P-297 OF MUDGE. THIN LIME IN ROCA SH. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13827-PC

GREENWOOD CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
SALLYARDS LS MBR  
SEC 0 TNSP RNGE  
DATE: 09/13/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13824-PC. [01/1989-  
(BL)13824-PC NOT IN CARD FILE.] FIELD NUM 17 OF COLL DATE. SEC P-297 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13828-PC

GREENWOOD CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BURR LS MBR  
SEC 0 TNSP RNGE  
DATE: 09/13/1952  
COLL: YOCHELSON E\*  
SAME LOC AS (BL)13824-PC. [01/1989-  
(BL)13824-PC NOT IN CARD FILE.] FIELD NUM 18 OF COLL DATE. SEC P-297 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13829-PC

GREENWOOD CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR  
QUAD: TETERVILLE 7.5  
SEC 15 TNSP 23 S RNGE 09 E  
DATE: 09/13/1952  
COLL: YOCHELSON E\*  
RD DITCH SE1/4NE1/4NW1/4SEC15. FIELD NUM 19 OF COLL DATE. SEC P-289 B (UNIT?) OF MUDGE. LOWER SH OF NEVA LS. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13830-PC

GREENWOOD CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: COUNCIL GROVE  
FM: GRENOLA LS NEVA LS MBR  
QUAD: TETERVILLE 7.5  
SEC 15 TNSP 23 S RGE 09 E  
DATE: 09/13/1952 COLL: YOCHELSON E\*  
RD DITCH SE1/4NE1/4NW1/4SEC15. SAME LOC AS (BL)13829-PC.  
FIELD NUM 20 OF COLL DATE. SEC P-289 F (UNIT7) OF MUDGE.  
UPPER SH OF NEVA LS. COLL ELY & MR MUDGE. SECS REFERRED  
TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE

(BL)13831-PC

GREENWOOD CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: COUNCIL GROVE  
FM: BEATTIE LS FLORENA SH MBR  
QUAD: TETERVILLE 7.5  
SEC 15 TNSP 23 S RGE 09 E  
DATE: 09/13/1952 COLL: YOCHELSON E\*  
RD DITCH SE1/4NE1/4NW1/4SEC15. SAME LOC AS (BL)13829-PC.  
FIELD NUM 21 OF COLL DATE. SEC P-289 F OF MUDGE. COLL ELY &  
MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13832-PC

GREENWOOD CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: ROOT SH JIM CREEK LS MBR  
QUAD: MADISON 7.5  
SEC 7 TNSP 22 S RGE 11 E  
DATE: 09/13/1952 COLL: YOCHELSON E\*  
RD DITCH NW1/4NE1/4SEC7. FIELD NUM 22 OF COLL DATE. SEC P-  
71 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED TO AS  
'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13834-PC

LYON CO, KS SYSTEM: PENN  
SERIES: UPPER GROUP: WABAUNSEE  
FM: WOOD SIDING FM GRAYHORSE LS MBR  
QUAD: SHAW CREEK 7.5  
SEC 23 TNSP 21 S RGE 10 E  
DATE: 09/13/1952 COLL: YOCHELSON E\*  
RD DITCH NW1/4SW1/4SW1/4SEC23. FIELD NUM 24 OF COLL DATE.  
SEC P-72 OF MUDGE. COLL ELY & MR MUDGE. SECS REFERRED  
TO AS 'P-' MEAS BY MR MUDGE, ENGINEERING GEOL BR, DENVER.  
LETTERS OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO  
THAT PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2  
DIFF SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE  
HUGHES CREEK.

(BL)13835-PC

LYON CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: ADMIRE  
FM: JANESVILLE SH FIVE POINT LS MBR  
QUAD: PLYMOUTH 7.5  
SEC 14 TNSP 18 S RGE 10 E  
DATE: 09/14/1952 COLL: YOCHELSON E\*  
RD DITCH NW1/4SW1/4SEC14. FIELD NUM 1 OF COLL DATE. SEC  
P-300 OF MUDGE. SH BTWN UPPER & LOWER LS OF FIVE POINT  
LS. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY  
MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS OCCAS  
ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT PARTICULAR  
SEC. THUS HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT  
NECESSARILY THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13840-PC

LYON CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: ADMIRE  
FM: JANESVILLE SH FIVE POINT LS MBR  
SEC 0 TNSP RGE  
DATE: 09/14/1952 COLL: YOCHELSON E\*  
SAME LOC AS (BL)13839. [01/1989-

(BL)13839-PC NOT IN CARD FILE.] FIELD NUM 6 OF COLL DATE.  
SEC P-301 OF MUDGE. SH BTWN UPPER & LOWER LS OF FIVE  
POINT. COLL ELY & MR MUDGE. SECS REFERRED TO AS 'P-' MEAS  
BY MR MUDGE, ENGINEERING GEOL BR, DENVER. LETTERS  
OCCAS ASSIGNED TO UNITS IN SEC REFER ONLY TO THAT  
PARTICULAR SEC. THUS HUGHES CREEK BED A FROM 2 DIFF  
SECS ARE NOT NECESSARILY THE SAME UNIT W/IN THE HUGHES  
CREEK.

(BL)13842-PC

OSAGE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: ROOT SH FRIEDRICH SH MBR  
QUAD: MILLER 7.5  
SEC 13 TNSP 16 S RGE 13 E  
DATE: 09/14/1952 COLL: YOCHELSON E\*  
STREAM CUT NE1/4SW1/4SEC13. FIELD NUM 8 OF COLL DATE.  
SEC P-304 OF MUDGE. UPPER PART OF FRIEDRICH SH. COLL ELY  
& MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)13843-PC

OSAGE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: ROOT SH JIM CREEK LS MBR  
QUAD: MILLER 7.5  
SEC 13 TNSP 16 S RGE 13 E  
DATE: 09/14/1952 COLL: YOCHELSON E\*  
STREAM CUT NE1/4SW1/4SEC13. SAME LOC AS (BL)13842-PC.  
FIELD NUM 9 OF COLL DATE. SEC P-304 OF MUDGE. COLL ELY &  
MR MUDGE. SECS REFERRED TO AS 'P-' MEAS BY MR MUDGE,  
ENGINEERING GEOL BR, DENVER. LETTERS OCCAS ASSIGNED TO  
UNITS IN SEC REFER ONLY TO THAT PARTICULAR SEC. THUS  
HUGHES CREEK BED A FROM 2 DIFF SECS ARE NOT NECESSARILY  
THE SAME UNIT W/IN THE HUGHES CREEK.

(BL)14795-PC

UNASSIGNED CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: ADMIRE  
FM: JANESVILLE SH FIVE POINT LS MBR  
SEC 0 TNSP RGE  
DATE: COLL:

(BL)14800-PC

UNASSIGNED CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: COUNCIL GROVE  
FM: FORAKER LS HUGHES CREEK SH MBR  
SEC 0 TNSP RGE  
DATE: COLL:

(BL)14801-PC

UNASSIGNED CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: COUNCIL GROVE  
FM: FORAKER LS HUGHES CREEK SH MBR  
SEC 0 TNSP RGE  
DATE: 03/03/1954 COLL: MUDGE MR  
SAME LOC AS (BL)14795-PC. FIELD NUM 7 OF COLL DATE.  
(THRALL LS) UNIT B3. MUDGE SEC 318.

(BL)14802-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: BEATTIE LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
FLORENA SH MBR  
QUAD: CEDAR VALE WEST 7.5  
SEC 12 TNSP 34 S RNGE 08 E  
DATE: 03/03/1954  
SW1/4SW1/4SEC12. FIELD NUM 8 OF COLL DATE. MUDGE SEC 319.  
COLL: MUDGE MR

(BL)14803-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR  
QUAD: CEDAR VALE WEST 7.5  
SEC 11 TNSP 34 S RNGE 07 E  
DATE: 03/03/1954  
NW1/4SE1/4SEC11. FIELD NUM 9 OF COLL DATE. MUDGE SEC 320  
F. GRENOLA LS; SH BENEATH UPPER LS OF NEVA LS.  
COLL: MUDGE MR

(BL)14804-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR  
QUAD: CEDAR VALE WEST 7.5  
SEC 11 TNSP 34 S RNGE 07 E  
DATE: 03/03/1954  
NW1/4SE1/4SEC11. SAME LOC AS (BL)14803-PC. FIELD NUM 10 OF  
COLL DATE. MUDGE SEC 320G. UPPER LS OF NEVA LS.  
COLL: MUDGE MR

(BL)14805-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: RED EAGLE LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BENNETT SH MBR  
QUAD: CEDAR VALE WEST 7.5  
SEC 7 TNSP 34S RNGE 08E  
DATE: 03/03/1954  
NW1/4SW1/4SEC7. FIELD NUM 11 OF COLL DATE. MUDGE SEC 321.  
COLL: MUDGE MR

(BL)14806-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: RED EAGLE LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BENNETT SH MBR  
QUAD: CEDAR VALE WEST 7.5  
SEC 7 TNSP 34 S RNGE 08 E  
DATE: 03/03/1954  
NW1/4SW1/4SEC7. SAME LOC AS (BL)14805-PC. FIELD NUM 12 OF  
COLL DATE. MUDGE SEC 321.  
COLL: MUDGE MR

(BL)14807-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BURR LS MBR  
QUAD: CEDAR VALE WEST 7.5  
SEC 12 TNSP 34 S RNGE 07 E  
DATE: 03/03/1954  
RR CUTS SE1/4SEC12. FIELD NUM 13 OF COLL DATE. MUDGE SEC  
322. LOWER LS OF BURR LS.  
COLL: MUDGE MR

(BL)14808-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BURR LS MBR  
QUAD: CEDAR VALE WEST 7.5  
SEC 12 TNSP 34 S RNGE 07 E  
DATE: 03/03/1954  
RR CUTS SE1/4SEC12. SAME LOC AS (BL)14807-PC. FIELD NUM 14  
OF COLL DATE. MUDGE SEC 322. THICK LS IN BURR LS.  
COLL: MUDGE MR

(BL)14816-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
AMERICUS LS MBR  
SEC 0 TNSP RNGE  
DATE: 03/05/1954  
SAME LOC AS (BL)14815-PC. FIELD NUM 2 OF COLL DATE.  
MUDGE SEC 288. GRENOLA LS, SALLYARDS LS MBR.  
COLL: MUDGE MR

(BL)14817-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BURR LS MBR  
SEC 0 TNSP RNGE  
DATE: 03/05/1954  
SAME LOC AS (BL)14815-PC. [01/1989-(BL)14815-PC NOT IN CARD  
FILE.] FIELD NUM 3 OF COLL DATE. MUDGE SEC 288. UPPER LS  
OF BURR LS.  
COLL: MUDGE MR

(BL)14818-PC

COWLEY CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR  
SEC 0 TNSP RNGE  
DATE: 03/05/1954  
SAME LOC AS (BL)14815-PC. [01/1989-  
(BL)14815-PC NOT IN CARD FILE.] FIELD NUM 4 OF COLL DATE.  
MUDGE SEC 288 E. MIDDLE LS OF NEVA LS.  
COLL: MUDGE MR

(BL)14819-PC

ELK CO, KS  
SERIES: LOWER  
FM: JOHNSON SH  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: CAMBRIDGE NE7 7.5  
SEC 3 TNSP 31 S RNGE 08 E  
DATE: 03/05/1954  
SW1/4SE1/4SEC3. FIELD NUM 5 OF COLL DATE. MUDGE SEC 326.  
UPPER PART JOHNSON SH.  
COLL: MUDGE MR

(BL)14820-PC

UNASSIGNED CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
AMERICUS LS MBR  
SEC 0 TNSP RNGE  
DATE: 03/05/1954  
MUDGE SEC 327.  
COLL:

(BL)14821-PC

UNASSIGNED CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 03/05/1954  
SAME LOC AS (BL)14820-PC7. [01/1989-  
(BL)14820-PC NOT IN CARD FILE.] FIELD NUM 9 OF COLL DATE.  
MUDGE SEC 327 UNITC1.  
COLL:

(BL)14822-PC

UNASSIGNED CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 03/05/1954  
SAME LOC AS (BL)14820-PC7 [01/1989- (BL)14820-PC NOT IN CARD  
FILE.] MUDGE SEC 327?  
COLL:

(BL)14823-PC

UNASSIGNED CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 03/05/1954  
SAME LOC AS (BL)14820-PC. [01/1989-(BL)14820-PC NOT IN CARD  
FILE.] MUDGE SEC 327 UNIT C1.  
COLL: MUDGE MR

(BL)14824-PC

ELK CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM  
QUAD: HOWARD NW 7.5  
SEC 10 TNSP 30 S RNGE 09 E  
DATE: 03/05/1954  
NW1/4NW1/4SEC10. FIELD NUM 10 OF COLL DATE. MUDGE SEC 328. CANEYVILLE LS, NEBRASKA CITY LS, SH BENEATH LS.

(BL)14825-PC

ELK CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM  
QUAD: HOWARD NW 7.5  
SEC 10 TNSP 30 S RNGE 09 E  
DATE: 03/05/1954  
NW1/4NW1/4SEC10. SAME LOC AS (BL)14824-PC. FIELD NUM 11 OF COLL DATE. MUDGE SEC 328.

(BL)14826-PC

ELK CO, KS  
SERIES: WOLF  
FM: ONAGA SH  
QUAD: HOWARD NW 7.5  
SEC 10 TNSP 30 S RNGE 09 E  
DATE: 03/05/1954  
NW1/4NW1/4SEC10. SAME LOC AS (BL)14824-PC. FIELD NUM 12 OF COLL DATE. MUDGE SEC 328.

(BL)14827-PC

ELK CO, KS  
SERIES: LOWER  
FM: JANESVILLE SH  
QUAD: HOWARD NW 7.5  
SEC 10 TNSP 30 S RNGE 09 E  
DATE: 03/05/1954  
NW1/4NW1/4SEC10. SAME LOC AS (BL)14824-PC. FIELD NUM 13 OF COLL DATE. MUDGE SEC 328.

(BL)14828-PC

GREENWOOD CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
QUAD: PIEDMONT NW 7.5  
SEC 35 TNSP 27 S RNGE 08 E  
DATE: 03/06/1954  
NW1/4NW1/4SEC35. FIELD NUM 1 OF COLL DATE. MUDGE SEC 329.

(BL)14829-PC

GREENWOOD CO, KS  
SERIES: LOWER  
FM: ESKRIDGE SH  
QUAD: PIEDMONT NW 7.5  
SEC 35 TNSP 27 S RNGE 08 E  
DATE: 03/06/1954  
NW1/4NW1/4SEC35. SAME LOC AS (BL)14828-PC. FIELD NUM 2 OF COLL DATE. MUDGE SEC 329. LS IN LOWER PART OF ESKRIDGE SH

(BL)14830-PC

GREENWOOD CO, KS  
SERIES: LOWER  
FM: ESKRIDGE SH  
QUAD: PIEDMONT NW 7.5  
SEC 35 TNSP 27 S RNGE 08 E  
DATE: 03/06/1954  
NW1/4NW1/4SEC35. SAME LOC AS (BL)14828-PC. FIELD NUM 3 OF COLL DATE. MUDGE SEC 329. SH IN UPPER PART OF ESKRIDGE SH

(BL)14831-PC

GREENWOOD CO, KS  
SERIES: LOWER  
FM: BEATTIE LS  
QUAD: PIEDMONT NW 7.5  
SEC 35 TNSP 27 S RNGE 08 E  
DATE: 03/06/1954  
NW1/4NW1/4SEC35. SAME LOC AS (BL)14828-PC. FIELD NUM 4 OF COLL DATE. MUDGE SEC 329.

(BL)14832-PC

GREENWOOD CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
QUAD: PIEDMONT NW 7.5  
SEC 31 TNSP 27 S RNGE 09 E  
DATE: 03/06/1954  
SW1/4SEC31. FIELD NUM 5 OF COLL DATE. MUDGE SEC 330 UNIT C

(BL)14833-PC

GREENWOOD CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
QUAD: PIEDMONT NW 7.5  
SEC 31 TNSP 27 S RNGE 09 E  
DATE: 03/06/1954  
SW1/4SEC31. SAME LOC AS (BL)14832-PC. FIELD NUM 6 OF COLL DATE. MUDGE SEC 330 UNIT D2.

(BL)14834-PC

GREENWOOD CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
QUAD: PIEDMONT NW 7.5  
SEC 31 TNSP 27 S RNGE 09 E  
DATE: 03/06/1954  
SW1/4SEC31. SAME LOC AS (BL)14832-PC. FIELD NUM 7 OF COLL DATE. MUDGE SEC 330 UNIT E-F.

(BL)14835-PC

GREENWOOD CO, KS  
SERIES: LOWER  
FM: RED EAGLE LS  
QUAD: PIEDMONT NW 7.5  
SEC 2 TNSP 28 S RNGE 08 E  
DATE: 03/06/1954  
NE1/4SEC2. FIELD NUM 8 OF COLL DATE. MUDGE SEC 331.

(BL)14836-PC

GREENWOOD CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
QUAD: PIEDMONT NW 7.5  
SEC 2 TNSP 28 S RNGE 08 E  
DATE: 03/06/1954  
NE1/4SEC2. SAME LOC AS (BL)14835-PC. FIELD NUM 9 OF COLL DATE. MUDGE SEC 331.

(BL)14837-PC

GREENWOOD CO, KS  
SERIES: WOLF  
FM: ONAGA SH  
QUAD: PIEDMONT SW 7.5  
SEC 12 TNSP 28 S RNGE 09 E  
DATE: 03/07/1954  
NW1/4SW1/4SW1/4SEC12. FIELD NUM 1 OF COLL DATE. MUDGE SEC 332.

(BL)14838-PC

ELK CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM  
SYSTEM: PENN  
GROUP: WABAUNSEE  
BROWNVILLE LS MBR  
QUAD: PEIDMONT 7.5  
SEC 24 TNSP 28 S RNGE 09 E  
DATE: 03/07/1954  
NW1/4NE1/4SEC24. FIELD NUM 2 OF COLL DATE. MUDGE SEC 333.  
COLL: MUDGE MR

(BL)14839-PC

ELK CO, KS  
SERIES: WOLF  
FM: ONAGA SH  
SYSTEM: PERM  
GROUP: ADMIRE  
TOWLE SH MBR  
QUAD: PEIDMONT 7.5  
SEC 24 TNSP 28 S RNGE 09 E  
DATE: 03/07/1954  
NW1/4NE1/4SEC24. SAME LOC AS (BL)14838-PC. FIELD NUM 3 OF COLL DATE. MUDGE SEC 333. LS IN LOWER TOWLE SH.  
COLL: MUDGE MR

(BL)14840-PC

ELK CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM  
SYSTEM: PENN  
GROUP: WABAUNSEE  
NEBRASKA CITY LS MBR  
QUAD: PEIDMONT 7.5  
SEC 24 TNSP 28 S RNGE 09 E  
DATE: 03/07/1954  
NW1/4NE1/4SEC24. SAME LOC AS (BL)14838-PC. FIELD NUM 4 OF COLL DATE. MUDGE SEC 333. CANEYVILLE LS, NEBRASKA CITY LS MBR.  
COLL: MUDGE MR

(BL)14841-PC

GREENWOOD CO, KS  
SERIES: VIRG  
FM: ZEANDALE LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
PIERSON POINT SH MBR  
QUAD: PIEDMONT NE 7.5  
SEC 12 TNSP 28 S RNGE 09 E  
DATE: 03/07/1954  
NE1/4SE1/4SEC12. FIELD NUM 5 OF COLL DATE. MUDGE SEC 335. LS IN PIERSON POINT SH.  
COLL: MUDGE MR

(BL)14842-PC

GREENWOOD CO, KS  
SERIES: VIRG  
FM: ZEANDALE LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
PIERSON POINT SH MBR  
QUAD: PIEDMONT NE 7.5  
SEC 12 TNSP 28 S RNGE 09 E  
DATE: 03/07/1954  
NE1/4SE1/4SEC12. SAME LOC AS (BL)14841-PC. FIELD NUM 6 OF COLL DATE. MUDGE SEC 335. SH BENEATH PIERSON PT.  
COLL: MUDGE MR

(BL)14843-PC

GREENWOOD CO, KS  
SERIES: VIRG  
FM: STOTLER LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
DOVER LS MBR  
QUAD: PIEDMONT NE 7.5  
SEC 12 TNSP 28 S RNGE 09 E  
DATE: 03/07/1954  
NE1/4SE1/4SEC12. SAME LOC AS (BL)14841-PC. FIELD NUM 7 OF COLL DATE. MUDGE SEC 335.  
COLL: MUDGE MR

(BL)14844-PC

GREENWOOD CO, KS  
SERIES: VIRG  
FM: ZEANDALE LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
PIERSON POINT SH MBR  
QUAD: EUREKA 7.5  
SEC 30 TNSP 26 S RNGE 10 E  
DATE: 03/07/1954  
NW1/4SW1/4SEC30. FIELD NUM 8 OF COLL DATE. MUDGE SEC 337. LS IN PIERSON PT SH.  
COLL: MUDGE MR

(BL)14845-PC

GREENWOOD CO, KS  
SERIES: WOLF  
FM: ONAGA SH  
SYSTEM: PERM  
GROUP: ADMIRE  
ASPINWALL LS MBR  
QUAD: REECE 7.5  
SEC 27 TNSP 26 S RNGE 09 E  
DATE: 03/08/1954  
NW1/4NW1/4SEC27. FIELD NUM 1 OF COLL DATE. MUDGE SEC 338. LOWER LS IN ASPINWALL LS.  
COLL: MUDGE MR

(BL)14846-PC

GREENWOOD CO, KS  
SERIES: WOLF  
FM: ONAGA SH  
SYSTEM: PERM  
GROUP: ADMIRE  
ASPINWALL LS MBR  
QUAD: REECE 7.5  
SEC 27 TNSP 26 S RNGE 09 E  
DATE: 03/08/1954  
NW1/4NW1/4SEC27. SAME LOC AS (BL)14845-PC. FIELD NUM 2 OF COLL DATE. MUDGE SEC 338. UPPER LS IN ASPINWALL LS.  
COLL: MUDGE MR

(BL)14847-PC

GREENWOOD CO, KS  
SERIES: WOLF  
FORMATION: UNASSIGNED  
SYSTEM: PERM  
GROUP: UNASSIGNED  
FALLS CITY LS MBR  
QUAD: REECE 7.5  
SEC 27 TNSP 26 S RNGE 09 E  
DATE: 03/08/1954  
NW1/4NW1/4SEC27. SAME LOC AS (BL)14845-PC. FIELD NUM 3 OF COLL DATE. MUDGE SEC 338. LOWER FALLS CITY LS.  
COLL: MUDGE MR

(BL)14848-PC

GREENWOOD CO, KS  
SERIES: WOLF  
FORMATION: UNASSIGNED  
SYSTEM: PERM  
GROUP: UNASSIGNED  
FALLS CITY LS MBR  
QUAD: REECE 7.5  
SEC 27 TNSP 26 S RNGE 09 E  
DATE: 03/08/1954  
NW1/4NW1/4SEC27. SAME LOC AS (BL)14845-PC. FIELD NUM 4 OF COLL DATE. MUDGE SEC 338. UPPER FALLS CITY LS.  
COLL: MUDGE MR

(BL)14849-PC

GREENWOOD CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM  
SYSTEM: PENN  
GROUP: WABAUNSEE  
NEBRASKA CITY LS MBR  
QUAD: REECE 7.5  
SEC 16 TNSP 26 S RNGE 09 E  
DATE: 03/08/1954  
SE1/4SW1/4SEC16. FIELD NUM 5 OF COLL DATE. MUDGE SEC 339. CANEYVILLE LS, NEBRASKA CITY LS MBR.  
COLL: MUDGE MR

(BL)14850-PC

GREENWOOD CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
SALLYARDS LS MBR  
QUAD: REECE 7.5  
SEC 11 TNSP 26 S RNGE 09 E  
DATE: 03/08/1954  
SNW/4SW1/4SEC11. FIELD NUM 6 OF COLL DATE. MUDGE SEC 341.  
COLL: MUDGE MR

(BL)14851-PC

GREENWOOD CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BURR LS MBR  
QUAD: REECE 7.5  
SEC 11 TNSP 26 S RNGE 09 E  
DATE: 03/08/1954  
SNW/4SW1/4SEC11. SAME LOC AS (BL)14850-PC. FIELD NUM 7 OF COLL DATE. MUDGE SEC 341. LOWER LS OF BURR LS.  
COLL: MUDGE MR

(BL)14852-PC

GREENWOOD CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: COUNCIL GROVE  
FM: GRENOLA LS BURR LS MBR  
QUAD: REECE 7.5  
SEC 11 TNSP 26 S RNGE 09 E  
DATE: 03/08/1954 COLL: MUDGE MR  
SNW/4SW1/4SEC11. SAME LOC AS (BL)14850-PC. FIELD NUM 8 OF  
COLL DATE. MUDGE SEC 341. LOWER LS OF BURR LS.

(BL)14853-PC

UNASSIGNED CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: COUNCIL GROVE  
FM: FORAKER LS HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 03/08/1954 COLL:

(BL)14854-PC

UNASSIGNED CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: COUNCIL GROVE  
FM: FORAKER LS HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 03/08/1954 COLL: MUDGE MR  
SAME LOC AS (BL)14853-PC. [01/1989-(BL)14853-PC NOT IN CARD  
FILE.] FIELD NUM 10 OF COLL DATE. MUDGE SEC 342 UNIT C.

(BL)14855-PC

UNASSIGNED CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: COUNCIL GROVE  
FM: FORAKER LS HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 03/08/1954 COLL: MUDGE MR  
SAME LOC AS (BL)14853-PC. [01/1989-  
(BL)14853-PC NOT IN CARD FILE.] FIELD NUM 11 OF COLL DATE.  
MUDGE SEC 342 LOWER UNIT D3.

(BL)14856-PC

UNASSIGNED CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: COUNCIL GROVE  
FM: FORAKER LS HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 03/08/1954 COLL: MUDGE MR  
SAME LOC AS (BL)14853-PC. [01/1989-  
(BL)14853-PC NOT IN CARD FILE.] FIELD NUM 12 OF COLL DATE.  
MUDGE SEC 342 LOWER UNIT E.

(BL)14857-PC

UNASSIGNED CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: COUNCIL GROVE  
FM: FORAKER LS HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: 03/08/1954 COLL: MUDGE MR  
SAME LOC AS (BL)14853-PC. [01/1989-(BL)14853-PC NOT IN CARD  
FILE.] FIELD NUM 13 OF COLL DATE. MUDGE SEC 342 UNIT E-F.

(BL)14858-PC

GREENWOOD CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: WOOD SIDING FM NEBRASKA CITY LS MBR  
QUAD: EUREKA NE 7.5  
SEC 1 TNSP 25 S RNGE 09 E  
DATE: 03/09/1954 COLL: MUDGE MR  
SE1/4SEC1. FIELD NUM 1 OF COLL DATE. MUDGE SEC 343.  
CANEYVILLE LS, NEBRASKA CITY LS MBR.

(BL)14859-PC

GREENWOOD CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: WOOD SIDING FM PLUMB SH MBR  
QUAD: EUREKA NE 7.5  
SEC 1 TNSP 25 S RNGE 09 E  
DATE: 03/09/1954 COLL: MUDGE MR  
SE1/4SEC1. SAME LOC AS (BL)14858-PC. FIELD NUM 2 OF COLL  
DATE. MUDGE SEC 343. CANEYVILLE LS; LS IN PLUMB SH MBR.

(BL)14860-PC

GREENWOOD CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: COUNCIL GROVE  
FM: ESKRIDGE SH7 COTTONWOOD LS MBR  
QUAD: ROSALIA 7.5  
SEC 15 TNSP 25 S RNGE 08 E  
DATE: 03/09/1954 COLL: MUDGE MR  
SE1/4NE1/4SEC15. FIELD NUM 3 OF COLL DATE. MUDGE SEC 344.  
LS IN UPPER ESKRIDGE SH. [09/1990-EITHER ESKRIDGE SH FM OR  
COTTONWOOD LS IN BEATTIE LS FM (OW).]

(BL)14861-PC

GREENWOOD CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: STOTLER LS GRANDHAVEN LS MBR  
QUAD: HAMILTON 7.5  
SEC 7 TNSP 24 S RNGE 11 E  
DATE: 03/09/1954 COLL: MUDGE MR  
SE1/4NW1/4SEC7. FIELD NUM 4 OF COLL DATE. MUDGE SEC 345.

(BL)14862-PC

GREENWOOD CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: STOTLER LS GRANDHAVEN LS MBR  
QUAD: MADISON SW 7.5  
SEC 8 TNSP 23 S RNGE 11 E  
DATE: 03/09/1954 COLL: MUDGE MR  
SE1/4SE1/4SEC8. FIELD NUM 5 OF COLL DATE. MUDGE SEC 346.

(BL)14863-PC

GREENWOOD CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: STOTLER LS DRY SHALE MBR  
QUAD: MADISON SW 7.5  
SEC 8 TNSP 23 S RNGE 11 E  
DATE: 03/09/1954 COLL: MUDGE MR  
SE1/4SE1/4SEC8. SAME LOC AS (BL)14862-PC. FIELD NUM 6 OF  
COLL DATE. MUDGE SEC 346.

(BL)14864-PC

GREENWOOD CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: ZEANDALE LS MAPLE HILL LS MBR  
QUAD: MADISON 7.5  
SEC 8 TNSP 23 S RNGE 11 E  
DATE: 03/09/1954 COLL: MUDGE MR  
SE1/4SE1/4SEC8. SAME LOC AS (BL)14862-PC. FIELD NUM 7 OF  
COLL DATE. MUDGE SEC 346.

(BL)14865-PC

LYON CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: ROOT SH JIM CREEK LS MBR  
QUAD: MADISON 7.5  
SEC 20 TNSP 21 S RNGE 11 E  
DATE: 03/10/1954 COLL: MUDGE MR  
NE1/2SE1/4SEC20. FIELD NUM 1 OF COLL DATE. SEC MEAS BY H  
O'CONNOR, KANSAS GEOL SURVEY.

(BL)14866-PC

LYON CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: STOTLER LS GRANDHAVEN LS MBR  
QUAD: MADISON 7.5  
SEC 20 TNSP 21 S RNGE 11 E  
DATE: 03/10/1954 COLL: MUDGE MR  
NE1/2SE1/4SEC20. SAME LOC AS (BL)14865-PC. FIELD NUM 2 OF  
COLL DATE. SEC MEAS BY H O'CONNOR, KANSAS GEOL SURVEY.



(BL)14867-PC

LYON CO, KS  
SERIES: VIRG  
FM: STOTLER LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
DRY SHALE MBR  
QUAD: MADISON 7.5  
SEC 20 TNSP 21 S RNGE 11 E  
COLL: MUDGE MR  
DATE: 03/10/1954  
NE1/2SE1/4SEC20. SAME LOC AS (BL)14865-PC. FIELD NUM 3 OF  
COLL DATE. SEC MEAS BY H O'CONNOR, KANSAS GEOL SURVEY.  
'STRAY' LS IN DRY SH.

(BL)14868-PC

LYON CO, KS  
SERIES: VIRG  
FM: STOTLER LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
DOVER LS MBR  
QUAD: MADISON 7.5  
SEC 20 TNSP 21 S RNGE 11 E  
COLL: MUDGE MR  
DATE: 03/10/1954  
NE1/2SE1/4SEC20. SAME LOC AS (BL)14865-PC. FIELD NUM 4 OF  
COLL DATE. SEC MEAS BY H O'CONNOR, KANSAS GEOL SURVEY.

(BL)14869-PC

GREENWOOD CO, KS  
SERIES: VIRG  
FM: STOTLER LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
GRANDHAVEN LS MBR  
QUAD: MADISON 7.5  
SEC 6 TNSP 22 S RNGE 11 E  
COLL: MUDGE MR  
DATE: 03/10/1954  
SW1/4NW1/4SEC6. FIELD NUM 5 OF COLL DATE. UPPER LS OF  
GRANDHAVEN LS.

(BL)14870-PC

GREENWOOD CO, KS  
SERIES: VIRG  
FM: STOTLER LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
DRY SHALE MBR  
QUAD: MADISON 7.5  
SEC 6 TNSP 22 S RNGE 11 E  
COLL: MUDGE MR  
DATE: 03/10/1954  
SW1/4NW1/4SEC6. SAME LOC AS (BL)14869-PC. FIELD NUM 6 OF  
COLL DATE. LOWER DRY SH.

(BL)14871-PC

GREENWOOD CO, KS  
SERIES: VIRG  
FM: ZEANDALE LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
MAPLE HILL LS MBR  
QUAD: MADISON 7.5  
SEC 6 TNSP 22 S RNGE 11 E  
COLL: MUDGE MR  
DATE: 03/10/1954  
SW1/4NW1/4SEC6. SAME LOC AS (BL)14869-PC. FIELD NUM 7 OF  
COLL DATE.

(BL)14872-PC

GREENWOOD CO, KS  
SERIES: VIRG  
FM: STOTLER LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
DRY SHALE MBR  
QUAD: SEVERY 7.5  
SEC 8 TNSP 28 S RNGE 11 E  
COLL: MUDGE MR  
DATE: 03/10/1954  
SW1/4SE1/4SEC8. FIELD NUM 8 OF COLL DATE. APPROX 0.25 MI W  
OF SEC 348. THIN LS IN DRY SH BENEATH GRANDHAVEN LS.

(BL)14874-PC

LYON CO, KS  
SERIES: VIRG  
FM: ZEANDALE LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
PIERSON POINT SH MBR  
QUAD: OLPE 7.5  
SEC 3 TNSP S0 S RNGE 11 E  
COLL: MUDGE MR  
DATE: 03/11/1954  
CENTER N SIDE SEC3. FIELD NUM 2 OF COLL DATE. MUDGE SEC  
349. PIERSON PT; SH ABOVE COAL.

(BL)14876-PC

LYON CO, KS  
SERIES: VIRG  
FM: ZEANDALE LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
PIERSON POINT SH MBR  
QUAD: OLPE 7.5  
SEC 3 TNSP 20 S RNGE 11 E  
COLL: MUDGE MR  
DATE: 03/11/1954  
CENTER N SIDE SEC3. SAME LOC AS (BL)14874-PC. FIELD NUM 4  
OF COLL DATE. MUDGE SEC 349. MARL ZN ABOVE (BL)14875-PC.  
[01/1989-(BL)14875-PC NOT IN CARD FILE.]

(BL)14880-PC

UNASSIGNED CO, KS  
SERIES: VIRG  
FM: ZEANDALE LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
PIERSON POINT SH MBR  
SEC 0 TNSP RNGE  
COLL: MUDGE MR  
DATE: 03/11/1954  
SAME LOC AS (BL)14879-PC. [01/1989-(BL)14879-PC NOT IN CARD  
FILE.] MARLS ZN ABOVE (BL)14879-PC IN PIERSON PT SH.

(BL)14881-PC

LYON CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR  
QUAD: AMERICUS 7.5  
SEC 7 TNSP 18 S RNGE 10 E  
COLL: MUDGE MR  
DATE: 03/11/1954  
CENTER NW1/4 SEC7. FIELD NUM 9 OF COLL DATE. MEAS SEC 11  
G OF H O'CONNOR, KANSAS GEOL SURVEY. UPPER LS OF NEVA  
LS MBR.

(BL)14882-PC

LYON CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR  
QUAD: AMERICUS 7.5  
SEC 7 TNSP 18 S RNGE 10 E  
COLL: MUDGE MR  
DATE: 03/11/1954  
CENTER NW1/4 SEC7. SAME LOC AS (BL)14881-PC. FIELD NUM 10  
OF COLL DATE. MEAS SEC 11 F OF H O'CONNOR, KANSAS GEOL  
SURVEY. UPPER SH BED IN NEVA LS MBR.

(BL)14883-PC

LYON CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR  
QUAD: AMERICUS 7.5  
SEC 7 TNSP 18 S RNGE 10 E  
COLL: MUDGE MR  
DATE: 03/11/1954  
CENTER NW1/4 SEC7. SAME LOC AS (BL)14881-PC. FIELD NUM 11  
OF COLL DATE. MEAS SEC 11 D OF H O'CONNOR, KANSAS GEOL  
SURVEY. SH IN MIDDLE LS OF NEVA LS MBR.

(BL)14884-PC

LYON CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR  
QUAD: AMERICUS 7.5  
SEC 7 TNSP 18 S RNGE 10 E  
COLL: MUDGE MR  
DATE: 03/11/1954  
CENTER NW1/4 SEC7. SAME LOC AS (BL)14881-PC. FIELD NUM 12  
OF COLL DATE. MEAS SEC 11 C OF H O'CONNOR, KANSAS GEOL  
SURVEY. LS IN LOWER NEVA LS.

(BL)14885-PC

LYON CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BURR LS MBR  
QUAD: AMERICUS 7.5  
SEC 7 TNSP 18 S RNGE 10 E  
COLL: MUDGE MR  
DATE: 03/11/1954  
CENNW1/4SEC7. FIELD NUM 13 OF COLL DATE. MEAS SEC 10 OF H  
O'CONNOR, KANSAS GEOL SURVEY. UPPER LS OF BURR LS.

(BL)14886-PC

LYON CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
BURR LS MBR  
QUAD: AMERICUS 7.5  
SEC 7 TNSP 18 S RNGE 10 E  
DATE: 03/11/1954  
CENNW1/4SEC7. SAME LOC AS (BL)14885-PC. FIELD NUM 14 OF  
COLL DATE. MEAS SEC 10 OF H O'CONNOR, KANSAS GEOL  
SURVEY. SH IN BURR LS.

(BL)14887-PC

LYON CO, KS  
SERIES: LOWER  
FM: JANESVILLE SH  
SYSTEM: PERM  
GROUP: ADMIRE  
FIVE POINT LS MBR  
QUAD: ADMIRE 7.5  
SEC 7 TNSP 16 S RNGE 12 E  
DATE: 03/11/1954  
CENSE1/4SEC7. FIELD NUM 15 OF COLL DATE. MEAS SEC 4 OF H  
O'CONNOR, KANSAS GEOL SURVEY.

(BL)14888-PC

LYON CO, KS  
SERIES: WOLF  
FORMATION: UNASSIGNED  
SYSTEM: PERM  
GROUP: UNASSIGNED  
FALLS CITY LS MBR  
QUAD: ADMIRE 7.5  
SEC 7 TNSP 16 S RNGE 12 E  
DATE: 03/11/1954  
CENSE1/4SEC7. SAME LOC AS (BL)14887-PC. FIELD NUM 16 OF  
COLL DATE. MEAS SEC 4 OF H O'CONNOR, KANSAS GEOL  
SURVEY. UPPER FALLS CITY LS.

(BL)14889-PC

LYON CO, KS  
SERIES: LOWER  
FM: JANESVILLE SH  
SYSTEM: PERM  
GROUP: ADMIRE  
WEST BRANCH SH MBR  
QUAD: ADMIRE 7.5  
SEC 7 TNSP 16 S RNGE 12 E  
DATE: 03/11/1954  
CENSE1/4SEC7. SAME LOC AS (BL)14887-PC. FIELD NUM 17 OF  
COLL DATE. MEAS SEC 4 OF H O'CONNOR, KANSAS GEOL  
SURVEY. LOWER WEST BRANCH SH.

(BL)14890-PC

LYON CO, KS  
SERIES: WOLF  
FORMATION: UNASSIGNED  
SYSTEM: PERM  
GROUP: UNASSIGNED  
FALLS CITY LS MBR  
QUAD: ADMIRE 7.5  
SEC 7 TNSP 16 S RNGE 12 E  
DATE: 03/11/1954  
CENSE1/4SEC7. SAME LOC AS (BL)14887-PC. FIELD NUM 17 OF  
COLL DATE. MEAS SEC 4 OF H O'CONNOR, KANSAS GEOL  
SURVEY. LOWER FALLS CITY LS.

(BL)14891-PC

LYON CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
QUAD: ALLEN 7.5  
SEC 26 TNSP 15 S RNGE 11 E  
DATE: 03/11/1954  
SE1/4SE1/4SEC26. FIELD NUM 19 OF COLL DATE. MEAS SEC 7  
(305?) LOWER UNIT E OF H O'CONNOR OF KANSAS GEOL SURVEY.

(BL)14892-PC

LYON CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
QUAD: ALLEN 7.5  
SEC 26 TNSP 15 S RNGE 11 E  
DATE: 03/11/1954  
SE1/4SE1/4SEC26. SAME LOC AS (BL)14891-PC. FIELD NUM 20 OF  
COLL DATE. MEAS SEC 305 OF H O'CONNOR OF KANSAS GEOL  
SURVEY. UPPER SH OF UNIT D.

(BL)14893-PC

LYON CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
QUAD: ALLEN 7.5  
SEC 26 TNSP 15 S RNGE 11 E  
DATE: 03/11/1954  
SE1/4SE1/4SEC26. SAME LOC AS (BL)14891-PC. FIELD NUM 21 OF  
COLL DATE. MEAS SEC 305 OF H O'CONNOR OF KANSAS GEOL  
SURVEY. LS IN IMDDLE UNIT D.

(BL)14894-PC

LYON CO, KS  
SERIES: LOWER  
FM: FORAKER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
HUGHES CREEK SH MBR  
QUAD: ALLEN 7.5  
SEC 26 TNSP 15 S RNGE 11 E  
DATE: 03/11/1954  
SE1/4SE1/4SEC26. SAME LOC AS (BL)14891-PC. FIELD NUM 22 OF  
COLL DATE. MEAS SEC 305 OF H O'CONNOR OF KANSAS GEOL  
SURVEY. UNIT C.

(BL)14896-PC

WABAUNSEE CO, KS  
SERIES: VIRG  
FM: ZEANDALE LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
PIERSON POINT SH MBR  
QUAD: LOUISVILLE 7.5  
SEC 15 TNSP 15 S RNGE 13 E  
DATE: 03/11/1954  
SE1/4NW1/4SEC15. FIELD NUM 24 OF COLL DATE. MUDGE MEAS  
SEC 90.

(BL)14897-PC

POTTAWATOMIE CO, KS  
SERIES: VIRG  
FM: STOTLER LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
DRY SHALE MBR  
QUAD: LOUISVILLE 7.5  
SEC 6 TNSP 09 S RNGE 10 E  
DATE: 03/13/1954  
NW1/4NW1/4SEC6. FIELD NUM 1 OF COLL DATE. SCOTT MEAS  
SEC 10.

(BL)14898-PC

POTTAWATOMIE CO, KS  
SERIES: VIRG  
FM: STOTLER LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
GRANDHAVEN LS MBR  
QUAD: LOUISVILLE 7.5  
SEC 6 TNSP 09 S RNGE 10 E  
DATE: 03/13/1954  
NW1/4NW1/4SEC6. SAME LOC AS (BL)14897-PC. FIELD NUM 2 OF  
COLL DATE. SCOTT MEAS SEC 10 P325. LOWER LS OF  
GRANDHAVEN LS.

(BL)14899-PC

POTTAWATOMIE CO, KS  
SERIES: VIRG  
FM: STOTLER LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
GRANDHAVEN LS MBR  
QUAD: LOUISVILLE 7.5  
SEC 6 TNSP 09 S RNGE 10 E  
DATE: 03/13/1954  
NW1/4NW1/4SEC6. SAME LOC AS (BL)14897-PC. FIELD NUM 3 OF  
COLL DATE. SCOTT MEAS SEC 10 P325.

(BL)14903-PC

POTTAWATOMIE CO, KS  
SERIES: VIRG  
FM: ROOT SH  
SYSTEM: PENN  
GROUP: WABAUNSEE  
JIM CREEK LS MBR  
QUAD: ONAGA 7.5  
SEC 29 TNSP 07 S RNGE 11 E  
DATE: 03/13/1954  
SE1/4SE1/4SEC29. FIELD NUM 4 OF COLL DATE. MUDGE SEC 350.

(BL)14904-PC

POTTAWATOMIE CO, KS                    SYSTEM: PENN  
SERIES: VIRG                    GROUP: WABAUNSEE  
FM: WOOD SIDING FM           NEBRASKA CITY LS MBR  
QUAD: ONAGA 7.5  
SEC 29 TNSP 07 S RNGE 11 E  
DATE: 03/13/1954                    COLL: MUDGE MR  
SE1/4SE1/4SEC29. SAME LOC AS (BL)14903-PC. FIELD NUM 5 OF  
COLL DATE. MUDGE SEC 350. CANEYVILLE LS.

(BL)14905-PC

BROWN CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: COUNCIL GROVE  
FM: BEATTIE LS                    FLORENA SH MBR  
QUAD: BAILEYVILLE 0.0  
SEC 4 TNSP 03 S RNGE 11 E  
DATE: 03/13/1954                    COLL: MUDGE MR  
SW1/4SW1/4SEC4. FIELD NUM 6 OF COLL DATE. MUDGE SEC 351.

(BL)14906-PC

BROWN CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: COUNCIL GROVE  
FM: FORAKER LS                    AMERICUS LS MBR  
QUAD: FAIRVIEW 7.5  
SEC 30 TNSP 02 S RNGE 16 E  
DATE: 03/13/1954                    COLL: MUDGE MR  
CENSW1/4SEC30. FIELD NUM 7 OF COLL DATE. MUDGE SEC 352.  
LOWER LS OF AMERICUS LS.

(BL)14907-PC

BROWN CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: COUNCIL GROVE  
FM: FORAKER LS                    AMERICUS LS MBR  
QUAD: FAIRVIEW 7.5  
SEC 30 TNSP 02 S RNGE 16 E  
DATE: 03/13/1954                    COLL: MUDGE MR  
CENSW1/4SEC30. SAME LOC AS (BL)14906-PC. FIELD NUM 8 OF  
COLL DATE. MUDGE SEC 352. UPPER LS OF AMERICUS LS.

(BL)14908-PC

BROWN CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: ADMIRE  
FM: JANESVILLE SH                HAMLIN SH MBR  
QUAD: FAIRVIEW 7.5  
SEC 30 TNSP 02 S RNGE 16 E  
DATE: 03/13/1954                    COLL: MUDGE MR  
CENSW1/4SEC30. SAME LOC AS (BL)14906-PC. FIELD NUM 9 OF  
COLL DATE. MUDGE SEC 352. STINE SH JUST BELOW AMERICUS.

(BL)14909-PC

BROWN CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: COUNCIL GROVE  
FM: FORAKER LS                    HUGHES CREEK SH MBR  
QUAD: FAIRVIEW 7.5  
SEC 30 TNSP 02 S RNGE 16 E  
DATE: 03/13/1954                    COLL: MUDGE MR  
CENSW1/4SEC30. SAME LOC AS (BL)14906-PC. FIELD NUM 10 OF  
COLL DATE. MUDGE SEC 352. LOWER 2/3 OF A.

(BL)14910-PC

BROWN CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: COUNCIL GROVE  
FM: FORAKER LS                    HUGHES CREEK SH MBR  
QUAD: FAIRVIEW 7.5  
SEC 30 TNSP 02 S RNGE 16 E  
DATE: 03/13/1954                    COLL: MUDGE MR  
CENSW1/4SEC30. SAME LOC AS (BL)14906-PC. FIELD NUM 11 OF  
COLL DATE. MUDGE SEC 352. UNIT B INCLUSIVE.

(BL)14911-PC

BROWN CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: COUNCIL GROVE  
FM: FORAKER LS                    HUGHES CREEK SH MBR  
QUAD: FAIRVIEW 7.5  
SEC 30 TNSP 02 S RNGE 16 E  
DATE: 03/13/1954                    COLL: MUDGE MR  
CENSW1/4SEC30. SAME LOC AS (BL)14906-PC. FIELD NUM 12 OF  
COLL DATE. MUDGE SEC 352. UPPER UNIT C.

(BL)14912-PC

BROWN CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: COUNCIL GROVE  
FM: FORAKER LS                    HUGHES CREEK SH MBR  
QUAD: FAIRVIEW 7.5  
SEC 30 TNSP 02 S RNGE 16 E  
DATE: 03/13/1954                    COLL: MUDGE MR  
CENSW1/4SEC30. SAME LOC AS (BL)14906-PC. FIELD NUM 13 OF  
COLL DATE. MUDGE SEC 352. UNIT E-F.

(BL)14913-PC

JACKSON CO, KS                    SYSTEM: PENN  
SERIES: VIRG                    GROUP: WABAUNSEE  
FM: STOTLER LS                    GRANDHAVEN LS MBR  
QUAD: SEE COMMENT 7.5  
SEC 10 TNSP 05 S RNGE 16 E  
DATE: 03/14/1954                    COLL: MUDGE MR  
SW1/4SW1/4SEC10. SAME LOC AS (BL)14906-PC. FIELD NUM 1 OF COLL DATE. MOSS MEAS SEC  
324. QUAD IS HORTON OR WHITING.

(BL)14915-PC

CHAUTAUQUA CO, KS                SYSTEM: PENN  
SERIES: VIRG                    GROUP: WABAUNSEE  
FM: ZEANDALE LS                    PIERSON POINT SH MBR  
QUAD: GRENOLA 7.5  
SEC 1 TNSP 32 S RNGE 08 E  
DATE: 03/14/1954                    COLL: MUDGE MR  
STREAM GULLY NE1/4NE1/4SEC1. FIELD NUM 3 OF COLL DATE.  
MUDGE SEC 283. OST ZN ABOVE COAL LIN PIERSON POINT SH.

(BL)14924-PC

UNASSIGNED CO, KS                SYSTEM: PENN  
SERIES: VIRG                    GROUP: WABAUNSEE  
FM: STOTLER LS                    DRY SHALE MBR  
SEC 0 TNSP RNGE  
DATE:                                COLL:

(BL)14928-PC

BROWN CO, KS                    SYSTEM: PERM  
SERIES: WOLF                    GROUP: UNASSIGNED  
FORMATION: UNASSIGNED           FALLS CITY LS MBR  
QUAD: FAIRVIEW 7.5  
SEC 28 TNSP 02 S RNGE 16 E  
DATE: 04/14/1954                    COLL:  
RD CUT HWY 36, NW1/4SE1/4SEC28. FIELD NUM 1 OF COLL DATE.  
MUDGE SEC P356. LOWER LS OF FALLS CITY LS.

(BL)14938-PC

JACKSON CO, KS                    SYSTEM: PERM  
SERIES: LOWER                    GROUP: ADMIRE  
FM: JANESVILLE SH                HAMLIN SH MBR  
QUAD: SOLDIER CK SW 7.5  
SEC 24 TNSP 08 S RNGE 13 E  
DATE: 06/18/1954                    COLL:  
SW1/4SW1/4SEC24. FIELD NUM 1 OF COLL DATE. MUDGE SEC  
P356. HOUCHEEN CREEK LS.

(BL)15886-PC

MONTGOMERY CO, KS  
SERIES: MSSR  
FM: STANTON LS  
SYSTEM: PENN  
GROUP: LANSING  
EUDORA SH MBR  
QUAD: BOLTON 7.5  
SEC 25 TNSP 33 S RNGE 14 E  
DATE: 05/04/1955  
RD CUT N SIDE OF US HWY 75 3.1 MI E OF SCHOOL IN WAYSIDE.  
COLL ELY & SH MAMAY. QUAD INDEP 1903 ED. SE SEC 25.

(BL)15887-PC

CHEROKEE CO, KS  
SERIES: DESM  
FM: CABANISS FM  
SYSTEM: PENN  
GROUP: CHEROKEE  
TIAWAH LS MBR  
QUAD: COLUMBUS 7.5  
SEC 25 TNSP 32 S RNGE 23 E  
DATE: 05/07/1955  
ABANDONED STRIP PIT, NWCORSEC25. TIAWAH LS & BLACK SH  
IMMED OVERLYING TIAWAH. COLL ELY & SH MAMAY. QUAD  
LAWRENCE 1956 ED.

(BL)15888-PC

LYON CO, KS  
SERIES: VIRG  
FM: STOTLER LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
DRY SHALE MBR  
QUAD: EMPORIA 7.5  
SEC 3 TNSP 19S RNGE 11E  
DATE: 05/11/1955  
RD DITCH N SIDE OF W 18 ST. JUST S OF GOLF COURSE. APPROX  
500 FT W OF ST HWY 99 IN EMPORIA. LOC E-1A OF TASCH. SE SW  
SEC 3.

(BL)15889-PC

POTTAWATOMIE CO, KS  
SERIES: VIRG  
FM: ZEANDALE LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
TARKIO LS MBR  
QUAD: ONAGA 7.5  
SEC 35 TNSP 06 S RNGE 11 E  
DATE: 05/11/1955  
RECOLLECTION OF  
(BL)13532-PC. RD CUT SE1/4SE1/4SEC35. TOP OF TARKIO LS.  
COLL ELY & SH MAMAY.

(BL)16474-PC

RILEY CO, KS  
SERIES: LOWER  
FM: DOYLE SH  
SYSTEM: PERM  
GROUP: CHASE  
GAGE SH MBR  
QUAD: RILEY 7.5  
SEC 32 TNSP 08 S RNGE 06 E  
DATE: 00/00/1959  
SE1/4NE1/4SEC32. 3/5 FT FROM TOP (DERBYIA BED). COLL FEB &  
MR MUDGE.

(BL)16475-PC

RILEY CO, KS  
SERIES: LOWER  
FM: DOYLE SH  
SYSTEM: PERM  
GROUP: CHASE  
GAGE SH MBR  
QUAD: FORT RILEY NE 7.5  
SEC 22 TNSP 10 S RNGE 05 E  
DATE: 00/00/1959  
NE1/4NW1/4SEC22. COLL FEB & MR MUDGE.

(BL)16476-PC

RILEY CO, KS  
SERIES: LOWER  
FM: DOYLE SH  
SYSTEM: PERM  
GROUP: CHASE  
GAGE SH MBR  
QUAD: MILFORD 7.5  
SEC 31 TNSP 09 S RNGE 05 E  
DATE: 00/00/1959  
SW1/4SE1/4SEC31. COLL FEB & MR MUDGE.

(BL)16477-PC

RILEY CO, KS  
SERIES: LOWER  
FM: DOYLE SH  
SYSTEM: PERM  
GROUP: CHASE  
GAGE SH MBR  
QUAD: RANDOLF 7.5  
SEC 36 TNSP 07 S RNGE 05 E  
DATE: 00/00/1959  
SE1/4NE1/4SEC36. UPPER GAGE SH. COLL FEB & MR MUDGE.

(BL)16478-PC

RILEY CO, KS  
SERIES: LOWER  
FM: NOLANS LS  
SYSTEM: PERM  
GROUP: CHASE  
PADDOCK SH MBR  
QUAD: BALA 7.5  
SEC 8 TNSP 09 S RNGE 05 E  
DATE: 00/00/1959  
NW1/4NE1/4NE1/4SEC8. UPPER 3 FT PADDOCK SH. COLL MRM &  
FE BYRNE.

(BL)16479-PC

RILEY CO, KS  
SERIES: LOWER  
FM: BARNESTON LS  
SYSTEM: PERM  
GROUP: CHASE  
FLORENCE LS MBR  
QUAD: OLSBURG SW 7.5  
SEC 29 TNSP 08 S RNGE 07 E  
DATE: 00/00/1959  
NE1/4NW1/4SEC29. COLL MRM & FE BYRNE.

(BL)16480-PC

RILEY CO, KS  
SERIES: LOWER  
FM: GRENOLA LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
NEVA LS MBR  
QUAD: MANHATTAN 7.5  
SEC 26 TNSP 10 S RNGE 07 E  
DATE: 00/00/1959  
NW1/4NW1/4SEC25. FIRST SH BREAK FROM BASE OF NEVA LS.  
COLL MRM & FE BYRNE.

(BL)16481-PC

RILEY CO, KS  
SERIES: LOWER  
FM: WREFORD LS  
SYSTEM: PERM  
GROUP: CHASE  
SCHROYER LS MBR  
QUAD: OLSBURG NW 7.5  
SEC 4 TNSP 07 S RNGE 07 E  
DATE: 00/00/1959  
NW1/4SE1/4SEC4. LOWER PLATY PART SCHROYER LS. COLL  
MRM & FE BYRNE.

(BL)16482-PC

RILEY CO, KS  
SERIES: LOWER  
FM: GARRISON SH\*  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
CROUSE LS MBR  
QUAD: OLSBURG SW 7.5  
SEC 29 TNSP 08 S RNGE 07 E  
DATE: 00/00/1959  
NE1/4SW1/4SEC29. UPPER 2 FT CROUSE LS. COLL MRM & FE  
BYRNE. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)16483-PC

RILEY CO, KS  
SERIES: LOWER  
FM: BARNESTON LS  
SYSTEM: PERM  
GROUP: CHASE  
FORT RILEY LS MBR  
QUAD: OLSBURG NW 7.5  
SEC 20 TNSP 07 S RNGE 07 E  
DATE: 00/00/1959  
NE1/4SE1/4SEC20. SH BREAK BENEATH RIM ROCK FT RILEY LS.  
COLL MRM & FE BYRNE.

(BL)16484-PC

RILEY CO, KS  
SERIES: LOWER  
FM: WREDFORD LS  
SYSTEM: PERM  
GROUP: CHASE  
HAVENSVILLE SH MBR  
QUAD: OLSBURG NW 7.5  
SEC 4 TNSP 07 S RNGE 07 E  
COLL: MUDGE MR\*  
DATE: 00/00/1959  
NW1/4SE1/4SEC4. MSSV LS NEAR MID HAVENSVILLE SH. COLL  
MRM & FE BYRNE.

(BL)16485-PC

RILEY CO, KS  
SERIES: LOWER  
FM: BARNESTON LS  
SYSTEM: PERM  
GROUP: CHASE  
OKETO SH MBR  
QUAD: LASITA 7.5  
SEC 32 TNSP 06 S RNGE 05 E  
COLL: MUDGE MR\*  
DATE: 00/00/1959  
SE1/4NW1/4SEC32. COLL MRM & FE BYRNE.

(BL)16486-PC

RILEY CO, KS  
SERIES: LOWER  
FM: BADER LS  
SYSTEM: PERM  
GROUP: CHASE  
EISS LS MBR  
QUAD: OLSBURG 7.5  
SEC 36 TNSP 08 S RNGE 06 E  
COLL: MUDGE MR\*  
DATE: 00/00/1959  
SW1/4SW1/4SEC36. SH BREAK IN EISS LS. COLL MRM & FE  
BYRNE.

(BL)16487-PC

RILEY CO, KS  
SERIES: LOWER  
FM: MATFIELD SH  
SYSTEM: PERM  
GROUP: CHASE  
BLUE SPRINGS SH MBR  
QUAD: OLSBURG SW 7.5  
SEC 29 TNSP 08 S RNGE 07 E  
COLL: MUDGE MR\*  
DATE: 00/00/1959  
NE1/4SW1/4SEC 29. UPPER 6 FT OF BLUE SPRINGS SH. COLL MRM  
& FE BYRNE.

(BL)16488-PC

RILEY CO, KS  
SERIES: LOWER  
FM: BADER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
EISS LS MBR  
QUAD: OLSBURG SW 7.5  
SEC 21 TNSP 08 S RNGE 07 E  
COLL: MUDGE MR\*  
DATE: 00/00/1959  
NE1/4SW1/4SEC21. SH BREAK IN MIDDLE OF EISS LS. COLL MRM  
& FE BYRNE.

(BL)16489-PC

RILEY CO, KS  
SERIES: LOWER  
FM: DOYLE SH  
SYSTEM: PERM  
GROUP: CHASE  
GAGE SH MBR  
QUAD: FORT RILEY NE 7.5  
SEC 26 TNSP 09 S RNGE 05 E  
COLL: MUDGE MR\*  
DATE: 00/00/1959  
NE1/4NE1/4SEC26. UPPER 3 FT OF GAGE SH. COLL MRM & FE  
BYRNE.

(BL)16490-PC\*

RILEY CO, KS  
SERIES: LOWER  
FM: BARNESTON LS  
SYSTEM: PERM  
GROUP: CHASE  
OKETO SH MBR  
QUAD: OLSBURG SW 7.5  
SEC 10 TNSP 08 S RNGE 06 E  
COLL: MUDGE MR\*  
DATE: 00/00/1959  
SE1/4SW1/4SEC10. COLL MRM & FE BYRNE.

(BL)16491-PC

RILEY CO, KS  
SERIES: LOWER  
FM: BARNESTON LS  
SYSTEM: PERM  
GROUP: CHASE  
OKETO SH MBR  
QUAD: MILFORD 7.5  
SEC 4 TNSP 11 S RNGE 05 E  
COLL: MUDGE MR\*  
DATE: 00/00/1959  
NW1/4SECSEC4. COLL MRM & FE BYRNE.

(BL)16492-PC

POTTAWATOMIE CO, KS  
SERIES: LOWER  
FM: BADER LS  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MIDDLEBURG LS MBR  
QUAD: TUTTLE CK DAM 7.5  
SEC 29 TNSP 08 S RNGE 08 E  
COLL: MUDGE MR\*  
DATE: 00/00/1959  
SE1/4SE1/4SEC29. LOWER PART MIDDLEBURG LS. COLL MRM &  
FE BYRNE.

(BL)16493-PC

RILEY CO, KS  
SERIES: WOLF  
FM: WINFIELD LS  
SYSTEM: PERM  
GROUP: CHASE  
GRANT SH MBR  
QUAD: FORT RILEY NE 7.5  
SEC 22 TNSP 10 S RNGE 05 E  
COLL: MUDGE MR\*  
DATE: 00/00/1959  
NE1/4NW1/4SEC22. COLL MRM & FE BYRNE.

(BL)16494-PC

RILEY CO, KS  
SERIES: LOWER  
FM: NOLANS LS  
SYSTEM: PERM  
GROUP: CHASE  
PADDOCK SH MBR  
QUAD: FORT RILEY NE 7.5  
SEC 14 TNSP 10 S RNGE 05 E  
COLL: MUDGE MR\*  
DATE: 00/00/1959  
SW1/4SW1/4SEC14. UPPER 1 FT PADDOCK SH. COLL MRM & FE  
BYRNE.

(BL)16495-PC

RILEY CO, KS  
SERIES: LOWER  
FM: MATFIELD SH  
SYSTEM: PERM  
GROUP: CHASE  
WYMORE SH MBR  
QUAD: OGDEN 7.5  
SEC 18 TNSP 11 S RNGE 07 E  
COLL: MUDGE MR\*  
DATE: 00/00/1959  
SW1/4SW1/4SEC18. THIN LS NEAR MIDDLE OF WYMORE SH. COLL  
MRM & FE BYRNE.

(BL)16496-PC

RILEY CO, KS  
SERIES: LOWER  
FM: BARNESTON LS?  
SYSTEM: PERM  
GROUP: CHASE?  
FLORENCE LS? MBR  
QUAD: OGDEN 7.5  
SEC 18 TNSP 11 S RNGE 07 E  
COLL: MUDGE MR\*  
DATE: 00/00/1959  
SW1/4SE1/4SEC18. BASAL FLORENCE SH. COLL MRM & FE  
BYRNE. [01/91-INFO ON CARD SPARSE, ENTERED AS IF COLL A SH  
IN THE FLORENCE LS.]

(BL)16497-PC

RILEY CO, KS  
SERIES: LOWER  
FM: SPEISER SH  
SYSTEM: PERM  
GROUP: COUNCIL GROVE  
MEMBER: UNASSIGNED  
QUAD: MANHATTAN 7.5  
SEC 28 TNSP 10 S RNGE 08 E  
COLL: MUDGE MR\*  
DATE: 00/00/1959  
SW1/4SE1/4SEC28. UPPER 3 FT SPEISER SH. COLL MRM & FE  
BYRNE.

(BL)16498-PC

RILEY CO, KS  
SERIES: LOWER  
FM: BARNESTON LS  
SYSTEM: PERM  
GROUP: CHASE  
FLORENCE LS MBR  
QUAD: OLSBURG NW 7.0  
SEC 15 TNSP 07 S RNGE 06 E  
COLL: MUDGE MR\*  
DATE: 00/00/1959  
NE1/4SW1/4SEC15. SH BREAK NEAR BOTT FLORENCE LS. COLL  
MRM & FE BYRNE.

(BL)16499-PC

RILEY CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: CHASE  
FM: BARNESTON LS OKETO SH MBR  
QUAD: OLSBURG 7.5  
SEC 6 TNSP 07 S RNGE 06 E  
DATE: 00/00/1959 COLL: MUDGE MR\*  
NW1/4NW1/4SEC6. COLL MRM & FE BYRNE.

(BL)16561-PC

RILEY CO, KS SYSTEM: PERM  
SERIES: LOWER GROUP: CHASE  
FM: WREDFORD LS THREEMILE LS MBR  
QUAD: MANHATTAN 7.5  
SEC 28 TNSP 10 S RNGE 08 E  
DATE: 00/00/1959 COLL: BYRNE FE  
SW1/4SE1/4SEC28. LOWER 3 FT OF THREEMILE LS MBR.

(BL)19441-PC

SHAWNEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: OREAD LS KEREFOED LS MBR  
QUAD: RICHLAND 7.5  
SEC 27 TNSP 13 S RNGE 17 E  
DATE: 00/00/1959 COLL: JOHNSON WD\*  
STREAMBED & ALONG ADJACENT RD IN SE1/4SW1/4SWCORSEC27.  
0.75 MI E OF RICHLAND. 4.0 FT KEREFOED LS OF THE OREAD  
LSCOLL WDJ & WL ADKISON. RC DOUGLASS FUS REG F-12989.

(BL)19442-PC

DOUGLAS CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: LECOMPTON LS BEIL LS MBR  
QUAD: PERRY 7.5  
SEC 36 TNSP 11 S RNGE 17 E  
DATE: 00/00/1959 COLL: JOHNSON WD\*  
RR CUT & OLD QUARRY IN WNW1/4SEC36, 1 MI W OF GROVER  
STA. 6.2 BEIL LS. COLL WDJ & WL ADKISON

(BL)19443-PC

JEFFERSON CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: DEER CREEK LS OZAWKIE LS MBR  
QUAD: GRANTVILLE 7.5  
SEC 16 TNSP 11 S RNGE 17 E  
DATE: 00/00/1959 COLL: JOHNSON WD  
S FLOWING STREAM IN WCENNE1/4SEC16, APPROX 1.75 MI NE OF  
GRANTVILLE.

(BL)19444-PC

JEFFERSON CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: DEER CREEK LS ERVINE CREEK LS MBR  
QUAD: GRANTVILLE 7.5  
SEC 16 TNSP 11 S RNGE 17 E  
DATE: 00/00/1959 COLL: JOHNSON WD  
NE1/4SW1/4SEC16. QUARRY APPROX 1.75 MI NE OF GRANTVILLE.  
14.1 FT ERVINE CREEK LS.

(BL)19445-PC

SHAWNEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: DEER CREEK LS ERVINE CREEK LS MBR  
QUAD: GRANTVILLE 7.5  
SEC 14 TNSP 11 S RNGE 16 E  
DATE: 00/00/1959 COLL: JOHNSON WD  
RR CUT ADJACENT TO HWY 24, APPROX 2 MI NW OF GRANTVILLE.  
UPPER 2-5 FT ERVINE CREEK LS.

(BL)19446-PC

JEFFERSON CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: DEER CREEK LS ERVINE CREEK LS MBR  
QUAD: MERIDEN 7.5  
SEC 27 TNSP 10 S RNGE 17 E  
DATE: 00/00/1959 COLL: JOHNSON WD  
N1/2SEC27. ALONG RD IN N CENTRAL PART, APPROX 3.75 MI SE  
OF MERIDEN. 10+ FT ERVINE CREEK LS.

(BL)19447-PC

SHAWNEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: TOPEKA LS COAL CREEK LS MBR  
QUAD: GRANTVILLE 7.5  
SEC 14 TNSP 11 S RNGE 16 E  
DATE: 00/00/1959 COLL: JOHNSON WD  
N CEN S1/2 SEC14. ALONG NEW ROUTE OF HWY 24 APPROX 2 MI  
NW OF GRANTVILLE. 4.4 FT COAL CREEK LS.

(BL)19448-PC

SHAWNEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: TOPEKA LS COAL CREEK LS MBR  
QUAD: TOPEKA 7.5  
SEC 3 TNSP 12 S RNGE 16 E  
DATE: 00/00/1959 COLL: JOHNSON WD\*  
ALONG KANSAS TPKE EXCHANGE RD SW1/4NW1/4 &  
E1/2SW1/4SEC3, APPROX 1/4 MI SSW OF STATE VOCATIONAL  
SCHOOL. 0.9 FT COAL CREEK LS. COLL WDJ & WL ADKISON.

(BL)19449-PC

SHAWNEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: HOWARD LS AARDE SH MBR  
QUAD: MERIDEN 7.5  
SEC 23 TNSP 10 S RNGE 16 E  
DATE: 00/00/1959 COLL: JOHNSON WD  
SCENN1/2SEC23. ALONG RD 2 MI SW OF MERIDEN. UPPER 1 FT OF  
AARDE SH (LETTER 11/01/1961.)

(BL)19450-PC

JEFFERSON CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: SEVERY SH? MEMBER: UNASSIGNED  
QUAD: MERIDEN 7.5  
SEC 21 TNSP 09 S RNGE 17 E  
DATE: 00/00/1959 COLL: JOHNSON WD  
ALONG RD IN SECORSEC21 & SWCORSEC22, 1 MI E OF ROCK  
CREEK. 6 FT BELOW TOP OF SEVERY SH. FM POSS HOWARD LS.

(BL)19451-PC

SHAWNEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: HOWARD LS CHURCH LS MBR  
QUAD: ELMONT 7.5  
SEC 32 TNSP 10 S RNGE 16 E  
DATE: 00/00/1959 COLL: JOHNSON WD  
NW1/4NW1/4SEC32. ALONG STREAM, 2.75 MI SE OF ELMONT. 1.7  
FT CHURCH LS.

(BL)19452-PC

JEFFERSON CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: HOWARD LS UTOPIA LS MBR  
QUAD: MERIDEN 7.5  
SEC 6 TNSP 10 S RNGE 17 E  
DATE: 00/00/1959 COLL: JOHNSON WD  
NW1/4NW1/4SEC6. ROCK CREEK STREAMBANK, 1.25 MI N OF  
MERIDEN.

(BL)19453-PC

SHAWNEE CO, KS  
SERIES: VIRG  
FM: SCRANTON SH  
SYSTEM: PENN  
GROUP: WABAUNSEE  
RULO LS MBR  
QUAD: ELMONT 7.5  
SEC 15 TNSP 10 S RNGE 15 E  
COLL: JOHNSON WD  
DATE: 00/00/1959  
SE1/4SE1/4SEC15. STREAMBED 1 MI NW OF ELMONT. 4 FT RULO LS.

(BL)19454-PC

JACKSON CO, KS  
SERIES: VIRG  
FM: SCRANTON SH  
SYSTEM: PENN  
GROUP: WABAUNSEE  
SILVER LAKE SH MBR  
QUAD: MERIDEN 7.5  
SEC 26 TNSP 09 S RNGE 16 E  
COLL: JOHNSON WD  
DATE: 00/00/1959  
ALONG RD IN WCENSEC26, 3.5 MMI NW OF MERIDEN. UPPER HALF OF 20 FT OF SILVER LAKE SH.

(BL)19455-PC

JACKSON CO, KS  
SERIES: VIRG  
FM: UNASSIGNED  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: ELMONT 7.5  
SEC 19 TNSP 09 S RNGE 16 E  
COLL: JOHNSON WD  
DATE: 00/00/1959  
ALONG RD ON S SIDE SEC19 FROM W FORK OF MUDDY CREEK TO SWCORSEC19, 1 MI E OF HOYT. 10 FT BELOW TOP OF 18 FT STRATUM OF SILVER LAKE SH.

(BL)19456-PC

JACKSON CO, KS  
SERIES: VIRG  
FM: AUBURN SH  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: ELMONT 7.5  
SEC 19 TNSP 09 S RNGE 16 E  
COLL: JOHNSON WD  
DATE: 00/00/1959  
ALONG RD ON S LINE OF SEC19, FROM W FORK OF MUDDY CREEK TO SWCORSEC19, 1 MI E OF HOYT. APPROX 12 FT DOWN IN 27 FT AUBURN SH.

(BL)19457-PC

SHAWNEE CO, KS  
SERIES: VIRG  
FM: BERN LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
WAKARUSA LS MBR  
QUAD: WAKARUSA 7.5  
SEC 34 TNSP 12 S RNGE 15 E  
COLL: JOHNSON WD\*  
DATE: 00/00/1959  
SW1/4SE1/4SEC34. ALONG KANSAS TPK, 2.5 MI W OF PAULINE. 3.8 FT WAKARUSA LS. COLL WDJ & WL ADKISON.

(BL)19458-PC

SHAWNEE CO, KS  
SERIES: VIRG  
FM: EMPORIA LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
ELMONT LS MBR  
QUAD: GROVE 7.5  
SEC 23 TNSP 10 S RNGE 14 E  
COLL: JOHNSON WD\*  
DATE: 00/00/1959  
ALONG STREAM 2 MI SE OF GROVE. 1.7 FT ELMONT LS. COLL WDJ & WL ADKISON.

(BL)19459-PC

SHAWNEE CO, KS  
SERIES: VIRG  
FM: ZEANDALE LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
MAPLE HILL LS MBR  
QUAD: GROVE 7.5  
SEC 2 TNSP 10 S RNGE 14 E  
COLL: JOHNSON WD\*  
DATE: 00/00/1959  
NW1/2SE1/4SEC2. ALONG E FLOWING STREAM 3.5 MI NE OF GROVE. 1.8 FT MAPLE HILL LS. COLL WDJ & WL ADKISON.

(BL)19460-PC

JACKSON CO, KS  
SERIES: VIRG  
FM: STOTLER LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
DOVER LS MBR  
QUAD: ROSSVILLE 7.5  
SEC 30 TNSP 09 S RNGE 14 E  
COLL: ADKISON WL\*  
DATE: 00/00/1959  
ALONG SE FLOWING STREAM & ADJACENT N-S RD IN NW1/4SW1/4SEC30, & ALONG E-W RD IN CENE1/2SEC25 TNSP 09S RNGE 13 E, 3 MI E OF DELIA. 1.8 FT DOVER LS. COLL WLA & WD JOHNSON.

(BL)19461-PC

JACKSON CO, KS  
SERIES: VIRG  
FM: ROOT SH  
SYSTEM: PENN  
GROUP: WABAUNSEE  
FRIEDRICH SH MBR  
QUAD: ROSSVILLE 7.5  
SEC 36 TNSP 09 S RNGE 13 E  
COLL: JOHNSON WD\*  
DATE: 00/00/1959  
NE1/4SE1/4SEC36. ALONG N-S RD, 3/25 MI SE OF DELIA. 7.5 FT FRIEDRICH SH, 0.2 (OR 0.7?) FT BELOW TOP. COLL WDJ & WL ADKISON.

(BL)19462-PC

SHAWNEE CO, KS  
SERIES: VIRG  
FM: ROOT SH  
SYSTEM: PENN  
GROUP: WABAUNSEE  
JIM CREEK LS MBR  
QUAD: DOVER 7.5  
SEC 6 TNSP 13 S RNGE 14 E  
COLL: JOHNSON WD\*  
DATE: 00/00/1959  
SW1/4NE1/4NW1/4SE1/4SEC6. ALONG N FLOWING STREAM APPROX 2.25 MI SE OF DOVER. 0.4 FT JIM CREEK LS. COLL WDJ & WL ADKISON.

(BL)19463-PC

WABAUNSEE CO, KS  
SERIES: LOWER  
FM: JANESVILLE SH  
SYSTEM: PERM  
GROUP: ADMIRE  
FIVE POINT LS MBR  
QUAD: ESKRIDGE 7.5  
SEC 33 TNSP 13 S RNGE 13 E  
COLL: WAGNER HC  
DATE: 00/00/1959  
SE1/4SW1/4SECWW. RD CUT 5.5 MI N OF HARVEYVILLE. 2 LOWEST LS LAYERS OF FIVE POINTS LS.

(BL)19652-PC

UNASSIGNED CO, KS  
SERIES: CHES  
FM: UNASSIGNED  
SYSTEM: MISS  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: COLL:

(BL)19662-PC

UNASSIGNED CO, KS  
SERIES: UNASSIGNED  
FM: UNASSIGNED  
SYSTEM: PERM  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: COLL:

(BL)19663-PC

UNASSIGNED CO, KS  
SERIES: LOWER  
FORMATION: UNASSIGNED  
SYSTEM: PERM  
GROUP: UNASSIGNED  
HUGHES CREEK SH MBR  
SEC 0 TNSP RNGE  
DATE: COLL:

(BL)19868-PC

UNASSIGNED CO, KS  
SERIES: UNASSIGNED  
FM: CANNEYVILLE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
SEC 0 TNSP RNGE  
DATE: COLL:  
\*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(BL)22255-PC

LINN CO, KS  
SERIES: DESM  
FM: CABANISS FM  
SYSTEM: PENN  
GROUP: CHEROKEE  
MEMBER: UNASSIGNED  
QUAD: MOUND CITY 7.5  
SEC 7 TNSP 21 S RNGE 24 E  
COLL: HENBEST LG  
DATE: 11/07/1965  
WASTE HEAP OF ABND WESTERN COAL L & MINING CO MINE 10;  
SECS 7 & 17. HEAP CONTAINS NUMEROUS WEATHERED COAL  
BALLS, WHICH WERE ABUNDANT IN MINE. NODULE OF LS  
CONTAINING CEPHALOPOIDS, PROB FROM ROOF OF WEIR-  
PITTSBURG COAL. \*STOP 2, PG 8 'PENN FOSSIL PLANTS FROM  
KANSAS COAL BALLS,' GEOL SOC AMERICA FIELD GUIDEBOOK,  
1965.

(BL)22256-PC

MONTGOMERY CO, KS  
SERIES: MSSR  
FM: STANTON LS  
SYSTEM: PENN  
GROUP: LANSING  
EUDORA SH MBR  
QUAD: BOLTON 7.5  
SEC 35 TNSP 32 S RNGE 14 E  
COLL: HENBEST LG  
DATE: 11/03/1965  
NE1/4SEC35. RD CUT N SIDE OF US HWY 160 APPROX 6 MI W OF  
INDEPENDENCE, KS. \*STOP 11, P 37, FIG 36, PG 40, GUIDEBOOK  
FOR GSA FIELD TRIP 'PENN MARINE BANKS IN SOUTHEASTERN  
KANSAS,' 11/2-3/1965.

(BL)22279-PC

MONTGOMERY CO, KS  
SERIES: MSSR  
FM: STANTON LS  
SYSTEM: PENN  
GROUP: LANSING  
MEMBER: UNASSIGNED  
QUAD: BOLTON 7.5  
SEC 35 TNSP 32 S RNGE 14 E  
COLL: DUNCAN H  
DATE: 11/03/1965  
NE1/4SEC35. RD CUT US HWY 160, 6 MI W OF INDEPENDENCE.  
STOP 11 OF GSA 1965 FIELD CONF GUIDEBOOK 'PENN MARINE  
BANKS IN SOUTHEASTERN KANSAS'.

(BL)25449-PC

UNASSIGNED CO, KS  
SERIES: WOLF  
FM: WINFIELD LS  
SYSTEM: PERM  
GROUP: CHASE  
CRESSWELL LS MBR  
QUAD: BOLTON 7.5  
SEC 0 TNSP RNGE  
COLL:  
DATE:

(BL)31010-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: LAWRENCE SH  
SYSTEM: PENN  
GROUP: DOUGLAS  
AMAZONIA LS MBR  
QUAD: BURLINGTON 7.5  
NE-SE-SE-SE SEC 28 TNSP 21 S RNGE 16 E  
LAT: 38.1106 LONG: 95.3849  
DATE: 09/07/1989  
COLL: HENRY TW  
EQUALS CGM MAP STA 12. COLL FROM THIN NOD LS & V THIN  
INTERVENING CALC SH ON W SIDE OF SEC-LINE RD FOR  
DISTANCE OF ABOUT 35 FT & STRAT FROM NO MORE THAN  
ABOUT 2.5-3 FT OF SECTION; FROM DITCH & V SHALLOW  
CUTBANK. ELEV 1,073 FT (EST) TO BSE OF MEMBER. EQUALS  
31081- & 31292-PC. DOMINATED BY JURASSIA, W/ DERBYIA,  
NEOSPIRIFER, LINOPRODUCTUS, ECHINOCONCHUS (NOT COLL),  
ORTHOMYALINA, MYALINELLA, PECTINID, EDMONDID,  
BRANCHING BRYOZOANS, SPRSE CRINOID DEBRIS; BSL BED W/  
FUSULINIDS. COLL TWH, CG MAPLES.

(BL)31011-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: LAWRENCE SH  
SYSTEM: PENN  
GROUP: DOUGLAS  
AMAZONIA LS MBR  
QUAD: BURLINGTON 7.5  
SE-NE-NE-NE SEC 33 TNSP 21 S RNGE 16 E  
LAT: 38.1059 LONG: 95.3849  
DATE: 09/07/1989  
COLL: HENRY TW  
GOOD EXPOSURES OF AMAZONIA & ADJACENT UNITS INCL.  
WILLIAMSBURG COAL IN CUTBANK ON W SIDE OF SEC-LINE RD;  
AMAZONIA 0.75-1.5 FT THICK, NODULAR SKELETAL WACKESTONE  
W/ THIN SH INTERBEDS; ELEV BSE AMAZONIA IS APPROX 1090 FT.  
BASICALLY SAME FAUNA AS TWH-89-01(31010-PC) BUT NOT AS  
LARGE A COLLN; EQUALS 31082-PC (TWH-90-21). UNIT EXPOSED  
ALSO ON E SIDE OF SEC LINE RD IN OVERGROWN CUTBANK.  
COLLECTED TW HENRY, CG MAPLES.

(BL)31012-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
KEREFORD LS MBR  
QUAD: WAVERLY 7.5  
E/2-NE-SE-NE SEC 17 TNSP 19 S RNGE 17 E  
LAT: 38.2400 LONG: 95.3243  
DATE: 09/07/1989  
COLL: HENRY TW  
E/2-NE-SE-NE-17-19S-17E. BSL BEDS OF KEREFORD? MBR V  
POORLY EXP IN DITCH ON E & W SIDES OF SEC-LINE RD, COLL  
ONLY ON W SIDE; EXPOSURES OF 3-4 IN. THICK NODULAR  
MICRITIC LS (CALCISILTITE) W/ V SPARSE LINOPRODUCTUS. =  
CG MAPLES MAP STA WAV-1-12; COMBINEDW/ CGM EARLIER  
COLLN (SPRING 1989) W/ CURRENT ONE FOR PC-NUMBER. ELEV  
BSE MBR 1,170 FT. COLL TW HENRY, CG MAPLES.

(BL)31013-PC

OSAGE CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
KEREFORD LS MBR  
QUAD: WAVERLY 7.5  
SE-SE-SE-SW SEC 36 TNSP 18 S RNGE 16 E  
LAT: 38.2607 LONG: 95.3529  
DATE: 09/07/1989  
COLL: HENRY TW  
SE-SE-SE-SW-36-18S-16E. ELEV 1063 FT; EXCELLENT COLLECTING  
IN ROADWAY AND IN/ON BOTH DITCHES & LOW CUTBANKS,  
APPROXIMATELY 0.1 MI SW OF LOW-WTR CROSSING OF RD  
ACROSS ROCK CREEK. KEREFORD ABOUT 5 FT THICK. BSL BEDS  
W/ ABDT LINOPRODUCTUS, BUT OVERLYING FLAGGY BEDS (OLD  
NAME "WAVERLY FLAGGING") W/ ABDT JURASSIA, HUSTEDIA,  
PUNCTOSPIRIFER, NEOSPIRIFER, COMPOSITA, BEECHERIA,  
DIELASMA, MEEKELLA, WELLERELLA, ETC. (= CG MAPLES MAP  
STA WAV-19-1). COMBINED W/ EARLIER COLLN (SPRING 1989)  
MADE BY CGM.

(BL)31014-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
STULL SH MBR  
QUAD: WAVERLY NW 7.5  
SE-SE-SE-SW SEC 19 TNSP 19 S RNGE 16 E  
LAT: 38.2307 LONG: 95.4928  
DATE: 09/07/1989  
COLL: HENRY TW  
SE-SE-SE-SW-19-18S-16E. COLL FROM MATERIAL BROUGHT UP IN  
POWERLINE TRENCH ON W SIDE OF SEC-LINE RD IN PASTURE,  
ELEV CA 1,105 FT. MYALINID BED IN DK GRY DONIPHAN SH MBR.  
COLL TW HENRY, CG MAPLES (SEE STOP NO. OF 1989 GSA FIELD  
TRIP GUIDEBOOK FOR DISCUSSION OF STRAT SECTION &  
ECOLOGIC SIGNIFICANCE - ST LOUIS MTG). ABDT TRACE  
FOSSILS & PRIMARY SED STRUCTURES IN SEQUENCE BELOW  
MYALINID BED. SEE 31015- & 31016-PC.

(BL)31015-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: LECOMPTON LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
BIG SPRINGS LS MBR  
QUAD: WAVERLY NW 7.5  
NW-SE-SE-NE SEC 19 TNSP 19 S RNGE 16 E  
LAT: 38.2307 LONG: 95.4028  
DATE: 09/07/1989  
COLL: HENRY TW  
NW-SW-SE-NE-19-19S-16E. COLL TW HENRY, CG MAPLES. SAME  
LOC AS 31014- & 31016-PC. FINER MATERIAL BROUGHT UP IN  
POWERLINE TRENCH IN PASTURE; ELEV CA 1110 FT; HIGHLY  
ARGILLACEOUS LS W/ SMALL MACROFOSSILS, JUST ABOVE  
MYALINID BED; MAY BE MINOR MIXING W/ MATERIAL FROM  
BL31016-PC.

(BL)31016-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: LECOMPTON LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
BEIL LS MBR  
QUAD: WAVERLY NW 7.5  
NW-SE-SE-NE SEC 19 TNSP 19 S RNGE 16 E  
LAT: 38.2307 LONG: 95.4028  
DATE: 09/07/1989  
COLL: HENRY TW  
NW-SE-SE-NE-19-19S-16E; SAME LOC AS 31014- & 31015-PC; FROM  
LARGE LS BLX BROUGHT UP IN POWERLINE TRENCH; BEIL MBR  
MUST BE ABOUT 5 FT THICK HERE. COLL TW HENRY, CG  
MAPLES.



**(BL)31017-PC**

COFFEY CO, KS  
 SERIES: VIRG  
 FM: LECOMPTON LS  
 SYSTEM: PENN  
 GROUP: SHAWNEE  
 AVOCA LS MBR  
 QUAD: WAVERLY NW 7.5  
 SE-NE-NE-SE SEC 19 TNSP 19 S RNGE 16 E  
 LAT: 38.2255 LONG: 95.4028  
 DATE: 09/07/1989 COLL: HENRY TW  
 SE-NE-NE-SE-19-19S-16E. FROM LS BROUGHT UP IN POWERLINE  
 TRENCH IN PASTURE ON W SIDE SEC LINE RD, ELEV CA. 1,150 FT.  
 COLL FROM THIN NODULAR LS & CALC SH. COLL BY TW HENRY,  
 CG MAPLES.

**(BL)31018-PC**

OSAGE CO, KS  
 SERIES: VIRG  
 FM: OREAD LS  
 SYSTEM: PENN  
 GROUP: SHAWNEE  
 PLATTSMOUTH LS MBR  
 QUAD: WAVERLY 7.5  
 NE-NE-NW-SW SEC 36 TNSP 18 S RNGE 16 E  
 LAT: 38.2629 LONG: 95.3547  
 DATE: 09/07/1989 COLL: HENRY TW  
 NE-NE-NW-SW-36-18S-16E. FROM THICK-BEDDED LS OVERLAIN BY  
 FLAGGY LS ON SMALL NATURAL BLUFF EXPOSURE ABOUT 5-8 FT  
 ABOVE CREEK LEVEL; SITE ON N SIDE OF EAST-FLOWING  
 TRIBUTARY OF ROCK CREEK, IN WOODED AREA, E OF SEC-LINE  
 RD, ABOUT HALFWAY BETWEEN BRIDGE (TBM 1058) &  
 CONFLUENCE W/ ROCK CREEK, ROUGHLY 3 MI N OF WAVERLY,  
 KS. GOOD CRACK-OUT COLLN FROM TOP LEDGE OF MBR; ELEV  
 CA 1,055 FT. COLL TW HENRY, CG MAPLES. DIVERSE FAUNA,  
 MOSTLY BRACHIOPODS.

**(BL)31019-PC**

COFFEY CO, KS  
 SERIES: VIRG  
 FM: TOPEKA LS  
 SYSTEM: PENN  
 GROUP: SHAWNEE  
 HARTFORD LS MBR  
 QUAD: LEBO 7.5  
 N/2-NW SEC 12 TNSP 19 S RNGE 14 E  
 LAT: 38.2504 LONG: 95.4852  
 DATE: 09/08/1989 COLL: HENRY TW  
 N/2-NW-12-19S-14E. FROM TALUS FROM LARGE QUARRY FOR I-35,  
 US-50. FROM THICK-BEDDED BLOCKS OF AMBLYOSYPHONELLA-  
 (SPONGE-) RICH LS, DK BLUISH GRAY, W/ "SIDERITIC" BANDS,  
 POSS REPRESENTING EXPOSURE SURFACES. COLL 09/08 BY TW  
 HENRY, CG MAPLES & 09/09/1989 BY TW HENRY, RR WEST. BSL  
 BED OF MBR EXP IN QUARRY FLOOR LOCALLY, HEAVILY  
 BURROWED (ROOTED?), MBR ABOUT 5-6 FT THICK. SEE 31020-PC;  
 NEAR (BUT NOT EXACTLY SAME LOC) AS 31087-PC (TWH-90-26).

**(BL)31020-PC**

COFFEY CO, KS  
 SERIES: VIRG  
 FM: TOPEKA LS  
 SYSTEM: PENN  
 GROUP: SHAWNEE  
 CURZON LS MBR  
 QUAD: LEBO 7.5  
 N/2-NW SEC 12 TNSP 19 S RNGE 14 E  
 LAT: 38.2504 LONG: 95.4852  
 DATE: 09/08/1989 COLL: HENRY TW  
 N/2-NW-12-19S-14E. FROM TALUS BLOCKS FROM LARGE QUARRY,  
 SAME LOC AS 31019-PC. CURZON IS FLAGGY, THIN-BEDDED,  
 NODULAR LS, W/ ABDT FUSULINIDS THROUGHOUT, ABOUT 10 FT  
 THICK HERE; UNIT CONTAINS ABDT BRACHIOPODS, MANY OF  
 THEM IN GROWTH POSITION, APPARENTLY LIVING ON THIN MUD  
 LAYERS ON TOP OF HARTFORD LS MBR & W/IN CURZON ITSELF;  
 COLL 09/08/1989 BY TW HENRY & CG MAPLES, 09/09 TWH & RR  
 WEST; COLL TWO V LARGE SLABS W/ ANTIQUATONIDS IN  
 GROWTH POSITION. EQUALS 31088-PC (TWH-90-27).

**(BL)31021-PC**

COFFEY CO, KS  
 SERIES: VIRG  
 FM: OREAD LS  
 SYSTEM: PENN  
 GROUP: SHAWNEE  
 PLATTSMOUTH LS MBR  
 QUAD: WAVERLY 7.5  
 SW-SW SEC 6 TNSP 19 S RNGE 17 E  
 LAT: 38.2515 LONG: 95.3448  
 DATE: 09/08/1989 COLL: HENRY TW  
 SW-SW-06-19S-17E. FROM FLOAT & TALUS AND IN PLACE FROM  
 HIGH WALLS IN NELSON BROS. QUARRY (ACTIVE); MAINLY FROM  
 SW CORNER OF QUARRY NEAR ENTRANCE. ABDT FOSSILS  
 WEATHERING FROM CALC SH INTERBEDDED W/ NODULAR THIN-  
 MED BEDDED LS; LOWER PART OF UNIT W/ OSAGIA-COATED  
 MATERIAL; DOMINATED BY COMPOSITA, HUSTEDIA/ COMMON  
 RHIPIDOMELLA, NEOSPIRIFER; SPARSER PUNCTOSPIRIFER,  
 WELLERELLA, ENTELETES, HYSTRICULINA, ECHINOCONCHUS,  
 BRYOZOANS, ETC. QUARRY ABOUT 1.7 MI SE OF 31018-PC. COLL  
 BY TW HENRY, RR WEST, CG MAPLES

**(BL)31022-PC**

COFFEY CO, KS  
 SERIES: VIRG  
 FM: OREAD LS  
 SYSTEM: PENN  
 GROUP: SHAWNEE  
 TORONTO LS MBR  
 QUAD: BURLINGTON 7.5  
 N/2-NE-NE-NE SEC 31 TNSP 21 S RNGE 16 E  
 LAT: 38.1104 LONG: 95.4104  
 DATE: 09/10/1989 COLL: HENRY TW  
 N/2-NE-NE-NE-31-21S-16E. COLL FROM GOOD EXPOSURES OF  
 UNUSUALLY THICK TORONTO LIMESTONE MBR ON BOTH SIDES  
 OF PAVED E-W SEC LINE RD JUST E OF BRIDGE OVER WOLF  
 CREEK; LOWER MSSV LS SPARSELY FOSSILIFEROUS W/ LARGE  
 CRINOID STEMS (PREDOMINANTLY) AND VERY THIN GREENISH  
 SHALE; UPPER DOLOMITIC(?) UNIT WEATHERING ORANGE AT TOP  
 OF ROAD CUT, SLABBY, VERY SPARSELY FOSSILIFEROUS, ABDT  
 TRACE FOSSILS. SMALL COLLN FROM BOTH SIDES OF ROAD BUT  
 MAINLY ON S SIDE.

**(BL)31023-PC**

COFFEY CO, KS  
 SERIES: VIRG  
 FM: OREAD LS  
 SYSTEM: PENN  
 GROUP: SHAWNEE  
 PLATTSMOUTH LS MBR  
 QUAD: BURLINGTON 7.5  
 N/2-NE-NE SEC 25 TNSP 21 S RNGE 15 E  
 LAT: 38.1154 LONG: 95.4213  
 DATE: 09/10/1989 COLL: HENRY TW  
 N/2-NE-NE-25-21S-15E. COLLECTED FROM TALUS & HIGH WALL OF  
 LARGE QUARRY FOR MATERIAL FOR DAM FOR COOLING LAKE  
 FOR WOLF CREEK NUCLEAR POWER GENERATING STATION; COLL  
 MAINLY ON N SIDE OF QUARRY. COLLN FROM 7-8 FT THICK LS W/  
 THIN SHALE PARTINGS; CONSISTS MAINLY OF LARGE  
 RETICULATIA-TYPE PRODUCTIDS CRACKED-OUT OF TALUS;  
 SPONGES, ALGAL-COATED. SEE 31024-PC.

**(BL)31024-PC**

COFFEY CO, KS  
 SERIES: VIRG  
 FM: OREAD LS  
 SYSTEM: PENN  
 GROUP: SHAWNEE  
 HEUMADER SH MBR  
 QUAD: BURLINGTON 7.5  
 NW-NE-NE-NE SEC 25 TNSP 21 S RNGE 15 E  
 LAT: 38.1154 LONG: 95.4211  
 DATE: 09/10/1989 COLL: HENRY TW  
 NW-NE-NE-NE-25-21S-15E. COLLN FROM V H CALC SH W/  
 SUPRABUNDANT MACROFOSSILS, APPROX 12-13 FT THICK, W/  
 THIN NODULAR LS BEDS SCATTERED THROUGHOUT; SITE IS  
 ABOVE HIGHWALL ON NW CORNER OF QUARRY NEAR  
 NORTHEASTERN EDGE OF SAME; QUARRY SAME AS FOR 31023-PC.  
 CONTAINS ABUNDANT SPONGES & RHIPIDOMELLA; SPARSER  
 COMPOSITA, HUSTEDIA, NEOSPIRIFER; NONTRANSPORTED  
 FAUNA.

**(BL)31025-PC**

COFFEY CO, KS  
 SERIES: VIRG  
 FM: CALHOUN SH  
 SYSTEM: PENN  
 GROUP: SHAWNEE  
 NEAR TOP MBR  
 QUAD: OTTUMWA 7.5  
 C-SE-SW-SW SEC 27 TNSP 19 S RNGE 14 E  
 LAT: 38.2145 LONG: 95.5131  
 DATE: 09/10/1989 COLL: HENRY TW  
 C-SE-SW-SW-27-19S-14E. HOWARD NELSON QUARRY (ACTIVE) ON  
 S-SE SIDE OF JORDAN CREEK S OF LEBO, KS. COLLN FROM  
 UPPER 1-1.5 FT V DK GRAY, H CALC, ABDT FOSS, FISSILE SH  
 EXPOSED IN & BROUGHT UP FROM DRAINAGE DITCH ON S SIDE  
 OF SMALLER PART OF MAIN (LARGE) QUARRY; UPPR CONTACT  
 W/ HARTFORD LS MBR OF TOPEKA LS SHARP; LWR CONTACT W/  
 MED GRAY UNDERCLAY SHARP. DOMINATED BY SMALL  
 BRANCHING BRYOZOANS; CONTAINS CHONETIDS, LARGE THIN  
 FRAGILE LINOPRODUCTUS, JURASANIA, DERBYIA, COMPOSITA,  
 NEOSPIRIFER. SEE 31026-PC.

(BL)31026-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: TOPEKA LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
HARTFORD LS MBR  
QUAD: OTTUMWA 7.5  
SW-SE-SW-SW SEC 27 TNSP 19 S RNGE 14 E  
LAT: 38.2145 LONG: 95.5131  
DATE: 09/10/1989  
COLL: HENRY TW  
SW-SE-SW-SW-27 (MAINLY); COLL FROM THROUGHOUT QUARRY AREA BUT MAINLY FROM REDDISH, BORED BEDS ON S SIDE OF QUARRY, FROM BEDS NOT NORMALLY QUARRIED BUT EXCAVATED FOR DRAINAGE DITCH IN S SIDE OF SMALLER WING OF MAIN QUARRY; CONTAINS AMBYOSIPHONELLA (SPONGE), SEVERAL ALGAL-RICH BEDS, AND POSS SEVERAL EXPOSURE SURFACES (RED-STAINED, ONE BORED) AND POSSIBLE CRUSTS.

(BL)31027-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: TOPEKA LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
CURZON LS MBR  
QUAD: OTTUMWA 7.5  
N/2-SE-SW-SW SEC 27 TNSP 19 S RNGE 14 E  
LAT: 38.2145 LONG: 95.5131  
DATE: 09/10/1989  
COLL: HENRY TW  
COLL MAINLY ON FLAT ON N SIDE OF QUARRY; CURZON IS FLAGGY, CRUMBLY FUSULINID PACKSTONE W/ VERY SPARSE MACROFAUNA; MBR APPARENTLY THINNER (2-3 FT THICK) THAN AT QUARRY E OF LEBO BUT TOP MAY NOT BE EXPOSED; CONTAINS MOST OF MACROFAUNA OF LEBO QUARRY, BUT NOTHING IN GROWTH POSITION; MOST OF COLLN MADE NEAR RED-STAINED BED ON NW SIDE OF QUARRY EAST OF BLDGS.

(BL)31028-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: HOWARD LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
CHURCH LS MBR  
QUAD: LEBO NW 7.5  
NE-NW-NW SEC 8 TNSP 19 S RNGE 14 E  
LAT: 38.2506 LONG: 95.5324  
DATE: 09/11/1989  
COLL: HENRY TW  
NE-NW-NW-08-19S-14E. CHURCH LS MBR EXPOSED AROUND PERIMETER OF SW ARM OF LEBO MUNICIPAL RESERVOIR; MAIN LS BED ABOUT 2-3 FT THICK W/ ABDT SPONGE "STROMATOLITHS" & SPARSE PRIMARILY LARGE RETICULATID PRODUCTIDS; OVERLYING SH CALC W/ SPARSE MACROFOSSILS WEATHERING OUT. SEE 31029-PC. COLL TW HENRY, RR WEST.

(BL)31029-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: HOWARD LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
CHURCH LS MBR  
QUAD: LEBO NW 7.5  
E/2 N SIDE, SW SEC 5 TNSP 19 S RNGE 14 E  
LAT: 38.2535 LONG: 95.5305  
DATE: 09/11/1989  
COLL: HENRY TW  
COLL FROM LS BLX (LIKE 31028-PC) FORMING RIPRAP FOR DAM OF LEBO MUNICIPAL RESERVOIR ALONG E/2 OF N LINE, SW-05-19S-14E. QUARRY UNDER RESERVOIR JUST TO S OF DAM. GOOD EXPOSURE OF SH OVERLYING CHURCH LS FOUND IN SMALL QUARRY JUST W OF SPILLWAY AND OF UTOPIA LS MBR OF HOWARD (V THIN, COATED-GRAIN CALCARENITE) NEAR TOP "HIGHWALL"; SEQ TO BELOW NODAWAY COAL BED (INCL BACHELORS CREEK LS & AARDE SH) EXP TO N ALONG CREEK BELOW SPILLWAY. EQUALS USGS 31079-PC; SEE ALSO 31077- & 31078-PC.

(BL)31030-PC

OSAGE CO, KS  
SERIES: VIRG  
FM: HOWARD LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
CHURCH LS MBR  
QUAD: LEBO NW 7.5  
E/2-SE-SW-SW SEC 20 TNSP 18 S RNGE 14 E  
LAT: 38.2751 LONG: 95.5326  
DATE: 09/11/1989  
COLL: HENRY TW  
E/2-SE-SW-SW-20-18S-14E. ON E SIDE OF SMALL OLD STRIP MINE ON NODAWAY COAL BED; PRIMARILY FROM THIN-BEDDED V CALC SLTSTONE & OVERLYING THICK-BEDDED SPONGE-BEARING LS; EXCELLENT COLL FROM LARGE BLX PUSHED UP BY STRIPPING OPERATION. CONTAINS SMALL PRODUCTIDS ETC IN GROWTH POSITION IN SILTSTONE; SILTSTONE ABOUT 0.8-1.2 FT THICK, OVERLIES LS ON W SIDE OF STRIP OPERATION. NODAWAY COAL BED EXPOSED IN BED & BANKS OF WINNIFRED CREEK JUST N OF SEC LINE RD & S OF GRASSY AREA WHERE MOST OF COLLECTION MADE.

(BL)31031-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: LECOMPTON LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
MEMBER: UNASSIGNED  
QUAD: GRIDLEY SE 7.5  
SE-SE-SE-NE SEC 11 TNSP 23 S RNGE 14 E  
LAT: 38.0340 LONG: 95.4948  
DATE: 09/11/1989  
COLL: HENRY TW  
SE-SE-SE-NE-11-23S-14E. COLL FROM SHALLOW W CUTBANK OF SEC LINE RD AT APEX ON NORTH NOSE OF HILL, ELEV APPROX 1,078, FROM CALC SH W/ SPARSE, SLABBY, V THIN BEDDED LS. ABDT CHONETIDS WEATHERING OUT OF CALC SH; LARGE MYALINIDS WEATHERING OUT OF DK GRAY SH CROPPING OUT IN WEST ROAD DITCH JUST TO NORTH & ABOUT 5 FT LOWER STRATIGRAPHICALLY (DID NOT COLLECT). [NOTE: CG MAPLES SAYS N NEWELL MEASURED SECTION HERE.]

(BL)31032-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
CLAY CREEK LS 7 MBR  
QUAD: JOHN REDMOND DA 7.0  
SEC 9 TNSP 21 S RNGE 15 E  
LAT: 38.1428 LONG: 95.4526  
DATE: 09/12/1989  
COLL: HENRY TW  
COLL FROM RIPRAP ON SW SIDE OF OUTER FACE OF JOHN REDMOND DAM JUST SW OF NEW STRAWN, KS; RIPRAP FROM 3-6 FT THICK CLAY CREEK LS MBR TAKEN FROM HELEN E WENTZ QUARRY IN SW-02-21S-15E (BURLINGTON 7-1/2 QUAD; SEE STALLARD, AH, 1966, MATERIALS INVENTORY OF COFFEY CO, KS; STATE HWY COMMISSION, MAT INVENT REPT 2, P. 24, 25). RIPRAP SIDERITIC LAMINATED SILTSTONE, V SPARSELY FOSS; CRURITHYRIS ON BEDD PLANES/IN CLUSTERS, LINOPRODUCTUS IN GROWTH POSITION. [NOTE: MAY BE PARTLY ERVINE CRK LS FROM SPILLWAY].

(BL)31033-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
JACKSON PARK SH MBR  
QUAD: NEW STRAWN 7.5  
SW COR SE-SE SEC 34 TNSP 20 S RNGE 15 E  
LAT: 38.1535 LONG: 95.4430  
DATE: 11/13/1989  
COLL: HENRY TW  
S SIDE OF NEW STRAWN, KN, ON SE CORNER INTERSECTION OF LAKE RD & THIRD STREET, JUST S OF SCHOOLHOUSE; X-BEDDED CRINOIDAL LS EXP IN LOW RDCUT AT CORNER; COLL FROM CALC SH IMMEDIATELY OVERLYING THIS LIMESTONE; = RR WEST LOC 334. V SMALL COLLN. COMBINED WITH COLLECTION FROM TWH FIELDNUM 89-37. SEE USGS COLLN 32047-PC.

(BL)31034-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: LECOMPTON LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
AVOCA LS MBR  
QUAD: JOHN REDMOND DA 7.5  
NE-SE-SE-SE SEC 3 TNSP 21 S RNGE 14 E  
LAT: 38.1439 LONG: 95.5052  
DATE: 09/14/1988  
COLL: MAPLES CG  
NE-SE-SE-SE-03-21S-14E. C.G. MAPLES COLL LARGE BRYOZOAN HEAD FROM DITCH & LOW CUTBANK ON W SIDE OF SEC LINE RD (FOR RR WEST). CHRIS WILL MEASURE SECTION HERE EXTENDING FROM BELL LS MBR OF LECOMPTON NEAR CREEK LEVEL, THRU KING HILL SH (WELL EXP IN GULLY ABOUT 0.1 MI W OF RD), THRU AVOCA LS MBR AT TOP OF LECOMPTON, THRU TECUMSEH SHALE (FM) TO OZAWKIE LS MBR OF OVERLYING DEER CREEK LS (PRESUMABLY EXPOSED NEAR SEC CORNER).

(BL)31040-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: STRANGER FM  
SYSTEM: PENN  
GROUP: DOUGLAS  
WESTPHALIA LS MBR  
QUAD: WAVERLY SE 7.5  
SW-SW-SW-SE SEC 27 TNSP 20 S RNGE 17 E  
LAT: 38.1627 LONG: 95.3057  
DATE: 11/11/1989  
COLL: HENRY TW  
SW-SW-SW-SE-27. COLL FROM CRK BANK EXPOSURES ON N SIDE OF POTTAWATOMIE CREEK ABOUT 30-50 FT W OF LOW-WTR FORD (RD NOT ON MAP). TTL UNIT ABOUT 4 FT THICK & PRIMARY NODULAR, THIN-BEDDED FUSULINID PACKSTONE, RUBBLY WEATHERING; SPARSE MACROFAUNA. NEAR TYPE LOC OF WESTPHALIA LS MBR, SEE USGS COLLN. BL31041-PC. CGM MAP STA 35.

(BL)31041-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: STRANGER FM  
SYSTEM: PENN  
GROUP: DOUGLAS  
WESTPHALIA LS MBR  
QUAD: WAVERLY SE 7.5  
NE-NW-NW-NE SEC 34 TNSP 20 S RNGE 17 E  
LAT: 38.1624 LONG: 95.3050  
DATE: 11/11/1989 COLL: HENRY TW  
NE-NW-NW-NE-34. LOC ABOUT 0.1 MI SE DOWNSTREAM OF  
BL31040-PC & FROM SAME BEDS; EXP ON SOUTH BANK OF  
POTTAWATOMIE CREEK FOR ABOUT 20 YDS; COLL MAINLY FROM  
BSL BED, CONTAIN SOME RAMOSE BRYOZOANS & SOME OTHER  
MACROFAUNA; UNDERLYING SH/SLTST W/ ABDT RIPPLE MARKS,  
TRACE FOSSILS (TIDAL FLAT). WESTPHALIA LS MBR ABOUT 5 FT  
THICK.

(BL)31042-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: LAWRENCE SH  
SYSTEM: PENN  
GROUP: DOUGLAS  
HASKELL LS MBR  
QUAD: WAVERLY SE 7.5  
C-N/2-SW-SW SEC 27 TNSP 20 S RNGE 17 E  
LAT: 38.1637 LONG: 95.3125  
DATE: 11/11/1989 COLL: HENRY TW  
C-N/2-SW-SW-SW-27. COLL JUST DOWNSTREAM E OF JERGEN'S  
FORD (LOCAL NAME) TO POINT WHERE HASKELL LS MAKES  
SMALL WATERFALL IN POTTAWATOMIE CREEK; HASKELL V  
COMPETENT LEDGES, MAKING FLOOR FOR FORD. HASKELL  
ABOUT 2 FT THICK HERE. CGM MAP STA 36. FOSSILS MAINLY  
CRACK-OUT, SMALL PRODUCTOIDS DOMINATE.

(BL)31043-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
TORONTO LS MBR  
QUAD: WAVERLY SE 7.5  
W/2-SW-NW-SW SEC 21 TNSP 20 S RNGE 17 E  
LAT: 38.1734 LONG: 95.3239  
DATE: 11/11/1989 COLL: HENRY TW  
W/2-SW-NW-SW-21. COLL ON E SIDE SEC LINE RD DITCH & IN  
LOW CUTBANKS OF SAME. TORONTO TYPICALLY ORANGE-  
WEATHERING & V SPARSELY FOSSILIFEROUS (W/MEGAFOSSILS),  
MOSTLY CRACK-OUT FAUNA. TORONTO ABOUT 3 FT TH HERE.  
CGM MAP STA

(BL)31044-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
TORONTO LS MBR  
QUAD: WAVERLY SE 7.5  
N/2-NW-NW-NE SEC 4 TNSP 21 S RNGE 17 E  
LAT: 38.1532 LONG: 95.3234  
DATE: 11/11/1989 COLL: HENRY TW  
N/2-NW-NW-NE-04. COLL FROM NEAR TOP OF NEW HIGH  
ROADCUT ON S SIDE OF NEW COUNTY RD (SEC LINE RD).  
TORONTO LS MBR IS ABOUT 3 FT THICK HERE, & RDCUT EXPOSES  
WILLIAMSBURG COAL BED IN LAWRENCE SH FM BELOW; CGM  
TO MEAS SECTION HERE. MAPLES MAP STA 37. TORONTO  
SPARSELY FOSSILIFEROUS BUT DOES CONTAIN SYRINGOPORA ON  
S SIDE.

(BL)31045-PC

LYON CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM  
SYSTEM: PENN  
GROUP: WABAUNSEE  
NEBRASKA CITY LS MBR  
QUAD: EMPORIA 7.5  
SE-SW-NE-SW SEC 32 TNSP 18 S RNGE 11 E  
LAT: 38.2618 LONG: 96.1309  
DATE: 11/12/1989 COLL: HENRY TW  
FROM SILTY, LIMY ZONE ABOUT 1-1.5 FT TH ABOUT 0.5-2.5 FT  
ABOVE LORTON COAL BED; ON LOW CUTBANKS OF SE SIDE  
KANSAS TURNPIKE; EXP 0.2 MI S OF MP 129, JUST S OF NEOSHO  
RIVER & APPROX 1.5 MI NE OF EMPORIA INTERCHANGE. ABDT  
LARGE MYALINIDS. SE E O'CONNOR, H.G., 1953, GEOLOGY,  
MINERAL RESOURCES, AND GROUND-WATER RESOURCES OF  
LYON CO., KANSAS: UNIVERSITY OF KANSAS PUBLICATION NO.  
12.

(BL)31046-PC

LYON CO, KS  
SERIES: VIRG  
FM: ROOT SH  
SYSTEM: PENN  
GROUP: WABAUNSEE  
FRIEDRICH SH MBR  
QUAD: ALLEN SE 7.5  
SEC 9 TNSP 17 S RNGE 12 E  
LAT: 30.3433 LONG: 96.0533  
DATE: 11/12/1989 COLL: HENRY TW  
[LOCALITY MAY BE OFF; POSS SE-NE-NE-09.] COLL FROM SE SIDE  
KANSAS TURNPIKE AT POINT 0.4 MI S OF MP 141, IN LOW  
ROADCUT FROM V DK GRY FISSILE SHALE, GRASSY CUTBANK.  
GRANDHAVEN LS MBR OF STOTLER LS FM IN DITCH (UNFOSS).  
SEE USGS COLLN. 31047-PC. DK FISSILE SH ALSO CONTAINS  
CONOSTICHUS.

(BL)31047-PC

LYON CO, KS  
SERIES: VIRG  
FM: ROOT SH  
SYSTEM: PENN  
GROUP: WABAUNSEE  
JIM CREEK LS MBR  
QUAD: ALLEN SE 7.5  
SEC 9 TNSP 17 S RNGE 12 E  
LAT: 30.3433 LONG: 96.0533  
DATE: 11/12/1989 COLL: HENRY TW  
[LOCALITY MAY BE OFF]. 0.4 MI S OF MP 141 ON E SIDE KANSAS  
TURNPIKE. SAME LOCALITY AS USGS COLLN 31046-PC BUT FROM  
JIM CREEK LS MBR?

(BL)31048-PC

LYON CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM  
SYSTEM: PENN  
GROUP: WABAUNSEE  
NEBRASKA CITY LS MBR  
QUAD: ALLEN SE 7.5  
JUST S OF C SEC 3 TNSP 17 S RNGE 12 E  
LAT: 38.3546 LONG: 96.0523  
DATE: 11/12/1989 COLL: HENRY TW  
JUST S OF C-03-17S-12E. COLL FROM BOTH SIDES OF KANSAS  
TURNPIKE IN LOW ROADCUTS AT POINT 0.4 MI S OF MP 141 & 3.9  
MI S OF EMPORIA TOLL BOOTH; SITE IS APPROX 0.5 MI BRIDGE  
OVER HILL CREEK. ABDT DERBYIA, GEN DISARTICULATED, AND  
LARGE MYALINIDS; SPECIMENS FRAGILE, WELL-PRESERVED;  
GOOD COLLN.

(BL)31049-PC

LYON CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM  
SYSTEM: PENN  
GROUP: WABAUNSEE  
BROWNVILLE LS MBR  
QUAD: ADMIRE 7.5  
NEAR C-E/2-NE SEC 20 TNSP 16 S RNGE 12 E  
LAT: 38.3901 LONG: 96.0605  
DATE: 11/12/1989 COLL: HENRY TW  
NEAR C-E/2-NE-20. LOW BLUFF EXPOSURES W OF & ABOUT 15 FT  
ABOVE LEVEL OF ONE-HUNDRED-FORTYTWO-MILE CREEK, JUST  
W OF ST HWY 99, ABOUT 0.25 MI S OF JCT W/ US HWY 56 (ADMIRE  
JCT). BROWNVILLE LS MBR ABOUT 2 FT THICK, MAKING LEDGES  
IN WOODS. COLL FROM CROP AREA ABOUT 50 FT LONG;  
MATERIAL CRACKED-OUT OF LS LEDGES & SLUMP BLX, OBVIOUS  
SIGNS OF OLD COLLECTING ACTIVITY; SAME OR PROXIMITY OF  
NUMEROUS RC MOORE COLLNS (KU-3405, ETC) FROM "ADMIRE  
JCT. LARGE BRACHIPOD COLLN.

(BL)31050-PC

LYON CO, KS  
SERIES: VIRG  
FM: WOOD SIDING FM  
SYSTEM: PENN  
GROUP: WABAUNSEE  
BROWNVILLE LS MBR  
QUAD: ADMIRE 7.5  
N/2-NE-NW-NW SEC 23 TNSP 16 S RNGE 12 E  
LAT: 38.3905 LONG: 96.0337  
DATE: 11/12/1989 COLL: HENRY TW  
N/2-NE-NW-NW-23. FROM POORLY EXPOSED LS NEAR TOP  
SHALLOW GRASSY RDCUT ON S SIDE US HWY 56 (OLD 50N)  
ABOUT 2.2 MI E OF ADMIRE JCT.

(BL)31051-PC

LYON CO, KS  
SERIES: VIRG  
FM: ROOT SH

SYSTEM: PENN  
GROUP: WABAUNSEE  
FRENCH CREEK SH MBR

QUAD: ADMIRE 7.5  
NW-SE-SW-SW SEC 14 TNSP 16 S RNGE 12 E  
LAT: 38.3907 LONG: 96.0325

DATE: 11/12/1989 COLL: HENRY TW  
NW-SE-SW-SW-14. NATURAL CREEK CUTBANK IN GRASSY AREA  
N OF US HWY 56, ABOUT 0.1 MI NW OF 31050-PC; ABOUT 100 YDS N  
OF HWY. COLL FROM ARGILL LS JUST ABOVE LORTON COAL  
BED, FROM ABOUT 0.5 FT OF SECTION; NEBRASKA CITY LS MBR  
OF WOOD SIDING FM EXP IN CRK BANK CUTS NEARBY

(BL)31052-PC

LYON CO, KS  
SERIES: VIRG  
FM: ROOT SH

SYSTEM: PENN  
GROUP: WABAUNSEE  
FRIEDRICH SH MBR

QUAD: ADMIRE 7.5  
W/2-NW-NW-SW SEC 18 TNSP 16 S RNGE 13 E  
LAT: 38.3940 LONG: 96.0112

DATE: 11/12/1989 COLL: HENRY TW  
W/2-NW-NW-SW-18. FROM RDCUTS ON SE SIDE KANSAS  
TURNPIKE ABOUT HALFWAY BETWEEN ELM CREEK & ADMIRE  
INTERCHANGE. SECTION FROM CRK STARTS W/ MAPLE HILL LS  
MBR OF ZEANDALE LS FM, & EXTENDS UPSECTION TOWARD  
TOLL BOOTH THRU PILLSBURY SH, DOVER LS MBR, DRY SHALE  
MBR, L& GRANDHAVEN LS MBR OF FOSTLER LS FM, THRU THE  
ROOT SHALE. DOVER W/ABDT FAT FUSULINIDS. COLL FROM  
UPPERMOST PART OF FRIEDRICH SH MBR.

(BL)31053-PC

OSAGE CO, KS  
SERIES: VIRG  
FM: ZEANDALE LS

SYSTEM: PENN  
GROUP: WABAUNSEE  
MAPLE HILL LS MBR

QUAD: MILLER 7.5  
NE-SW-SW-NW SEC 14 TNSP 15 S RNGE 13 E  
LAT: 38.4453 LONG: 95.5641

DATE: 11/12/1989 COLL: HENRY TW  
NE-SW-SW-NW-14. COLL ON NW SIDE OF KANSAS TURNPIKE,  
APPROX 0.4 MI S OF SOLDIER CREEK & 0.1 MI NE OF OSAGE-  
WABAUNSEE COUNTY LINE; FROM SMALL BLOCK OF LIMESTONE.  
MAPLE HILL LS IS LARGELY ALGAL SKELETAL CARBONATE  
MUDSTONE W/ V SPARSE MACROFAUNA; CONTAINS  
LINOPRODUCTUS, NEOSPIRIFER.

(BL)31054-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH

SYSTEM: PENN  
GROUP: SHAWNEE  
JACKSON PARK SH MBR

QUAD: JOHN REDMOND DA 7.5  
W/2-W/2-NW-NW SEC 10 TNSP 21 S RNGE 15 E  
LAT: 38.1428 LONG: 95.4522

DATE: 11/13/1989 COLL: HENRY TW  
OUTCROPS ON W SIDE NEOSHO RIVER AT SPILLWAY OF JOHN  
REDMOND DAM, NEAR NEW STRAWN, KS. COLL FROM CALC  
SLTSTONE W/ SIDERITIC BANDS, SPARSE LINOPRODUCTIDS IN  
GROWTH POSITION. NOTE: SEE USGS COLLN. 31032A-PC, WHICH  
MAY BE FROM MATERIAL REMOVED FOR DAM FOUNDATION OR  
FOR AREA MODIFIED FOR NEOSHO RIVER JUST S OF DAM; MAY  
BE FROM SAME BED.

(BL)31055-PC

GREENWOOD CO, KS  
SERIES: VIRG  
FM: LECOMPTON LS

SYSTEM: PENN  
GROUP: SHAWNEE  
AVOCA LS MBR

QUAD: QUINCY 7.5  
C-SE-NW-NW-NW SEC 10 TNSP 24 S RNGE 13 E  
LAT: 37.5852 LONG: 95.5829

DATE: 11/13/1989 COLL: HENRY TW  
FROM THIN "CONGLOMERATIC" ARGILL LS IN CREEK BED & ON W  
CREEK BANK ABOUT 30 YDS SSW (DOWNSTREAM) FROM USGS  
COLLNS 31056- & 31057-PC. THIN BED LOADED W/  
DISARTICULATED DERBYIA. STRAT UNITS HIGHLY  
QUESTIONABLE.

(BL)31056-PC

GREENWOOD CO, KS  
SERIES: VIRG  
FM: TECUMSEH SH?

SYSTEM: PENN  
GROUP: SHAWNEE  
UPPER MBR

QUAD: QUINCY 7.5  
SE-NE-NW-NW-NW SEC 10 TNSP 24 S RNGE 13 E  
LAT: 37.5854 LONG: 95.5827

DATE: 11/13/1989 COLL: HENRY TW  
SAME LOC AS 31057-PC BUT FROM UPPER 2-3 FT OF SH JUST  
BELOW LS OF THAT COLLN; ABOUT 20-25 YDS S OF BARBED WIRE  
FENCE ON W SIDE STEEP BANK OF CREEK. STRAT NAME HIGHLY  
QUESTIONABLE.

(BL)31057-PC

GREENWOOD CO, KS  
SERIES: VIRG  
FM: DEER CREEK LS ?

SYSTEM: PENN  
GROUP: SHAWNEE  
OZAWKIE LS ? MBR

QUAD: QUINCY 7.5  
SE-NE-NW-NW-NW SEC 10 TNSP 24 S RNGE 13 E  
LAT: 37.5854 LONG: 95.5827

DATE: 11/13/1989 COLL: HENRY TW  
SAME GEOGR LOC AS 31056-PC; FROM LS LEDGES ABOUT 2-3 FT  
THICK NEAR TOP OF STEEP WESTERN CREEK BANK ABOUT 20-25  
YDS S OF BARBED WIRE FENCE OF S SIDE SEC LINE RD.

(BL)31058-PC

GREENWOOD CO, KS  
SERIES: VIRG  
FM: DEER CREEK LS ?

SYSTEM: PENN  
GROUP: SHAWNEE  
OSKALOOSA SH ? MBR

QUAD: QUINCY 7.5  
PART NW COR NW-NW-NW SEC 10 TNSP 24 S RNGE 13 E  
LAT: 37.5857 LONG: 95.5827

DATE: 11/13/1989 COLL: HENRY TW  
AND ALSO SW COR SLE-SW-SW-03-24S-13E; COLL FROM BOTH  
SIDES OF SEC LINE RD ABOUT 2 MI E OF VIRGIL, KS; COLL FROM  
TOP OF SH BENCH; COLLN ON S SIDE RD IS MAINLY JUST N OF  
BARBED WIRE FENCE; THAT ON N SIDE ABOUT 20 YDS N OF  
FENCE; BOTH SITES ON W SIDE OF UNNAMED CREEK. FROM DK  
CALC SH, FROM ABOUT 2-2.5 FT OF SEC IMMEDIATELY  
OVERLYING LS OF 31057-PC. STRAT CALL QUESTIONABLE.

(BL)31059-PC

GREENWOOD CO, KS  
SERIES: VIRG  
FM: DEER CREEK LS

SYSTEM: PENN  
GROUP: SHAWNEE  
LARSH-BURROAK SH MBR

QUAD: VIRGIL 7.5  
C-SW-NE SEC 17 TNSP 24 S RNGE 12 E  
LAT: 37.5748 LONG: 96.0639

DATE: 11/13/1989 COLL: HENRY TW  
FROM S END OF MAIN "ACTIVE" HAMILTON QUARRY; FROM V DK  
GRY FISSILE SH NEAR JUST N OF MAIN ENTRANCE TO QUARRY  
FLOOR, FROM SMALL DRAINAGE DITCH; DUG OUT SMALL COLLN  
ORBICULOID, SPARSE LINOPRODUCTIDS, DESMOINESIAS,  
COMPOSITA FROM EDGE OF DRAINAGE DITCH.

(BL)31060-PC

GREENWOOD CO, KS  
SERIES: VIRG  
FM: DEER CREEK LS

SYSTEM: PENN  
GROUP: SHAWNEE  
ERVINE CREEK LS MBR

QUAD: VIRGIL 7.5  
C-SW-NE SEC 17 TNSP 24 S RNGE 12 E  
LAT: 37.5748 LONG: 96.0637

DATE: 11/13/1989 COLL: HENRY TW  
MAIN HAMILTON QUARRY; FROM PILED-UP RIP-RAP BLX OF  
SIDERITIC-BANDED, LAMINATED CALCAREOUS SLTSTONE; V  
SPARSE BRACHIOPOD FAUNA.

(BL)31061-PC

GREENWOOD CO, KS  
SERIES: VIRG  
FM: TOPEKA LS

SYSTEM: PENN  
GROUP: SHAWNEE  
CURZON LS MBR

QUAD: VIRGIL 7.5  
C-SW-NE SEC 17 TNSP 24 S RNGE 12 E  
LAT: 37.5748 LONG: 96.0636

DATE: 11/13/1989 COLL: HENRY TW  
MAIN HAMILTON QUARRY; FROM CONGLOMERATIC LIMESTONE  
BLX QUARRIED FROM SITE; V CRS GR CONGLOMERATIC LS  
(LAGERSTATTE); PROB EQUIVALENT TO CURZON LS MBR OF  
TOPEKA LS FM.

(BL)31062-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
KEREFOED LS MBR  
QUAD: WAVERLY SE 7.5  
C-W SIDE SW-SW SEC 11 TNSP 20 S RNGE 16 E  
LAT: 38.1911 LONG: 95.3704  
DATE: 4/1/1990 +  
COLL: HENRY TW  
FIRST BLK COLL 4/1/90 CG MAPLES, ALSO COLL. 4/26/90 TW  
HENRY, CG MAPLES, AL ROBB; COLL ON BOTH SIDES OF SEC LINE  
RD, FROM THIN TALUS SLABS APP FROM BSE OF KEREFOED LS  
MBR; LINOPRODUCTUS IN APPARENT GROWTH POSITION.

(BL)31063-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
KEREFOED LS MBR  
QUAD: NEW STRAWN 7.5  
W 1/2-NW-SE-NE SEC 32 TNSP 20 S RNGE 16 E  
LAT: 38.1610 LONG: 95.3932  
DATE: 04/23/1990  
COLL: HENRY TW  
COLL FROM INACTIVE JAMES R. TRAGER QUARRY; FROM TALUS  
BLX OF MSSV PART OF PLATTSMOUTH LS MBR; MAINLY LARGE  
PRODUCTIDS. LOTS OF OSAGIA-COATED FOSSILS IN MSSV PART  
OF MBR. SAME LOC AS USGS 31064-PC (TWH-90-3).

(BL)31064-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
HEUMADER SH MBR  
QUAD: NEW STRAWN 7.5  
W 1/2-NW-SE-NE SEC 32 TNSP 20 S RNGE 16 E  
LAT: 38.1610 LONG: 95.3932  
DATE: 04/23/1990  
COLL: HENRY TW  
SAME LOC AS USGS 31063-PC (TWH-90-03) BUT FROM BSL 6-7 FT  
OF HEUMADER SH CONFORMABLY OVERLYING PLATTSMOUTH;  
COLL FROM INACTIVE JAMES R. TRAGER QUARRY, MAINLY IN  
PLACE.

(BL)31065-PC

UNASSIGNED CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
PLATTSMOUTH LS MBR  
QUAD: BURLINGTON 7.5  
SEC 0 TNSP RNGE  
DATE:  
COLL:  
CGM MAP STA. 49. COLLECTED FROM NR MIDDLE OF CA. 10-12'  
THCK PLATTSMOUTH IN ACTIVE NELSON BROS. QUARRY; C-N1/2-  
SEC.24,T.215.,R.15E. MOST RETICULATIA IN GROWTH POSN NR C-  
N1/2,SEC.24,T.215.,R.15E. HUGE QUARRY OPERN. APPROX. 1MI NW  
31023-PC (TWH 89-12). SAME LOC AS TWH-90-5. SMALLER  
PRODUCTIDS IN GROWTH POSITN W/NUM. LONG BODY SPINES;  
MANY FOSSILS OSAGIA-COATED.

(BL)31066-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
PLATTSMOUTH LS MBR  
QUAD: BURLINGTON 7.5  
C-N 1/2 SEC 24 TNSP 21 S RNGE 15 E  
LAT: 38.1237 LONG: 95.4233  
DATE: 04/23/1990  
COLL: HENRY TW  
FROM SPOIL PILES OF SCRAPED-OFF SHALE OF NELSON BROS  
QUARRY (ACTIVE); SOME MATERIAL IN PLACE. COLL ABOUT 1 MI  
NW OF USGS 31024-PC & FROM SAME BEDS; SAME LOC AS 31065-  
PC (TWH-90-04). LOTS OF RHIPIDOMELLA, HUSTEDIA,  
PUNCTOSPHERIFER, CRINOID CUPS, ABDT SPONGES; MOST  
MATERIAL CRUSHED, FRAGILE. TRILOBITE PYGIDIUM TO  
WARREN BABCOCK. 1 LARGE BAG OF SHALE IN PLACE TO WASH.

(BL)31067-PC

OSAGE CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
JACKSON PARK SH MBR  
QUAD: WAVERLY NW 7.5  
C-E SIDE-NE-SE-SE SEC 31 TNSP 18 S RNGE 16 E  
LAT: 38.2615 LONG: 95.4027  
DATE: 04/23/1990  
COLL: HENRY TW  
CG MAPLES MAP STA 21. ON W ROAD DITCH OF SEC LINE RD IN  
DK GRY SH PULLED UP IN DITCH BY GRADING; COLL FROM 2-3 FT  
OF BEDS JUST BELOW SMALL LEDGED FORMED BY CLAY CREEK  
LS MBR., ABOUT 20 FT N OF USGS 31068-PC (TWH-90-07). SEVERAL  
VIALS OF PICKED FOSSILS PLUS LARGE BAG OF SHALE TO WASH.

(BL)31068-PC

OSAGE CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
STULL SH MBR  
QUAD: WAVERLY 7.5  
C-W LINE-NW-SW SEC 32 TNSP 18 S RNGE 16 E  
LAT: 38.2615 LONG: 95.4026  
DATE: 04/23/1990  
COLL: HENRY TW  
BSL 3 FT OF MEMBER JUST ABOVE SMALL LEDGE OF CLAY  
CREEK LS MBR; COLL MAINLY IN W DITCH OF SEC LINE RD BUT  
ALSO ON E SIDE OF SAME RD. MOSTLY CHONETIDS, W/ DERBYIA,  
JURESANIA, ORTHOMYALINA.

(BL)31069-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
JACKSON PARK SH MBR  
QUAD: WAVERLY 7.5  
C-E LINE-NE-SE-NE SEC 3 TNSP 19 S RNGE 16 E  
LAT: 38.2545 LONG: 95.3705  
DATE: 04/23/1990  
COLL: HENRY TW  
CG MAPLES MAP STA 26. SMALL COLLN, ABOUT 0.3 MI S OF USGS  
31070-PC (TWH-90-09). COLL ON W SIDE OF DIRT SEC LINE RD,  
FROM 1-3 FT BELOW CLAY CREEK LS MBR WHICH FORMS SMALL  
LEDGE IN DITCH.

(BL)31070-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
JACKSON PARK SH MBR  
QUAD: WAVERLY 7.5  
NE-NE-NE-NE SEC 3 TNSP 19 S RNGE 16 E  
LAT: 38.2602 LONG: 95.3706  
DATE: 04/23/1990  
COLL: HENRY TW  
COLL FROM W SIDE OF DIRT SEC LINE RD, IN RD DITCH, FROM  
TOP 3 FT OF CALC SH JUST BELOW CLAY CREEK LS MBR. CG  
MAPLES MAP STA 25. JURESANIA, DERBYIA, SPARSE OTHER  
FOSSILS. ABOUT 30 YDS W OF UGGS 31071-PC (TWH-90-10).

(BL)31071-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
JACKSON PARK SH MBR  
QUAD: WAVERLY 7.5  
NW-NW-NW-NW SEC 2 TNSP 19 S RNGE 16 E  
LAT: 38.2603 LONG: 95.3703  
DATE: 04/23/1990  
COLL: HENRY TW  
COLL ON S SIDE OF SEC LINE RD MARKING COFFEY-OSAGE CO  
LINE; IN RD DITCH. FROM TOP 3-5 FT OF MBR JUST BELOW CLAY  
CREEK LS MBR. JURESANIA, DERBYIA, SPARSE OTHER FOSSILS.

(BL)31072-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
JACKSON PARK SH MBR  
QUAD: WAVERLY 7.5  
C-E LINE-NE-NE SEC 3 TNSP 19 S RNGE 16 E  
LAT: 38.2555 LONG: 95.3706  
DATE: 04/23/1990  
COLL: HENRY TW  
LOC ABOUT 0.1 MI S OF TWH-90-9 (USGS 31070-PC). COLL FROM  
BOTH SIDES OF SEC LINE RD FROM TOP 3 FT OF SH JUST BELOW  
CLAY CREEK LS MBR. SMALL BULK COLLN OF SH TO WASH  
PLUS PICKED FOSSILS.

(BL)31073-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
JACKSON PARK SH MBR  
QUAD: WAVERLY 7.5  
C-E LINE-SE SEC 3 TNSP 19 S RNGE 16 E  
LAT: 38.2523 LONG: 95.3707  
DATE: 04/23/1990  
COLL: HENRY TW  
CG MAPLES MAP STA 27. FROM W SIDE OF SEC LINE RD, IN  
DITCH; FROM UPPERMOST 3 FT OF MBR.

(BL)31074-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: LECOMPTON LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
AVOCA LS MBR  
QUAD: NEW STRAWN 7.5  
SW-SW-SW SEC 3 TNSP 20 S RNGE 15 E  
LAT: 38.1957 LONG: 95.4450  
DATE: 04/23/1990  
COLL: HENRY TW  
FROM NATURAL OUTCROPS OF SHALY LS ON E SIDE OF EAST  
HICKORY CREEK; FROM ABOUT 2 FT ABOVE BSE OF MBR IN  
RUBBLY-WEATHERING, FUSULINID-BEARING SKELETAL  
WACKSTONE. MOSTLY SMALL SPECIMENS OF LINOPRODUCTUS  
NOT IN GROWTH POSITION; "CRACK-OUT" FAUNA. CG MAPLES  
MAP STA 41. 2 BAGS OF MATERIAL.

(BL)31075-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
STULL SH MBR  
QUAD: NEW STRAWN 7.5  
C-N LINE-NW SEC 18 TNSP 20 S RNGE 16 E  
LAT: 38.1904 LONG: 95.4116  
DATE: 04/23/1990  
COLL: HENRY TW  
FROM BOTH N & S SIDES SEC LINE RD DITCHES. IN DK GRAY  
SHAPE, IN UPPERMOST 3 FT OF STULL SHALE MBR BETWEEN  
MYALINID BED AND BASE OF SPRING BRANCH LS MBR OF  
LECOMPTON LS. VERY MUDDY COLLECTING.

(BL)31076-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: HOWARD LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
CHURCH LS MBR  
QUAD: LEBO 7.5  
NE-SE-SE SEC 3 TNSP 19 S RNGE 14 E  
LAT: 38.2517 LONG: 95.5024  
DATE: 04/24/1990  
COLL: HENRY TW  
ON NW SIDE OF AT&SF RR TRX ABOUT 0.5 LMI NE OF LEBO,  
KANSAS. CRACK-OUT FAUNA, NOT VERY DIVERSE OR WELL  
PRESERVED; CHURCH LS MBR IN CUTS THRU HILL, IN PLACE  
ABOUT 10 FT ABOVE RR TRX. TRILOBITE TO LAUREN BABCOCK.

(BL)31077-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: HOWARD LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
BACHELOR CREEK LS MBR  
QUAD: LEBO NW 7.5  
SE-SW-SE-NW SEC 5 TNSP 19 S RNGE 14 E  
LAT: 38.2538 LONG: 95.5315  
DATE: 04/24/1990  
COLL: HENRY TW  
FROM BROWN SKELETAL, SANDY CALCARENITE ABOUT 1.5 FT  
THICK, FORMING LEDGE & SMALL WATERFALL IN CREEK  
(GULLEY) ABOUT 35 TO 50 YDS DOWNSTREAM FROM SPILLWAY  
OF LEBO RESERVOIR. CRUSHED PRODUCTIDS & OTHER  
BRACHIOPODS.

(BL)31078-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: HOWARD LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
AARDE SH MBR  
QUAD: LEBO NW 7.5  
C-S LINE-SE-NW SEC 5 TNSP 19 S RNGE 14 E  
LAT: 38.2537 LONG: 95.5316  
DATE: 04/24/1990  
COLL: HENRY TW  
ON CREEK BANK (GULLEY) BELOW SPILLWAY OF LEBO  
RESERVOIR, FROM DK GRAY SH ABOUT 3 INCHES ABOVE TOP OF  
NODAWAY COAL BED (ABOUT 6 INCHES THICK HERE); LOCATED  
ABOUT 25 YDS UPSTREAM FROM TWH-90-16 (USGS 31077-PC)

(BL)31079-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: HOWARD LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
CHURCH LS MBR  
QUAD: LEBO NW 7.5  
C-NW-NE-SW SEC 5 TNSP 19 S RNGE 14 E  
LAT: 38.2535 LONG: 95.5305  
DATE: 04/24/1990  
COLL: L. BABCOCK  
RETICULATIA; FROM TOP BED OF CHURCH LS MBR NEAR CENTER  
OF SPILLWAY OF LEBO RESERVOIR. SAME LOC & BEDS AS PART  
OF USGS 31029-PC. SMALL COLLN.

(BL)31080-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: HOWARD LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
UTOPIA LS MBR  
QUAD: LEBO NW 7.5  
C-E LINE-NE SEC 1 TNSP 19 S RNGE 13 E  
LAT: 38.2549 LONG: 95.5447  
DATE: 04/24/1990  
COLL: HENRY TW  
CGM MAP STA 20. COLL FROM BOTH SIDES OF SEC LINE RD;  
FROM 10 FT THICK ARGILL LS W/ ABUNDANT FUSULINIDS;  
POORLY FOSSILIFEROUS EXCEPT FOR FUSULINIDS.

(BL)31081-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: LAWRENCE SH  
SYSTEM: PENN  
GROUP: DOUGLAS  
AMAZONIA LS MBR  
QUAD: BURLINGTON 7.5  
C-E SIDE-SE-SE SEC 28 TNSP 21 S RNGE 16 E  
LAT: 38.1106 LONG: 95.3849  
DATE: 04/24/1990  
COLL: HENRY TW  
W RD DITCH OF SEC LINE RD; FROM THIN ORANGE-WEATHERING  
LIMESTONE.

(BL)31082-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: LAWRENCE SH  
SYSTEM: PENN  
GROUP: DOUGLAS  
AMAZONIA LS MBR  
QUAD: BURLINGTON 7.5  
E 1/2-NE-NE-NE SEC 33 TNSP 21 S RNGE 16 E  
LAT: 38.1059 LONG: 95.3849  
DATE: 04/24/1990  
COLL: MAPLES CG  
EQUALS USGS 31011-PC (TWH-89-02). ON W CUTBANK OF SEC  
LINE RD; FROM THIN ARGILLACEOUS LIMESTONE BEDS. MOSTLY  
JURESANIA.

(BL)31083-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
TORONTO LS MBR  
QUAD: BURLINGTON 7.5  
E 1/2-NE-NE-NE SEC 33 TNSP 21 S RNGE 16 E  
LAT: 38.1104 LONG: 95.3851  
DATE: 04/24/1990  
COLL: HENRY TW  
FROM SPARSELY FOSSILIFEROUS, ORANGE-WEATHERING  
TORONTO LS MEMBER, SAME GENERAL LOC AS TWH-90-21 BUT  
FARTHER UP HILL TO WEST AND IN EDGE OF FIELD SLIGHTLY TO  
NORTH; FROM TALUS. POOR COLLN.

(BL)31084-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: LAWRENCE SH  
SYSTEM: PENN  
GROUP: DOUGLAS  
WATHENA SH MBR  
QUAD: BURLINGTON 7.5  
E 1/2-NE-NE-NE SEC 33 TNSP 21 S RNGE 16 E  
LAT: 38.1103 LONG: 95.3849  
DATE: 04/24/1990  
COLL: CG MAPLES  
ROOF SHALE OF WILLIAMSBURG COAL BED; DUG OUT OF WEST  
CUTBANK OF SEC LINE RD ABOUT 30-40 FT N OF TWH 90-21 (31082-  
PC).

(BL)31085-PC

COFFEY CO, KS                      SYSTEM: PENN  
SERIES: VIRG                      GROUP: SHAWNEE  
FM: DEER CREEK LS              OZAWKIE LS MBR  
QUAD: OTTUMWA 7.5  
SW-SW-SE-SE SEC 33 TNSP 20 S RNGE 14 E  
LAT: 38.1559 LONG: 95.5210  
DATE: 04/24/1990              COLL: HENRY TW  
CGM MAP STA 1. IN CREEK BED AND GLADE ON N SIDE SEC LINE  
RD ON MR. BILLINGS' FARM, JUST S OF JACOBS CREEK LANDING  
ON JOHN REDMOND RESERVOIR. MAINLY LINOPRODUCTUS FROM  
UPPER PART OF MBR; CRACK-OUT FAUNA.

(BL)31086-PC

COFFEY CO, KS                      SYSTEM: PENN  
SERIES: VIRG                      GROUP: SHAWNEE  
FM: DEER CREEK LS              ROCK BLUFF LS MBR  
QUAD: OTTUMWA 7.5  
SW-SW-SE-SE SEC 33 TNSP 20 S RNGE 14 E  
LAT: 38.1559 LONG: 95.5210  
DATE: 04/24/1990              COLL: HENRY TW  
SAME LOC AS 31085-PC; COLL FROM TALUS IN CREEK AT SEC  
LINE FENCE JUST DOWNSTREAM FROM OUTCROPS OF MICRITIC  
LT GRV LS (CARBONATE WACKESTONE) OF ROCK BLUFF LS  
MBR; UNIT GENERALLY V SPARSELY FOSSILIFEROUS. CONTAINS  
SINGLE WILKINGIA IN APPARENT GROWTH POSITION.

(BL)31087-PC

COFFEY CO, KS                      SYSTEM: PENN  
SERIES: VIRG                      GROUP: SHAWNEE  
FM: TOPEKA LS                      HARTFORD LS MBR  
QUAD: LEBOW 7.5  
NEAR C-NE-NW-NW SEC 12 TNSP 19 S RNGE 14 E  
LAT: 38.2506 LONG: 95.4901  
DATE: 04/25/1990              COLL: TW HENRY  
FROM TALUS BLOCKS IN INACTIVE NELSON BROS QUARRY E OF  
LEBO, KS; NW PART OF INACTIVE QUARRY, ISOLATED FROM  
MAIN PART OF QUARRY; SECTION EXPOSES BASE OF HARTFORD  
LS MBR & TOP OF UNDERLYING CALHOUN SHALE & BROWNISH-  
RED WEATHERING FINE GRAINED LIMESTONE W/ BORINGS ON  
UPPER EXPOSURE SURFACE. TALUS BLX W/ RETICULATIA AND  
SMALL CRURITHYRIS (NOT WELL PRESERVED) AND  
AMBLIOSYPHONELLA (SPONGE). ABOUT 100 YDS NW OF USGS  
COLLN 31019-PC (TWH-89-8), & FROM SAME BEDS.

(BL)31088-PC

COFFEY CO, KS                      SYSTEM: PENN  
SERIES: VIRG                      GROUP: SHAWNEE  
FM: TOPEKA LS                      CURZON LS MBR  
QUAD: LEBOW 7.5  
N 1/2-NW SEC 12 TNSP 19 S RNGE 14 E  
LAT: 38.2504 LONG: 95.4852  
DATE: 04/25/1990              COLL: TW HENRY  
COLLECTED FROM QUARRY SPOILS OF CURZON LIMESTONE  
MEMBER SCRAPED OFF TO QUARRY UNDERLYING LIMESTONE.  
EQUALS USGS 31020-PC (TWH-89-09). ARTICULATED CRINOID  
GIVEN TO CG MAPLES.

(BL)31089-PC

COFFEY CO, KS                      SYSTEM: PENN  
SERIES: VIRG                      GROUP: SHAWNEE  
FM: OREAD LS                      PLATTSMOUTH LS MBR  
QUAD: WAVERLY 7.5  
SW-SW-SW SEC 6 TNSP 19 S RNGE 17 E  
LAT: 38.2515 LONG: 95.3447  
DATE: 04/25/1990              COLL: TW HENRY  
NELSON BROS QUARRY NE OF WAVERLY, KS. EQUALS USGS  
31021-PC (TWH-89-10). FROM SPOIL PILES OF CALC SH  
INTERBEDDED W/ THIN NODULAR LS IN UPPER PART OF  
PLATTSMOUTH LS MBR, SCRAPED OFF TO QUARRY LOWER,  
MORE MASSIVE PART OF PLATTSMOUTH. ABDT RHIPIDOMELLA,  
HUSTEDIA, OTHER BRX; COLL SAMPLE OF SHALE TO WASH;  
SYRINGOPOROID TO CG MAPLES.

(BL)31090-PC

COFFEY CO, KS                      SYSTEM: PENN  
SERIES: VIRG                      GROUP: SHAWNEE  
FM: DEER CREEK LS              OZAWKIE LS MBR  
QUAD: WAVERLY NW 7.5  
N 1/2-NE-NE-SE SEC 4 TNSP 19 S RNGE 15 E  
LAT: 38.2536 LONG: 95.4457  
DATE: 04/25/1990              COLL: HENRY TW  
FROM NORTH CUTBANK OF INTERSTATE HWY 35 JUST W OF  
OVERPASS OF SEC LINE RD AND JUST E OF BRIDGE OVER FROG  
CREEK. FROM ORANGE-WEATHERING LIMESTONE AT ABOUT EYE  
HEIGHT ABOVE LOWEST CUTBENCH. MOSTLY LINOPRODUCTUS.

(BL)31091-PC

COFFEY CO, KS                      SYSTEM: PENN  
SERIES: VIRG                      GROUP: SHAWNEE  
FM: DEER CREEK LS              ERVINE CREEK LS MBR  
QUAD: WAVERLY NW 7.5  
C-W 1/2-NW-NW-SW SEC 3 TNSP 19 S RNGE 15 E  
LAT: 38.2533 LONG: 95.4447  
DATE: 04/25/1990              COLL: HENRY TW  
VERY SPARSE FAUNA FROM HIGH ON S CUTBANK OF INTERSTATE  
HWY 35, JUST EAST OF SECTION LINE RD OVERPASS, APPROX 0.1  
MI EAST OF USGS 31090-PC (TWH-90-29). RUBBLY ERVINE CREEK  
LS W/ SPARSE FAUNA IN PHYLLOID ALGAL BEDS NEAR TOP OF  
ROADCUT.

(BL)31092-PC

OSAGE CO, KS                      SYSTEM: PENN  
SERIES: VIRG                      GROUP: SHAWNEE  
FM: TOPEKA LS                      CURZON LS MBR  
QUAD: OSAGE CITY SE 7.5  
SW-SW SEC 30 TNSP 17 S RNGE 15 E  
LAT: 38.3213 LONG: 95.4756  
DATE: 04/25/1990              COLL: HENRY TW  
FROM SPOIL PILE OF LARGE ACTIVE QUARRY JUST N OF LAKE  
MELVERN. COLL FROM CURZON-LIKE, FUSULINID-RICH  
PACKSTONE SIMILAR TO LEBOW QUARRY FAUNA BUT LARGE  
PRODUCTIDS SPARSE; LOCALLY GOOD COLLN OF CHONETIDS  
FROM PINKISH GRAY CLAYSTONE. ROCK MAINLY QUARRIED  
MAY BE HARTFORD LIMESTONE MEMBER OF TOPEKA  
LIMESTONE, BUT DOES NOT BEAR ABUNDANT SPONGES.  
TRILOBITE TO LAUREN BABCOCK. SAME LOC AS USGS 31093-PC;  
SEE USGS 32064-PC. BUT EXCLUSIVELY FROM SPOIL PILES.

(BL)31093-PC

OSAGE CO, KS                      SYSTEM: PENN  
SERIES: VIRG                      GROUP: SHAWNEE  
FM: TOPEKA LS                      CURZON LS MBR  
QUAD: OSAGE CITY SE 7.5  
SW-SW SEC 30 TNSP 17 S RNGE 15 E  
LAT: 38.3212 LONG: 95.4755  
DATE: 04/25/1990              COLL: HENRY TW  
FROM CURZON-LIKE LITHOLOGY, FROM SEVERAL LARGE SLABS  
NEAR EAST END OF ROADWAY INTO QUARRY, ALMOST IN PLACE,  
FROM PERHAPS 3-4 FT BELOW TOP OF CURZON WITH OVERLYING  
JONES POINT SH MEMBER (?). CURZON OVERLAIN BY PERHAPS 2-  
3 FT OF GREENISH-GRAY SHALE, W/ MORE MASSIVE PHYLLOID  
ALGAL (BRECCIATED) LIMESTONE AT TOP OF QUARRY FACE  
(SHELDON LS MBR?). LEVEL OF DERBYIA BED ABOUT AT WATER  
LEVEL IN MAIN QUARRY.

(BL)31094-PC

OSAGE CO, KS                      SYSTEM: PENN  
SERIES: VIRG                      GROUP: SHAWNEE  
FM: LECOMPTON LS              BIG SPRINGS LS MBR  
QUAD: WAVERLY NW 7.5  
SW-SW-NW-SW SEC 31 TNSP 18 S RNGE 16 E  
LAT: 38.2624 LONG: 95.4128  
DATE: 04/25/1990              COLL: CG MAPLES  
DIMINUTIVE FAUNA OF BRX COLL FROM ABOUT UPPER 0.5 FT OF  
MEMBER JUST ABOVE LEVEL OF INTERSTATE NEAR BASE OF  
CUTBANK ON N SIDE OF INTERSTATE HWY 35, 2 MILES E OF BETO  
JUNCTION, KS; LOC ABOUT 20 YDS E OF SECTION LINE ROAD  
OVERPASS. FROM DK GRV POORLY FOSSILIFEROUS BIG SPRINGS  
LS MBR, OVERLAIN BY QUEEN HILL SHALE (ALSO FOSSILIFEROUS  
BUT NOT COLLECTED). SAME LOC AS 31095-PC.

(BL)31095-PC

OSAGE CO, KS  
SERIES: VIRG  
FM: LECOMPTON LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
BEIL LS MBR  
QUAD: WAVERLY NW 7.5  
S 1/2-SW-NW-SW SEC 31 TNSP 18 S RNGE 16 E  
LAT: 38.2624 LONG: 95.4128  
DATE: 04/25/1990  
COLL: TW HENRY  
SAME LOC AS USGS 31094-PC. COLL MAINLY FROM UPPER 2 FT OF RUBBLY WEATHERING PHYLLOID ALGAL WACKSTONE BEARING CANINIA AND SPARSE BRACHIOPODS; NEAR TOP OF CUTBANK ON N SIDE OF INTERSTATE HWY 35, ABOUT 2 MI E OF BETO JCT, KS; COLL FROM JUST E OF SECTION LINE ROAD OVERPASS EASTWARD FOR APPROX 50 YDS. LOC ABOUT 1 MI W OF USGS 31067- & 31068-PC.

(BL)31096-PC

ANDERSON CO, KS  
SERIES: VIRG  
FM: LAWRENCE SH  
SYSTEM: PENN  
GROUP: DOUGLAS  
HASKELL LS MBR  
QUAD: WESTPHALIA 7.5  
C-W LINE-NW-SW SEC 12 TNSP 21 S RNGE 17 E  
LAT: 38.1400 LONG: 95.2953  
DATE: 04/26/1990  
COLL: HENRY TW  
COLL FROM LS LEDGES ON E SIDE OF SECTION LINE RD; HASKELL ABOUT 2 FT THICK, BECOMING SHALEY AT TOP. LARGE CRACK-OUT FAUNA. COLL TW HENRY, CG MAPLES, AND AL ROBB (STUDENT AT UNIVERSITY OF KANSAS).

(BL)31097-PC

ANDERSON CO, KS  
SERIES: VIRG  
FM: STRANGER FM  
SYSTEM: PENN  
GROUP: DOUGLAS  
VINLAND SH MBR  
QUAD: WESTPHALIA 7.5  
SE-NE-NE-SE SEC 11 TNSP 21 S RNGE 17 E  
LAT: 38.1400 LONG: 95.2953  
DATE: 04/26/1990  
COLL: HENRY TW  
FROM SHALE OUTCROP ON W SIDE OF SEC LINE RD OPPOSITE USGS 31096-PC (TWH-90-35), ABOUT 3 FT BELOW BASE OF HASKELL LIMESTONE MBR OF LAWRENCE SHALE. FOSSILS MAINLY HEAVILY OSAGIA COATED, W/ ABDT ALGAL BISCUITS.

(BL)31098-PC

ANDERSON CO, KS  
SERIES: VIRG  
FM: STRANGER FM  
SYSTEM: PENN  
GROUP: DOUGLAS  
WESTPHALIA LS MBR  
QUAD: WESTPHALIA 7.5  
SW-NW-NW-NW SEC 24 TNSP 21 S RNGE 17 E  
LAT: 38.1240 LONG: 95.2955  
DATE: 04/26/1990  
COLL: HENRY TW  
SPARSE CRACK-OUT FAUNA FROM LOWER PART OF MEMBER, FROM SMALL LEDGES ON E SIDE OF SEC LINE RD IN DITCH JUST SOUTH OF FORD OVER CHERRY CREEK; LEDGES OF ORANGE-WEATHERING, MED TO THICK BEDDED LS, W/ ABDT FUSULINIDS HIGHER [CG MAPLES MAP STA 6]. BASAL BED ABOUT 6 INCHES THICK, FUSULINID PACKSTONE, W/ ABDT COATED GRAINS. COLL MAINLY OF LARGE LINOPRODUCTUS W/ NOTCHED TRAIL, FLAT UMBO. ABOUT 1.5 MI S OF USGS 31096- & 31097-PC; EQUALS USGS 31356-PC.

(BL)31099-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
TORONTO LS MBR  
QUAD: ALICEVILLE 7.5  
NW-SW-NW-SE SEC 10 TNSP 21 S RNGE 17 E  
LAT: 38.1358 LONG: 95.3134  
DATE: 04/26/1990  
COLL: HENRY TW  
CG MAPLES MAP STA 1. FROM E CUTBANK OF MID-SECTION LINE ROAD CUT; FROM ORANGE-WEATHERING LIMESTONE, GENERALLY POORLY FOSSILIFEROUS, BUT W/ ONE 0.4 FT THICK BED NEAR TOP OF MBR W/ ABDT BRACHIOPODS WEATHERING IN HIGH RELIEF (SILICIFIED??).

(BL)31100-PC

ANDERSON CO, KS  
SERIES: VIRG  
FM: STRANGER FM  
SYSTEM: PENN  
GROUP: DOUGLAS  
WESTPHALIA LS MBR  
QUAD: ALICEVILLE 7.5  
N 1/2-NW-SE-SW SEC 2 TNSP 21 S RNGE 17 E  
LAT: 38.1442 LONG: 95.3039  
DATE: 04/26/1990  
COLL: HENRY TW  
IN GLADE AT EDGE OF CREEK BANK, IN PASTURE. SMALL COLLN OF BRACHIOPODS, ABDT FUSULINIDS WEATHERING OUT OF SHALE. ABOUT 0.1 MI NNW OF USGS 31101-PC (TWH-90-40) ON TOM YOUNG FARM.

(BL)31101-PC

ANDERSON CO, KS  
SERIES: VIRG  
FM: LAWRENCE SH  
SYSTEM: PENN  
GROUP: DOUGLAS  
HASKELL LS MBR  
QUAD: ALICEVILLE 7.5  
NW-SE-SE-SW SEC 2 TNSP 21 S RNGE 17 E  
LAT: 38.1436 LONG: 95.3034  
DATE: 04/26/1990  
COLL: HENRY TW  
IN BED OF SMALL CREEK IN PASTURE, ABOUT 0.1 MI SSE OF USGS 31100-PC (TWH-90-39). LEDGE OF HASKELL MAKES SMALL WATERFALL IN CREEK HERE. CRACK-OUT FAUNA, MOSTLY FROM UPPER PART OF MEMBER.

(BL)31102-PC

ANDERSON CO, KS  
SERIES: VIRG  
FM: LAWRENCE SH  
SYSTEM: PENN  
GROUP: DOUGLAS  
HASKELL LS MBR  
QUAD: HARRIS 7.5  
SE-NW-SW-NW SEC 1 TNSP 20 S RNGE 17 E  
LAT: 38.2028 LONG: 95.2915  
DATE: 04/26/1990  
COLL: HENRY TW  
COLL FROM LEDGE OF HASKELL FORMING WATERFALL IN BED OF ELM CREEK AND ON S SIDE OF CREEK, IN PASTURE, ABOUT 0.4 MILE DUE S OF AMIOT, KS. BILL JOHNSON'S MAP STA AND MEASURED SECTION FROM HERE. CRACK-OUT FAUNA, SOME FUSULINIDS.

(BL)31103-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
STULL SH MBR  
QUAD: NEW STRAWN 7.5  
C-W LINE-NW-NW SEC 19 TNSP 20 S RNGE 16 E  
LAT: 38.1805 LONG: 95.4129  
DATE: 04/26/1990  
COLL: HENRY TW  
COLL FROM E CUTBANK AND DITCH OF SEC LINE RD, ABOUT 1.2 MI SSW OF USGS 31075-PC (TWH-90-14). COLLN. OF CHONETIDS FROM DK-GRY SH. CG MAPLES MADE COLLN OF SYRINGOPORA FROM OVERLYING SPRING BRANCH LIMESTONE MEMBER AT THIS LOCALITY.

(BL)31110-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: TECUMSEH SH?  
SYSTEM: PENN  
GROUP: SHAWNEE?  
MEMBER: UNASSIGNED  
QUAD: WAVERLY NW 7.5  
NEAR MID-POINT NW1/4 SEC 23 TNSP 19 S RNGE 15 E  
DATE: 00/00/1990  
COLL: MAPLES CG  
NEAR MID-POINT, W EDGE, NW1/4SEC23. MOSTLY CHONETIDS (W/COLOR?) AND ASSORTED OTHER BRACHS FROM SH W/IN 1 IN ABOVE AND BELOW UPPER AVOCA LS MBR (LOC 83.)

(BL)31111-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
STULL SH MBR  
QUAD: NEW STRAWN 7.5  
NW1/4SW1/4 SEC 22 TNSP 20 S RNGE 15 E  
DATE: 00/00/1990  
COLL: MAPLES CG  
NEAR MID-POINT, W EDGE, NE1/4SW1/4 (LOC 61). MOSTLY CHONETIDS BELOW THE SPRING BRANCH LS MBR IN THE STULL SH MBR.



(BL)31112-PC

COFFEY CO, KS                      SYSTEM: PENN  
SERIES: VIRG                      GROUP: SHAWNEE  
FM: TECUMSEH SH                MEMBER: UNASSIGNED  
QUAD: NEW STRAWN 7.5  
SE COR SEC 35 TNSP 19 S RNGE 15 E  
DATE: 00/00/1990                COLL: MAPLES CG  
GRUBBY COLL OF MOSTLY BRACHS FROM RUBBLY ZN W/IN 1 FT  
BELOW THE OZAWKIE LS MBR.

(BL)31113-PC

COFFEY CO, KS                      SYSTEM: PENN  
SERIES: VIRG                      GROUP: SHAWNEE  
FM: TECUMSEH SH                MEMBER: UNASSIGNED  
QUAD: NEW STRAWN 7.5  
APPROX 200' W NE COR SEC 31 TNSP 19 S RNGE 16 E  
DATE: 00/00/1990                COLL: MAPLES CG  
BRACHS WEATHERING OUT OF ZN W/IN 2 FT OF BASE OF  
OZAWKIE SL MBR (UPPERMOST TECUMSEH SH; LOC 81, APPROX  
200 FT W OF NE COR SEC 31).

(BL)31114-PC

COFFEY CO, KS                      SYSTEM: PENN  
SERIES: VIRG                      GROUP: SHAWNEE  
FM: KANWAKA SH?                JACKSON PARK SH ? MBR  
QUAD: NEW STRAWN 7.5  
NE1/4SE1/4 SEC 23 TNSP 20 S RNGE 15 E  
DATE: 00/00/1990                COLL: MAPLES CG  
ALL THE REST OF UNMARKED SLABS ARE FROM LOC 69 FROM  
PROB WILL BE THE UPPER PART OF THE JACKSON PARK SH MBR.  
(BELOW THE CLAY CRK LS MBR.)

(BL)31284-PC

COFFEY CO, KS                      SYSTEM: PENN  
SERIES: UPPER                    GROUP: SHAWNEE  
FM: TOPEKA LS                   CURZON LS MBR  
C OF W EDGE SEC 28 TNSP 19 S RNGE 14 E  
DATE: 12/08/1990                COLL: MAPLES\*  
W SIDE N/S RD, IN DITCH.

(BL)31285-PC

DOUGLAS CO, KS                    SYSTEM: PENN  
SERIES: VIRG                      GROUP: SHAWNEE  
FM: OREAD LS                    TORONTO LS MBR  
QUAD: LAWRENCE WEST 7.5  
SW-SW-NW-NW SEC 21 TNSP 12 S RNGE 19 E  
LAT: 38.5954 LONG: 95.1857  
DATE: 04/29/1991                COLL: HENRY TW  
SMALL COLLN FROM UPPER PART OF TORONTO LS; CHONTAINS  
SPARSE MACROFOSS. N RDCUT KAN TURNPIKE (I-70); LOW  
RDCUT ABOUT EYE LEVEL; SEE 31286-PC.

(BL)31286-PC

DOUGLAS CO, KS                    SYSTEM: PENN  
SERIES: VIRG                      GROUP: SHAWNEE  
FM: OREAD LS                    LEAVENWORTH LS MBR  
QUAD: LAWRENCE WEST 7.5  
SW-SW-NW-NW SEC 21 TNSP 12 S RNGE 19 E  
LAT: 38.5954 LONG: 95.1856  
DATE: 04/29/1991                COLL: HENRY TW  
SPARSE MACROFOSSILS PARTICULARLY IN UPPER PART OF MBR;  
SAME LOC AS 31285-PC BUT HIGHER IN I-70 ROADCUT.

(BL)31287-PC

OSAGE CO, KS                      SYSTEM: PENN  
SERIES: VIRG                      GROUP: SHAWNEE  
FM: OREAD LS                    LEAVENWORTH LS MBR  
QUAD: WAVERLY 7.5  
N/2-NW-SW SEC 25 TNSP 18 S RNGE 16 E  
LAT: 38.2708 LONG: 95.3555  
DATE: 04/29/1991                COLL: HENRY TW  
IN DITCH OF EASTBOUND INTERCHANGE OF I-35, EXIT 162; MAKES  
WATERFALL IN DITCH & LEDGE IN LOW RDCUT ON S SIDE HWY.  
MBR IS ABOUT 1.5 FT THICK, MSSV, SPARSELY FOSS CARB  
MUDSTONE W/ SPARSE GASTROPODS, CHONETIDS,  
DESMOINESIA?, WILKINGIA, ETC.

(BL)31288-PC

COFFEY CO, KS                      SYSTEM: PENN  
SERIES: VIRG                      GROUP: SHAWNEE  
FM: OREAD LS                    SNYDERVILLE SH MBR  
QUAD: BURLINGTON 7.5  
SE-NW-NW-SW SEC 26 TNSP 21 S RNGE 15 E  
LAT: 38.1126 LONG: 95.4410  
DATE: 04/30/1991                COLL: MAPLES CG  
FROM UPPR 2 FT OF MBR IN SW CUTBNK OF ROCK CREEK ABOUT  
0.15 MI NW OF CONFLUENCE W/NEOSHO RIVER IN BURLINGTON,  
KS. CONTAINS MYALINIDS, ASTARTELLA, DERBYIA,  
LINOPRODUCTUS. BULK COLLN OF SH TO WASH. SAME LOC AS  
31289-PC.

(BL)31289-PC

COFFEY CO, KS                      SYSTEM: PENN  
SERIES: VIRG                      GROUP: SHAWNEE  
FM: OREAD LS                    SNYDERVILLE SH MBR  
QUAD: BURLINGTON 7.5  
SC-SW-NW SEC 26 TNSP 21 S RNGE 15 E  
LAT: 38.1137 LONG: 95.4408  
DATE: 04/30/1991                COLL: HENRY TW  
E SIDE ROCK CREEK OPPOSITE SMALL WATER PLANT IN  
BURLINGTON, KS; SAME FAUNA & BED AS 31288-PC BUT FROM  
ABOUT 30 YDS OF NATURAL EXPS ON E SIDE CRK. SAME LOC AS  
31290- & -91-PC. CGM MAP STA 52.

(BL)31290-PC

COFFEY CO, KS                      SYSTEM: PENN  
SERIES: VIRG                      GROUP: SHAWNEE  
FM: OREAD LS                    LEAVENWORTH LS MBR  
QUAD: BURLINGTON 7.5  
SC-SW-NW SEC 26 TNSP 21 S RNGE 15 E  
LAT: 38.1134 LONG: 95.4408  
DATE: 04/30/1991                COLL: HENRY TW  
SAME LOCS AS 31289- & 91-PC BUT FROM 1.0-1.2 FT TH MSSV LS IN  
E CRK BNK & IN FLOAT BLX.

(BL)31291-PC

COFFEY CO, KS                      SYSTEM: PENN  
SERIES: VIRG                      GROUP: SHAWNEE  
FM: OREAD LS                    PLATTSMOUTH LS MBR  
QUAD: BURLINGTON 7.5  
SC-SW-NW SEC 26 TNSP 21 S RNGE 15 E  
LAT: 38.1131 LONG: 95.4408  
DATE: 04/30/1991                COLL: HENRY TW  
SAME LOCS AS 31289- & 31390-PC BUT FROM BSE OF  
PLATTSMOUTH LS MBR; COLL MAINLY FROM LWR 6-7 FT OF  
MBR; BED 1.0-1.5 FT ABOVE BSE OF MBR HAS ABDT MEEKELLA  
W/SPAR-FILLED VUGS IN INTERIORS.

(BL)31292-PC

COFFEY CO, KS                      SYSTEM: PENN  
SERIES: VIRG                      GROUP: DOUGLAS  
FM: LAWRENCE SH                AMAZONIA LS MBR  
QUAD: BURLINGTON 7.5  
C-E SIDE-SE-SE-SE SEC 28 TNSP 21 S RNGE 16 E  
LAT: 38.2545 LONG: 95.3705  
DATE: 04/30/1991                COLL: HENRY TW

(BL)31293-PC

COFFEY CO, KS                      SYSTEM: PENN  
SERIES: VIRG                      GROUP: DOUGLAS  
FM: LAWRENCE SH                HASKELL LS MBR  
QUAD: ALICEVILLE 7.5  
C-N LINE-NE SEC 24 TNSP 22 S RNGE 16 E  
LAT: 38.0732 LONG: 95.3547  
DATE: 04/30/1991                COLL: HENRY TW  
FROM THIN CARBONATE MUDSTONE FROM THIN HASKELL LS  
MBR IN RD DITCH, MAINLY ON S SIDE SEC LINE RD; SMALL  
CRACK OUT FAUNA MAINLY DESMOINESIA?

(BL)31294-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: LAWRENCE SH  
SYSTEM: PENN  
GROUP: DOUGLAS  
AMAZONIA LS MBR  
QUAD: LE ROY 7.5  
NE-NE-NE-NE SEC 36 TNSP 22 S RNGE 15 E  
LAT: 38.0547 LONG: 95.4210  
DATE: 04/30/1991 COLL: HENRY TW  
NEAR TOP OF BANK OF NEOSHO RIVER IN EDGE OF WOODS ON  
BOTH SIDES SEC LINE RD, ESP W SIDE; AT BEND IN RD; FROM  
ARGILL LS ABOUT 3 FT THICK INTERBEDDED W/ SH; ABDT  
JURESANIA, SOME LINOPRODUCTUS, AVICULOPECTEN.

(BL)31295-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: LAWRENCE SH  
SYSTEM: PENN  
GROUP: DOUGLAS  
AMAZONIA LS MBR  
QUAD: LE ROY 7.5  
SW-SW-NW-NW SEC 36 TNSP 22 S RNGE 15 E  
LAT: 38.0538 LONG: 95.4313  
DATE: 04/30/1991 COLL: HENRY TW  
COLL FROM E RDDITCH & RDCUT OF SEC LINE RD OPPOSITE  
FARM HOUSE; SPARSE COLLN; AMAZONIA ABOUT 8 FT THICK.

(BL)31296-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: STRANGER FM  
SYSTEM: PENN  
GROUP: DOUGLAS  
VINLAND SH MBR  
QUAD: NEOSHO FALLS 7.5  
C-W LINE-NE SEC 21 TNSP 22 S RNGE 17 E  
LAT: 38.0718 LONG: 95.3316  
DATE: 04/31/1991 COLL: HENRY TW  
ON E LOW CUTBANK OF PAVED COUNTY RD; COLL JUST S OF  
RED-IRON PASTURE GATE, ABOUT 2.5 MI S OF ALICEVILLE, KS. V  
HEAVILY OSAGIA-COATED FAUNULE W/IN 2 FT OF HASKELL LS  
MBR OF LAWRENCE SHALE. CGM MAP STA 3.

(BL)31297-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: STRANGER FM  
SYSTEM: PENN  
GROUP: DOUGLAS  
WESTPHALIA LS MBR  
QUAD: LE ROY 7.5  
NE-NE-NE-NE SEC 16 TNSP 23 S RNGE 16 E  
LAT: 38.0312 LONG: 95.3853  
DATE: 04/30/1991 COLL: HENRY TW  
GOOD EXPOSURES WESTPHALIA PART ON S SIDE DEAD-END RD  
NEAR POWERLINE POLE; FUSULINID GRAINSTONE OR  
PACKSTONE. COLL SINGLE LINOPRODUCTUS & BLOCK OF ROCK.  
SAME LOC AS 31298-PC.

(BL)31298-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: STRANGER FM  
SYSTEM: PENN  
GROUP: DOUGLAS  
VINLAND SH MBR  
QUAD: LE ROY 7.5  
NE-NE-NE-NE SEC 16 TNSP 23 S RNGE 16 E  
LAT: 38.0312 LONG: 95.3851  
DATE: 04/30/1991 COLL: HENRY TW  
SAME LOC AS 31297-PC BUT FROM ABOUT 15 FT HIGHER STRAT;  
FROM CALC SH ABOUT 3 FT BELOW BSE HASKELL LS MBR OF  
LAWRENCE SH; BEST EXP IN RD DITCH & SHALLOW CUTBANK ON  
S SIDE OF DEAD-END RD. HEAVILY OSAGIA-COATED FOSSILS.

(BL)31299-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: LAWRENCE SH  
SYSTEM: PENN  
GROUP: DOUGLAS  
AMAZONIA LS MBR  
QUAD: LE ROY 7.5  
NE-NE-NW-SE-NE SEC 19 TNSP 22 S RNGE 15 E  
LAT: 38.0716 LONG: 95.4130  
DATE: 04/30/1991 COLL: HENRY TW  
FROM SE CORNER OF LORENZ-SCHLICHTER CEMETARY. ONLY  
ABOUT 0.5 FT OF MBR CROPPING OUT, DECALCIFIED, GENERALLY  
MOLDIC FAUNA; JURESANIA, LINOPRODUCTUS?, NEOSPIRIFER,  
AVICULOPECTEN.

(BL)31300-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: CALHOUN SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
"TONOVAY" LS MBR  
QUAD: JOHN REDMOND DA 7.5  
NE-NE-SE-NE-SE SEC 27 TNSP 21 S RNGE 14 E  
LAT: 38.1126 LONG: 95.5052  
DATE: 05/01/1991 COLL: HENRY TW  
UNNAMED MBR; "TONOVAY" LS MBR; COLL FROM "OATMEAL  
ROCK", THIN V QTZ SDY CALCARENITE (PACKSTONE) MAINLY ON  
W SIDE OF SEC LINE RD BUT ALSO ON E SIDE ABOUT 30 YDS N OF  
CREST OF SMALL HILL; CRACKOUT FAUNA OF LINOPRODUCTUS,  
NEOSPIRIFER, COMPOSITA MAGNA, ORTHOTETES (DERBYIA?),  
ORTHOMYALINA, WILKINGIA, ETC. EQUALS CGM MAP STA 22.  
SAME GEN LOC AS 31301-PC.

(BL)31301-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: TOPEKA LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
HARTFORD LS MBR  
QUAD: JOHN REDMOND DA 7.5  
NE-SE-NE-SE SEC 27 TNSP 21 S RNGE 14 E  
LAT: 38.1124 LONG: 95.5052  
DATE: 05/01/1991 COLL: HENRY TW  
SAME LOC AS 31300-PC BUT 20 YDS FARTHER S; SPARSE FAUNA;  
GOOD NEOCHONETES, SPARSE LINOPRODUCTUS, DERBYIA.  
(SPONGES HIGHER BUT NOT COLL).

(BL)31302-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
STULL SH MBR  
QUAD: JOHN REDMOND DA 7.5  
SE-SW-SW-SW SEC 11 TNSP 22 S RNGE 14 E  
LAT: 38.0829 LONG: 95.5048  
DATE: 05/01/1991 COLL: HENRY TW  
THIN UNNAMED 2-IN. THICK REDDISH-WEATHERING, H ARGILL LS  
W/ ABDT PECTENS, ORTHOMYALINA OVERLYING BIOTURBATED  
TIDAL SS ON S SIDE CRK BANK OF NORTH BIG CREEK IN WOODS;  
EQUALS CGM MAP STA 45. LOTS OF TRACE FOSSILS. NOTE  
SPRING HILL & BEIL LS MBRS OF KANWAKA SHALE ALSO  
EXPOSED HERE ABOUT 5 FT HIGHER IN CREEK.

(BL)31303-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
STULL SH MBR  
QUAD: JOHN REDMOND DA 7.5  
SW COR SEC 8 TNSP 22 S RNGE 15 E  
LAT: 38.0830 LONG: 95.4738  
DATE: 05/05/1991 COLL: HENRY TW  
COLL 2 BAGS (1 BULK) OF MATERIAL FROM E SEC LINE RD  
DITCH, ABOUT 10 YDS N OF CULVERT AT SEC LINE CORNER;  
THOUSANDS OF CHONETIDS WEATHERING OUT OF SHALE.  
EQUALS CGM MAP STA 34.

(BL)31304-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
STULL SH MBR  
QUAD: JOHN REDMOND DA 7.5  
NW COR-NE-NE-NE SEC 6 TNSP 22 S RNGE 15 E  
LAT: 38.1014 LONG: 95.4747  
DATE: 05/01/1991 COLL: HENRY TW  
SMALL COLLN FROM DITCH SEC LINE RD. SAME LOC AS 31305-PC.

(BL)31305-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: LECOMPTON LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
SPRING BRANCH LS MBR  
QUAD: JOHN REDMOND DA 7.5  
NW COR-NE-NE-NE SEC 6 TNSP 22 S RNGE 15 E  
LAT: 38.1014 LONG: 95.4745  
DATE: 05/01/1991 COLL: HENRY TW  
SAME LOC AS 31304-PC BUT 20 YDS EAST; SMALL COLLN  
BRACHIPODS & FUSULINID LS. EQUALS CGM MAP STA 11.

(BL)31306-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
STULL SH MBR  
QUAD: OTTUMWA 7.5  
NE-SW-NE-SE SEC 32 TNSP 20 S RNGE 15 E  
LAT: 38.1620 LONG: 95.4556  
DATE: 05/01/1991  
COLL: HENRY TW  
COLL FROM E SIDE NEW RD LEADING TO NEW HOUSING  
DEVELOPMENT IN COMMUNITY OF NEW STRAWN, KS. ABDT  
CHONETIDS WEATHERING OUT FROM BENEATH SPRING BRANCH  
LS MBR OF LECOMPTON LS. EQUALS CGM MAP STA 31.  
DONIPHAN SH MBR OF LECOMPTON LS EXPOSED ABOVE SPRING  
BRANCH LS HERE BUT NOT COLL.

(BL)31307-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
STULL SH MBR  
QUAD: OTTUMWA 7.5  
C-W SIDE-SW-NW-SW SEC 17 TNSP 20 S RNGE 15 E  
LAT: 38.1831 LONG: 95.4702  
DATE: 05/01/1991  
COLL: HENRY TW  
E SIDE OF COUNTY LINE RD IN DITCH & SHALLOW CUTBANK.  
EQUALS CLGM MAP STA 27; RRW HAS MEAS SEC HERE (LOC 294),  
SEC MEAS BY ND NEWELL, 1936. COLLN CHONETIDS,  
ORTHOMYALINA.

(BL)31308-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
SNYDERVILLE SH MBR  
QUAD: GRIDLEY SE 7.5  
NW-NE-NW-SW SEC 4 TNSP 23 S RNGE 15 E  
LAT: 38.0431 LONG: 95.4623  
DATE: 05/01/1991  
COLL: HENRY TW  
COLL FROM SSIDE COUNTY RD IN DITCH EXPOSURES. FROM  
ARGILL LS W/ ABDT FRAGMENTARY DERBYIA, LINOPRODUCTUS,  
ETC; ABOUT 0.5 FT BELOW BSE OF LEAVENWORTH LS. SEE USGS  
COLLN 31309-PC. SMALL COLLN.

(BL)31309-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
LEAVENWORTH LS MBR  
QUAD: GRIDLEY SE 7.5  
NW-NE-NW-SW SEC 4 TNSP 23 S RNGE 15 E  
LAT: 38.0431 LONG: 95.4623  
DATE: 05/01/1991  
COLL: HENRY TW  
SAME GENERAL LOC AS USGS 31308-PC BUT ABOUT 5-10 YDS  
FARTHER WEST ON SAME SIDE COUNTY RD; LEAVENWORTH IS  
ABOUT 1.7 FT THICK, V DK GRY, SPARSELY FOSSILIFEROUS W/  
ORTHOTETES, LINOPRODUCTUS, MEEKELLA.

(BL)31310-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
TORONTO LS MBR  
QUAD: LE ROY 7.5  
W SIDE-SW-SW-SW SEC 14 TNSP 23 S RNGE 15 E  
LAT: 38.0225 LONG: 95.4418  
DATE: 05/01/1991  
COLL: HENRY TW  
EAST SIDE OF US HWY 75 FROM 0.1 TO 0.15 MI N OF  
COFFEY/WOODSON COUNTY LINE; FROM HIGH ROADCUT; MOST  
OF POORLY PRESERVED CRACKOUT MATERIAL FROM ABOUT 1  
FT ABOVE TOP GRNSH GRY SH LOC ABOUT 4 FT ABOVE BSE & 4-5  
FT BELOW TOP MBR; SMALL MATERIAL FROM GRNSH GRY CALC  
SHWHICH DIRECTLY OVERLIES HARDGROUND(?) W/ CRUST DEV  
ON LWR HALF OF MBR; CRUST INVAGINATES INTO LWR LS UNIT  
& POCKETS FILLED W/ SH; BORINGS IN CRUST. SEE SKETCH.

(BL)31311-PC

WOODSON CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
TORONTO LS MBR  
QUAD: YATES CENTER 7.5  
C-E SIDE-NE SEC 3 TNSP 24 S RNGE 15 E  
LAT: 37.5930 LONG: 95.4419  
DATE: 05/02/1991  
COLL: HENRY TW  
MOST OF COLLNS FROM W SIDE OF US HWY 75 IN ROADCUT  
THRU TORONTO; MOST COLLNS FROM LWR & MIDDLE PART OF  
ORANGISH-WEATHERING TORONTO. COLLN OF NEOSPIRIFER,  
NEOCHONETES, SMALLPRODUCTID, RHIPIDOMELLA, HUSTEDIA,  
RETICULATIA, PUNCTOSPIRIFER, SMALL CORALS. SEE SKETCH  
AT USGS COLLN 31310-PC.

(BL)31312-PC

LYON CO, KS  
SERIES: VIRG  
FM: HOWARD LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
CHURCH LS MBR  
QUAD: GRIDLEY NW 7.5  
NE-NE-NE-SE SEC 22 TNSP 21 S RNGE 13 E  
LAT: 38.1225 LONG: 95.5731  
DATE: 05/02/1991  
COLL: HENRY TW  
COLL FROM LARGE TALUS BLOCK ON W SIDE OF COUNTY LINE  
ROAD ABOUT 7 MI S OF HARTFORD, KS; JUST N OF FARM HOUSE.  
CHURCH LS MBR IS DK GRY SKELETAL CARBONATE MUDSTONE  
W/ SPARSE FOSSILS; FORMS SINGLE 1.2-1.5 FT THICK LEDGE JUST  
ABOVE. CRACKOUT FAUNA OF NEOSPIRIFER, RETICULATIA,  
ANTIQUATONIA, DESMOINESIA, & V SPARSE DERBYIA  
LINOPRODUCTUS; LARGE PELECYPOD, GASTROPOD (COLOR  
RETENTION?); FAUNA IN LWR THIRD OF MBR MAY BE IN GROWTH  
POSITION.

(BL)31313-PC

SHAWNEE CO, KS  
SERIES: VIRG  
FM: HOWARD LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
AARDE SH MBR  
QUAD: WAKARUSA 7.5  
NE-NE-NE-SE SEC 23 TNSP 12 S RNGE 15 E  
LAT: 38.5958 LONG: 95.4227  
DATE: 05/02/1991  
COLL: HENRY TW  
FROM 2.5-3.0 FT THICK DARK GRY CALC SHALE BETWEEN  
NODAWAY COAL BED & CHURCH LS MBR (BOTH EXPOSED);  
EXPOSURES ON LOW CUTBANK OF NW INTERCHANGE OF US HWY  
75 (I-470) & BURLINGAME ROAD, ABOUT 0.8 MI NW OF SOUTH  
TOPEKA INTERCHANGE FOR KANSAS TURNPIKE. RICH FAUNA W  
FENESTRATE BRYOZOANS, GASTROPODS, SMALL PRODUCTIDS;  
MOSTLY CRUSHED. TOOK BULK SMPL. SEE USGS COLLN. 31314-  
PC.

(BL)31314-PC

SHAWNEE CO, KS  
SERIES: VIRG  
FM: HOWARD LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
WINZELER SH MBR  
QUAD: WAKARUSA 7.5  
NE-NE-NE-SE SEC 23 TNSP 12 S RNGE 15 E  
LAT: 38.5958 LONG: 95.4227  
DATE: 05/02/1991  
COLL: HENRY TW  
SAME LOC AS USGS COLLN 31313-PC BUT FROM CALC SH BEDS  
OF WINZELER SH MBR EXP IN LOW RDCUT ABOVE CHURCH LS  
MBR. FAUNA IN LWR PART MBR ECOLOGICALLY SIMILAR TO  
31313-PC BUT UPPER PART OF EXPOSURES (3-4 FT ABOVE BSE  
MBR) CONTAINING ONLY CHONETIDS; NOTE: CHONETIDS ARE  
PURPLE (COLOR RETENTION?)

(BL)31315-PC

DOUGLAS CO, KS  
SERIES: VIRG  
FM: LAWRENCE SH  
SYSTEM: PENN  
GROUP: DOUGLAS  
AMAZONIA LS MBR  
QUAD: LAWRENCE WEST 7.5  
NEAR C SEC 20 TNSP 13 S RNGE 19 E  
LAT: 38.5424 LONG: 95.1932  
DATE: 05/03/1991  
COLL: HENRY TW  
OUTCROPS ON LOW CUTBANKS OF CLINTON LAKE DAM RD SW  
OF DAM, JUST SW OF LAWRENCE, KS; COLL ON BOTH SIDES RD.  
FROM CA 1.5 THICK CGL LS W/ ABDT BIOCLASTIC MAT & GRNSH-  
GRY SH CLASTS (POSS UNIT OF RRW MEAS SEC); UNDERLAIN BY  
GRY SH; OVERLAIN BY GRYSH-RED WEA SH W/ MICRITIC CONCR  
ALSO W/ SPARSE FAUNA. FAUNA FROM AMAZONIA TRACE  
FOSSILS, DERBYIA, NEOSPIRIFER, LARGE PRODUCTID,  
COMPOSITA, PHESTIA, EDMONDIA, PELMATOZOAN COLUMNALS,  
BRYOZOANS, JURSANIA. SEE 31316-PC.

(BL)31316-PC

DOUGLAS CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
TORONTO LS MBR  
QUAD: LAWRENCE WEST 7.5  
C-SE-SE-NW SEC 20 TNSP 13 S RNGE 19 E  
LAT: 38.5425 LONG: 95.1937  
DATE: 05/03/1991  
COLL: HENRY TW  
SAME LOC AS USGS 31315-PC BUT 50 YDS FARTHER NW ON SW SIDE OF CLINTON LAKE DAM ROAD. V SPARSE FAUNA FROM VICINITY OF 0.1-0.2 FT GRNSH-GRY SH PARTING ABOVE THIN BEDDED MICRITIC UNIT NEAR MIDDLE OF TORONTO; WILKINGIA, DERBYIA; SMALL COLLN.

(BL)31317-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
TORONTO LS MBR  
QUAD: LE ROY 7.5  
W SIDE-SW-SW SEC 35 TNSP 22 S RNGE 15 E  
LAT: 38.0522 LONG: 95.4419  
DATE: 05/03/1991  
COLL: HENRY TW  
COLL FROM LOW CUTBANK ON E SIDE OF US HWY 75 JUST N OF INTERSECTION W/ ST HWY 57 (TO LE ROY). COLL FROM GEN LWR HALF MBR, ESP FROM GRNSH-GRY SH PARTINGS (SEE USGS COLLN 31310-PC). CONTAINS RHIPIDOMELLA, SMALL SOLITARY CORALS, CRINOID STEMS, CRURITHYRIS IN SH UNIT.

(BL)31318-PC

WOODSON CO, KS  
SERIES: VIRG  
FM: STRANGER FM  
SYSTEM: PENN  
GROUP: DOUGLAS  
VINLAND SH MBR  
QUAD: TORONTO SE 7.5  
NE-SE-SW-NE SEC 14 TNSP 26 S RNGE 14 E  
LAT: 37.4710 LONG: 95.5023  
DATE: 05/04/1991  
COLL: HENRY TW  
COLL IN CREEK BELOW WOODSON COUNTY LAKE SPILLWAY. SEC HERE IS WELL EXPOSED TO WESTPHALIA LS MBR BELOW & IS POSS STRATOTYPE FOR MISSOURIAN/VIRGILIAN BOUNDARY. COLLN FROM DK GRY CALC SH IN UPPER 1.7 FT OF MBR JUST BELOW OVERHANGING LEDGE OF HASKELL LS MBR. SMALL COLLN OF MACROFOSSILS; BULK COLLN FOR CONODONTS. SAME LOC AS USGS 31319-PC.

(BL)31319-PC

WOODSON CO, KS  
SERIES: VIRG  
FM: LAWRENCE SH  
SYSTEM: PENN  
GROUP: DOUGLAS  
HASKELL LS MBR  
QUAD: TORONTO SE 7.5  
NE-SE-SW-NE SEC 14 TNSP 26 S RNGE 14 E  
LAT: 37.4710 LONG: 95.5023  
DATE: 05/04/1991  
COLL: HENRY TW  
SAME LOC AS USGS 31318-PC; COLL FROM OVERHANGING 1.8 FT THICK HASKELL LS MBR, CRACKOUT FAUNA; MAKES MSSV LEDGE IN BRANCH OF BIG SANDY CREEK ABOUT 30 YDS S OF LOWER SPILLWAY OF WOODSON COUNTY LAKE, PROBABLY DIRECTLY ON STATE PARK BOUNDARY. TWO CONODONT SMPLS; (TWH-91-38A = USGS 31319-PC) PLUS MACROFAUNA FROM BSL HALF; (TWH-91-38B = USGS 31320-PC) FROM TOP HALF.

(BL)31320-PC

WOODSON CO, KS  
SERIES: VIRG  
FM: LAWRENCE SH  
SYSTEM: PENN  
GROUP: DOUGLAS  
HASKELL LS MBR  
QUAD: TORONTO SE 7.5  
NE-SE-SW-NE SEC 14 TNSP 26 S RNGE 14 E  
LAT: 37.4710 LONG: 95.5023  
DATE: 05/04/1991  
COLL: HENRY TW  
SAME LOC AS USGS 31319-PC BUT FROM TOP HALF OF HASKELL LS MBR. BULK SMPL FOR CONODONTS.

(BL)31321-PC

DOUGLAS CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
TORONTO LS MBR  
QUAD: LAWRENCE WEST 7.5  
N SIDE-NW-NW SEC 8 TNSP 13 S RNGE 19 E  
LAT: 37.5632 LONG: 95.1955  
DATE: 05/06/1991  
COLL: HENRY TW  
COLL FROM LOW CUTBANKS ALONG N SIDE OVERFLOW SPILLWAY FOR CLINTON LAKE JUST S OF CLINTON BLVD IN LAWRENCE, KS. AMAZONIA & UPPR LAWRENCE SH INTERMITTENTLY EXPOSED AT BASE OF CUTS BUT FAUNA NOT WELL DEVELOPED. FOSSILS IN TORONTO LS MBR SPRSE BUT MADE GOOD COLLN. SAME LOC AS USGS COLLN 31322-PC.

(BL)31322-PC

DOUGLAS CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
PLATTSMOUTH LS MBR  
QUAD: LAWRENCE WEST 7.5  
N SIDE-NW-NW SEC 8 TNSP 13 S RNGE 19 E  
LAT: 38.5632 LONG: 95.1955  
DATE: 05/06/1991  
COLL: HENRY TW  
SAME LOC AS USGS COLLN 31321-PC BUT FROM BSL PART OF PLATTSMOUTH LS MBR WELL EXPOSED JUST BELOW CLINTON BLVD (SOUTH OF) IN UPPER PART OF OVERFLOW SPILLWAY FOR CLINTON LAKE. NOTE: LEAVENWORTH LS MBR WELL EXPOSED IN SAME SPILLWAY CUTS BUT COULD NOT GET MACROFAUNA FROM SAME.

(BL)31323-PC

OSAGE CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
PLATTSMOUTH LS MBR  
QUAD: WAVERLY 7.5  
N/2-SW SEC 25 TNSP 18 S RNGE 16 E  
LAT: 38.2720 LONG: 95.3543  
DATE: 05/06/1991  
COLL: HENRY TW  
FROM OSAGE COUNTY HWY DEPT QUARRY JUST NE OF JCT OF I-35 W/ STATE HWY 31S (TO WAVERLY). COLL FROM TALUS MATERIAL IN QUARRY FLOOR & ON WALLS. PLATTSMOUTH LS MBR IS ABOUT 15 FT THICK HERE. SEE USGS COLLNS. 31324- & 31325-PC.

(BL)31324-PC

OSAGE CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
HEUMADER SH MBR  
QUAD: WAVERLY 7.5  
W/2-NW-NE-SW SEC 25 TNSP 18 S RNGE 16 E  
LAT: 38.2720 LONG: 95.3543  
DATE: 05/06/91  
COLL: HENRY TW  
SAME QUARRY AS USGS COLLN 31323- & 31325-PC, BUT FROM SCRAPED OFF AREA TOWARD E END OF QUARRY. FAUNA WEATHERING FROM SH.

(BL)31325-PC

OSAGE CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
KEREFOOD LS MBR  
QUAD: WAVERLY 7.5  
E/2-NE-NW-SW SEC 25 TNSP 18 S RNGE 16 E  
LAT: 38.2720 LONG: 95.3543  
DATE: 05/06/1991  
COLL: HENRY TW  
FROM SMALL LEDGES IN PLACE ON W SIDE QUARRY AT ENTRANCE RAMP INTO OSAGE COUNTY HWY DEPT QUARRY (SAME LOCS AS 31323- & 31324-PC). CRACK-OUT FAUNA OF LINOPRODUCTUS, ABDT MEEKELLA, PHRICODOTHYRIS, ETC. ALSO COLL 05/11/1991

(BL)31326-PC

LYON CO, KS  
SERIES: VIRG  
FM: TOPEKA LS

SYSTEM: PENN  
GROUP: SHAWNEE  
HARTFORD LS MBR

QUAD: HARTFORD 7.5  
NE-NE SEC 3 TNSP 21 S RNGE 13 E  
LAT: 38.1528 LONG: 95.5735

DATE: 05/06/1991 COLL: HENRY TW  
IN NORTHEAST CORNER OF JH SHEARS & SONS (HUTCHINSON, KS) QUARRY IN HARTFORD LS MBR. SAME LOC AS USGS 31327- & 31328-PC. HATTFORD IS A COMPLEX SKEL CALCARENITE TO ALGAL-SPONGE WACKESTONE & IS ABOUT 10-12 FT THICK HERE (MAIN QUARRY RK); JONES POINT SH IS ABOUT 2-3 FT THICK HERE W/ CURZON LS MBR & HIGHER UNITS BEING PUSHED OFF PRIOR TO QUARRY OPERATIONS. COLL SEVERAL LARGE PRODUCTIDS MORE OR LESS IN PLACE.

(BL)31327-PC

LYON CO, KS  
SERIES: VIRG  
FM: TOPEKA LS

SYSTEM: PENN  
GROUP: SHAWNEE  
CURZON LS MBR

QUAD: HARTFORD 7.5  
NE-NE SEC 3 TNSP 21 S RNGE 13 E  
LAT: 38.1528 LONG: 95.5736

DATE: 05/06/1991 COLL: HENRY TW  
LARGE COLLN FROM CURZON LS MBR W/ POSS MAT FROM OVERLYING SHELDON LS MBR(?); COLL FROM SPOIL PILES OF PUSHED OFF MATERIAL FROM SHEARS QUARRY (SAME LOC AS 31326- & 31327-PC). IOWA POINT SH, CURZON LS MBR, & JONES POINT SH MBR EXPOSED ON NE SIDE QUARRY WHERE OPERATORS HAVE SCRAPED OFF TOP OF HARTFORD LS MBR & ARE DRILLING FOR BLASTING. CURZON IS FUSULINID RICH (AS TYPICAL). (\*) CHONETIDS MAY COME FROM JONES POINT SH MBR (SEE USGS 31349-PC).

(BL)31328-PC

LYON CO, KS  
SERIES: VIRG  
FM: TOPEKA LS

SYSTEM: PENN  
GROUP: SHAWNEE  
SHELDON LS ? MBR

QUAD: HARTFORD 7.5  
NE-NE SEC 3 TNSP 21 S RNGE 13 E  
LAT: 38.1528 LONG: 95.5736

DATE: 05/06/1991 COLL: HENRY TW  
JH SHEARS & SONS QUARRY; COLL FROM SPOILS PILE OF ABDT SMALL PRODUCTIDS IN GROWTH POSITION IN THIN, ORANGISH-WEATHERING LS W/ BOXWORK STRUCTURE (EVAPORITE DISSOLUTION?) LIKE MATERIAL SEEN IN PLACE NEAR NE EDGE OF ACTIVE QUARRY ABOVE IOWA POINT SH MBR(?) OF TOPEKA LS. CONTAINS SPARSE FUSULINIDS, SCATTERED CHONETIDS. SEE USGS COLLNS 31326- & 31327-PC. (SIMILAR TO MATERIAL IN QUARRY ABOVE 31343-PC; TWH-91-60).

(BL)31329-PC

WOODSON CO, KS  
SERIES: VIRG  
FM: OREAD LS

SYSTEM: PENN  
GROUP: SHAWNEE  
TORONTO LS MBR

QUAD: TORONTO SE 7.5  
N/2-SE-NW-SE SEC 18 TNSP 25 S RNGE 15 E  
LAT: 37.5213 LONG: 95.4742

DATE: 05/07/1991 COLL: HENRY TW  
SEE USGS COLLN. 31334-PC, LOC ABOUT 0.2 MI S; SEE SKETCH SECTION; EXPOSURES IN LOW ROAD CUT ON N SIDE US HWY 54 ABOUT 3.5 MI W OF YATES CENTER, KS; CUTS BEGINNING ABOUT 30 YDS W OF INTERSECTION W/ SEC LINE RD & CONT WESTWARD FOR ABOUT 0.1 MI. UPPER PART OF TORONTO LS MBR HERE HAS ABOUT 1.5 FT THICK GRNISH-GRY WEATHERING CALC SH W/NEOCHONETES, NEOSPIRIFER, PRODUCTIDS, LINOPRODUCTUS, COMPOSITA; LWR PART ORANGISH-GRY WEA LS W/SPARSE BIOCLASTIC FAUNA INCL RETICULATIA & ANTIQUATONIA; SH UNIT NOT EXP ON S SIDE

(BL)31330-PC

WILSON CO, KS  
SERIES: MSSR  
FM: STANTON LS

SYSTEM: PENN  
GROUP: LANSING  
EUDORA SH MBR

QUAD: VILAS 7.5  
SW-SW-NW SEC 36 TNSP 27 S RNGE 16 E  
LAT: 37.3915 LONG: 95.3646

DATE: 05/07/1991 COLL: HENRY TW  
NOW LARGELY OVERGROWN AT&SF RAILROAD CUT ABOUT 1.75 MI W OF VILAS, KS. EQUALS KU LOC 5418 & 1718 (ND NEWELL); TOPOTYPES OF HUSTEDIA ACUTICOSTA NEWELL. SMALL COLLN FROM SCRAPED OFF AREA W/ CAPTAIN CREEK LS MBR EXPOSED BELOW AND IN OLD ABANDONED QUARRY O NE OF RR CUT; EUDORA SH MBR MAKES POOR BENCH.

(BL)31331-PC

WOODSON CO, KS  
SERIES: MSSR  
FM: STANTON LS

SYSTEM: PENN  
GROUP: LANSING  
SOUTH BEND LS \* MBR

QUAD: ROSE 7.5  
W/2-SW-NW SEC 19 TNSP 26 S RNGE 15 E  
LAT: 37.4613 LONG: 95.4221

DATE: 05/07/1991 COLL: HENRY TW  
WOODSON COUNTY HWY DEPT QUARRY SOUTH OF YATES CENTER, KS; SMALL COLLN FROM SPARSELY FOSS GREEN SH & OVERLYING LS, MAINLY NEAR NE SIDE OF QUARRY; (\*) MAY BE FROM SOUTH BEND LS MBR OR ROCK LAKE SH MBR OF STANTON LS.

(BL)31332-PC

WOODSON CO, KS  
SERIES: VIRG  
FM: STRANGER FM

SYSTEM: PENN  
GROUP: DOUGLAS  
VINLAND SH MBR

QUAD: YATES CENTER 7.5  
NEAR C-NW-NW SEC 1 TNSP 25 S RNGE 15 E  
LAT: 37.5421 LONG: 95.4309

DATE: 05/07/1991 COLL: HENRY TW  
SMALL COLLN OF CRUSHED FOSSILS FROM LOW CUTBANKS ON EITHER SIDE OF COUNTY ROAD FROM UPPER 3-4 FT OF VINLAND SH MBR. COLLN IN KU MUSEUM FROM "AMAZONIA LS, NORTHEAST OF YATES CENTER" IS PROBABLY FROM THIS UNIT AND LOCALITY.

(BL)31333-PC

WOODSON CO, KS  
SERIES: VIRG  
FM: LAWRENCE SH

SYSTEM: PENN  
GROUP: DOUGLAS  
HASKELL LS MBR

QUAD: YATES CENTER 7.5  
NEAR C-NE-NW-NW \* SEC 1 TNSP 25 S RNGE 15 E  
LAT: 37.5425 LONG: 95.4300

DATE: 05/07/1991 COLL: HENRY TW  
(\*) CURRENT LOC: MATERIAL PUSHED IN EDGE STEEP CREEK BANK TO RETARD EROSION; ACCORDING TO MR LAUBER (LOCAL RESIDENT), MATERIAL TAKEN FROM NEARBY. SMALL COLLN FROM BLX HASKELL LS DUMPED INTO EDGE OF OWL CREEK; TOP OF HASKELL W/ CHARACTERISTIC "WORM TRACKS"; COLLN MAINLY FROM APPARENT BSE OF MBR

(BLX ABOUT 2 FT THICK).

(BL)31334-PC

WOODSON CO, KS  
SERIES: VIRG  
FM: LAWRENCE SH

SYSTEM: PENN  
GROUP: DOUGLAS  
WATHENA SH MBR

QUAD: TORONTO SE 7.5  
SE COR-SE-NE-SE SEC 18 TNSP 25 S RNGE 15 E  
LAT: 37.5208 LONG: 95.4737

DATE: 05/08/1991 COLL: HENRY TW  
COLL EXPOSURES IN BED OF SEC LINE ROAD 0.2 MI S OF US HWY 54 & USGS COLLN 31329-PC. ABDT FOSS CALC SH CA 4 FT THICK FROM TOP WILLIAMSBURG COAL TO BSE TORONTO LS MBR. SAME LOC AS 31335-PC & KU LOCS MADE BY MH WALLACE, ND NEWELL, AL BOWSHER, RC MOORE (S E MEAS SECS IN KGS FILES). DERBYIA, ABDT NEOCHONETES, ETC; BULK SMPL PLUS MATERIAL PICKED UP ON SURFACE.

(BL)31335-PC

WOODSON CO, KS  
SERIES: VIRG  
FM: OREAD LS

SYSTEM: PENN  
GROUP: SHAWNEE  
TORONTO LS MBR

QUAD: TORONTO SE 7.5  
SE COR-SE-NE-SE SEC 18 TNSP 25 S RNGE 15 E  
LAT: 37.5208 LONG: 95.4737

DATE: 05/08/1991 COLL: HENRY TW  
SAME LOC AS USGS COLLN 31335-PC BUT FROM HIGHER UNIT. SMALL COLLN MADE IN EXPOSURES IN SEC LINE RD. SEE USGS COLLN 31329-PC. MEAS SECS BY RC MOORE (11/08/35), ND NEWELL (5/36), MH WALLACE (5/10/41), & AL BOWSHER (9/8/42), ALL ON FILE WITH KS GEOL SURV

(BL)31336-PC

WOODSON CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: DOUGLAS  
FM: LAWRENCE SH AMAZONIA LS MBR  
QUAD: TORONTO SE 7.5  
C-E LINE-SE-SE-SE SEC 18 TNSP 25 S RNGE 15 E  
LAT: 37.5156 LONG: 95.4737  
DATE: 05/08/1991 COLL: HENRY TW  
COLL FROM BED OF SAME SEC LINE ROAD AS USGS COLLNS  
31334- & 31335-PC AT POINT ABOUT 0.3 MI S OF THOSE & ABOUT  
100 YDS N OF INTERSECTION W/ E-W SEC LINE RD. POORLY  
EXPOSED, SPARSELY FOSS ARGILL LS.

(BL)31337-PC

WOODSON CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: DOUGLAS  
FM: LAWRENCE SH AMAZONIA LS MBR  
QUAD: TORONTO SE 7.5  
C-S LINE-SW-SE-SE SEC 18 TNSP 25 S RNGE 15 E  
LAT: 37.5154 LONG: 95.4751  
DATE: 05/08/1991 COLL: HENRY TW  
EXPOSED IN RD & BOTH RD DITCHES OF SEC LINE RD ABOUT 0.2  
MI W OF JCT W/ N-S RD OF USGS COLLNS 31334- 31335- & 31336-PC  
& SAME BED AS LAST LOC. LINOPRODUCTUS, NEOSPIRIFER,  
COMPOSITA. TORONTO LS MBR EXP ABOVE, BUT NO  
COLLECTING IN BETWEEN.

(BL)31338-PC

WILSON CO, KS SYSTEM: PENN  
SERIES: MSSR GROUP: LANSING  
FM: STANTON LS STONER LS \* MBR  
QUAD: FREDONIA 7.5  
E/2-NE SEC 26 TNSP 29 S RNGE 14 E  
LAT: 37.2947 LONG: 95.5001  
DATE: 05/08/1991 COLL: HENRY TW  
(\* ) COULD ALSO BE CAPTAIN CREEK LS MBR; EUDORA SH MBR  
(SEE USGS COLLN 31339-PC) V POORLY DEVELOPED HERE; SMALL  
ACTIVE QUARRY OF STARBUCK ROCK CO, FREDONIA, KS. COLL  
FROM TALUS; MOSTLY CRACK-OUT FAUNA.

(BL)31339-PC

WILSON CO, KS SYSTEM: PENN  
SERIES: MSSR GROUP: LANSING  
FM: STANTON LS EUDORA SH \* MBR  
QUAD: FREDONIA 7.5  
E/2-NE SEC 26 TNSP 29 S RNGE 14 E  
LAT: 37.2947 LONG: 95.5003  
DATE: 05/08/1991 COLL: HENRY TW  
SAME LOC AS USGS COLLN 31338-PC; ACTIVE SMALL QUARRY OF  
STARBUCK STONE CO., FREDONIA, KS. ORBICULOIDEA.

(BL)31340-PC

WILSON CO, KS SYSTEM: PENN  
SERIES: MSSR GROUP: LANSING  
FM: STANTON LS EUDORA SH MBR  
QUAD: FREDONIA 7.5  
NW SEC 19 TNSP 29 S RNGE 15 E  
LAT: 37.3039 LONG: 95.4832  
DATE: 05/08/1991 COLL: HENRY TW  
LAFARGE CORP, FREDONIA CEMENT CO (HUGE ACTIVE QUARRY)  
ABOUT 1 MI S OF FREDONIA, KS (SEE KU COLL 1743 L& 2456);  
BULK SMPL FROM NEAR SW QUARRY FACE. CAPTAIN CREEK LS  
MBR AT BSE OF QUARRY, W/ THIN, UNDULATING EUDORA SH  
MBR (BULK SH SAMPLE TO WASH), OVERLAIN BY HIGHLY  
BIOTURBATED ALGAL CALCILUTITES (NODULAR) OF STONER LS  
MBR; HIGHER MBR'S AT TOP OF QUARRY WALL. SW FACE OF  
QUARRY IS ABOUT 50 FT HIGH. HORACE H COMPTON, PLANT  
MGR.

(BL)31341-PC

WILSON CO, KS SYSTEM: PENN  
SERIES: MSSR GROUP: LANSING  
FM: STANTON LS STONER LS \* MBR  
QUAD: FREDONIA 7.5  
NW SEC 19 TNSP 29 S RNGE 15 E  
LAT: 37.3039 LONG: 95.4832  
DATE: 05/08/1991 COLL: HENRY TW  
SAME CEMENT CO QUARRY & LOC AS USGS COLLN 31340-PC; SEE  
ALSO 31342-PC. COLL SMALL VIAL & HAND SMPL OF HIGHLY  
BIOTURBATED ALGAL CALCILUTITE. PROB SAME AS KU COLLNS  
1743 & 2456 ("CEMENT QUARRY 1 MI S OF FREDONIA").

(BL)31342-PC

WILSON CO, KS SYSTEM: PENN  
SERIES: MSSR GROUP: LANSING  
FM: STANTON LS CAPTAIN CREEK LS MBR  
QUAD: FREDONIA 7.5  
PROB NW-SE-NW SEC 19 TNSP 29 S RNGE 15 E  
LAT: 37.3037 LONG: 95.4833  
DATE: 05/08/1991 COLL: HENRY TW  
LAFARGE CORP, FREDONIA CEMENT CO QUARRY (SEE USGS  
COLLNS 31340- & 31341-PC). MATERIAL COLL IN PLACE NEAR & IN  
DIVERSION DITCH AND POND NEAR NE HIGHWALL OF ACTIVE  
QUARRY. THOUSANDS OF DIMINUTIVE BUT MATURE COMPOSITA,  
SCATTERED HUSTEDIA, PUNCTOSPIRIFER, SEVERAL TYPES OF  
SOLITARY RUGOSE CORALS; MAY REPRESENT SERIES OF  
BRYOZOAN-ENCRUSTED HARDGROUNDS COLONIZED BY  
COMPOSITA. EUDORA SH MBR POORLY DEV ON HIGHWALL.

(BL)31343-PC

COFFEY CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: OREAD LS KEREFOORD LS MBR  
QUAD: NEW STRAWN 7.5  
C-E SIDE-SW SEC 23 TNSP 20 S RNGE 15 E  
LAT: 38.1732 LONG: 95.4240  
DATE: 05/09/1991 COLL: HENRY TW  
FROM BOTH SIDES OF RECENTLY CHANNELIZED TRIBUTARY OF  
WOLF CREEK ON KG&E PROPERTY. UNIT 1 OF RRW MEAS SEC;  
HEAVILY BARNACLE-BORED DERBYIA & MOLLUSKS; UNIT  
OXIDIZED, PROB REPRESENTING HARDGROUND IN HORIZON OF  
KEREFOORD LS MBR; OVERLAIN SHARPLY BY CALC SHALE; UNIT  
EXPOSED IN BASE OF CREEK & LOW IN CUTBANKS. SAME LOC  
AS USGS COLLN 31344-PC.

(BL)31344-PC

COFFEY CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: KANWAKA SH JACKSON PARK SH ? MBR  
QUAD: NEW STRAWN 7.5  
C-E SIDE-SW SEC 23 TNSP 20 S RNGE 15 E  
LAT: 38.1732 LONG: 95.4240  
DATE: 05/09/1991 COLL: HENRY TW  
SEE RRW MEAS SEC; SAME LOC AS USGS COLLN 31343-PC BUT  
FROM UNITS ABOVE BORED, OXIDIZED BED OF UNIT 1. CGM MAP  
STA 69. DISARTICULATED, ABDT JURASANIA & DERBYIA;  
CHONETIDS HIGH IN CUTBANK ABOVE MYALINID  
(ORTHOMYALINA) BEDS.

(BL)31345-PC

COFFEY CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: KANWAKA SH JACKSON PARK SH MBR  
QUAD: BURLINGTON 7.5  
E/2-SW-SW-SW SEC 11 TNSP 21 S RNGE 15 E  
LAT: 38.1346 LONG: 95.4411  
DATE: 05/09/1991 COLL: HENRY TW  
MOD HIGH ROADCUT ON E SIDE US HWY 75 ABOUT 1.5 MI N OF  
BURLINGTON, KS. FROM ABOUT 10 FT SECTION OF DRK-GRY SH  
JUST BELOW CLAY CREEK LS MBR; SOME MYALINIDS IN  
GROWTH POSITION; MOST BRX W/IN UPPER 2 FT CALC SH;  
LOWER FAUNA DOMINATED BY GASTROPODS; ORTHOMYALINIA  
IN GROWTH POSITION. SAME LOC AS USGS COLLN 31346-PC.

(BL)31346-PC

COFFEY CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: KANWAKA SH CLAY CREEK LS MBR  
QUAD: BURLINGTON 7.5  
E/2-SW-SW-SW SEC 11 TNSP 21 S RNGE 15 E  
LAT: 38.1346 LONG: 95.4411  
DATE: 05/09/1991 COLL: HENRY TW  
SAME LOC AS USGS COLLN 31345-PC BUT FROM OVERLYING MBR.  
SMALL COLLN FROM LS LEDGES AT TOP ROADCUT.

(BL)31347-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: LAWRENCE SH  
SYSTEM: PENN  
GROUP: DOUGLAS  
HASKELL LS MBR  
QUAD: LE ROY 7.5  
C-S LINE-SW SEC 28 TNSP 22 S RNGE 16 E  
LAT: 38.0550 LONG: 95.3934  
DATE: 05/09/1991  
COLL: HENRY TW  
LOW-WATER FORD IN NEOSHO RIVER OFF SEC LINE RD NORTH OF LE ROY, KS; COLL FROM LEDGE IN RIVER BED & IN MATERIAL MOVED DOWNSTREAM & PILED UP IN MEGA-RIPPLED BARS. MATERIAL ALSO WORKED UP FROM UNDERLYING VINLAND SH MBR OF STRANGER FM BUT NOT COLLECTED; CONSISTS MOSTLY OF ORTHOMYALINA & OTHER PELECYPODS IN GRNISH-GRY SDY MICACEOUS MATRIX. SAME LOC AS USGS COLLN 31348-PC.

(BL)31348-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: STRANGER FM  
SYSTEM: PENN  
GROUP: DOUGLAS  
WESTPHALIA LS MBR  
QUAD: LE ROY 7.5  
C-S LINE-SW SEC 28 TNSP 22 S RNGE 16 E  
LAT: 38.0550 LONG: 95.3934  
DATE: 05/09/1991  
COLL: HENRY TW  
FROM GRAVEL BAR IN NEOSHO RIVER JUST DOWNSTREAM FROM LOW-WATER FORD ON HASKELL LS MBR; TALUS PIECE REWORKED FROM OUTCROPS UPSTREAM, CONTAINS ABDT FUSULINIDS IN WESTPHALIA LS MBR MATERIAL MAKING IT READILY DISTINGUISHABLE FROM TALUS FROM HASKELL LS MBR; SEE USGS COLLN 31347-PC (SAME LOC).

(BL)31349-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: TOPEKA LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
CURZON LS MBR  
QUAD: GRIDLEY NW 7.5  
S/2-SE-NE-NE SEC 30 TNSP 21 S RNGE 14 E  
LAT: 38.1146 LONG: 95.5418  
DATE: 05/09/1991  
COLL: HENRY TW  
RECENTLY ABANDONED QUARRY (TRULOVE) IN HARTFORD LS MBR OF TOPEKA LS; COLL FROM BENCHMARKED OFF AREA ON S SIDE OF QUARRY JUST ABOVE TOP OF HARTFORD. RICH BRACHIOPOD FAUNA IN LWR PART OF CURZON LS MBR W/ BASAL MATERIAL LARGELY IN GROWTH POSITION; ANTIQUATONIA, NEOSPIRIFER, COMPOSITA, DERBYIA BENNETTI, D CYMBULA, BEECHERIA? ASSEMBLAGE SNUFFED OUT BY FUSULINID SAND; TRIES TO REESTABL. STORM DEP AT TOP; SEE RRW LOC 904 FOR MEAS SEC. [BOXWORK MATERIAL NEAR TOP QUARRY-SHELDON LS MBR?; JONES POINT SH? W/CHONETIDS

(BL)31350-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: TOPEKA LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
CURZON LS MBR  
QUAD: GRIDLEY NW 7.5  
NEAR C-NW SEC 30 TNSP 21 S RNGE 14 E  
LAT: 38.1147 LONG: 95.5460  
DATE: 05/09/1991  
COLL: HENRY TW  
RECENTLY ABANDONED, WATER FILLED QUARRY IN TOPEKA LIMESTONE; COLL FROM TALUS. NOTE GOOD SECTION OF TOPEKA PRESENT ON EAST SIDE OF QUARRY; JONES POINT SH MBR(?) W/THIN COAL(?). HIGHER TOPEKA UNITS EXPOSED IN QUARRY FACE. COLL DERBYIA CYMBULA, RETICULARATIA, DELOCINUS CUP.

(BL)31351-PC

JOHNSON CO, KS  
SERIES: MSSR  
FM: STANTON LS  
SYSTEM: PENN  
GROUP: LANSING  
STONER LS \* MBR  
QUAD: DESOTO 7.5  
SEC 0 TNSP RNGE  
LAT: 38.5839 LONG: 94.5725  
DATE: 05/10/1991  
COLL: HENRY TW  
ON S SIDE STATE HWY K10, 0.1 MI W OF KILL CREEK ROAD EXIT, LOW ROADCUT; SHALE BENCH IN STONER LS MBR. JUVENILE FAUNA OF HUSTEDIA, COMPOSITA, PUNCTOSPIRIFER, SMALL CORALS; LARGER MATERIAL (COMPOSITA) FROM ABOUT 2 FT BELOW SH BREAK.

(BL)31352-PC

JOHNSON CO, KS  
SERIES: MSSR  
FM: STANTON LS  
SYSTEM: PENN  
GROUP: LANSING  
CAPTAIN CREEK LS MBR  
QUAD: EUDORA 7.5  
NE-SE-SE SEC 36 TNSP 12 S RNGE 21 E  
LAT: 38.5736 LONG: 95.0113  
DATE: 05/10/1991  
COLL: HENRY TW  
FROM LOW ROADCUT ON N SIDE OF ST HWY K-10, ON WESTBOUND ENTRANCE RAMP FROM N-S ROAD TO SUNFLOWER ORDNANCE WORKS, ABOUT 1 MI NE OF SUNFLOWER (CLEARVIEW CITY), KS. SEC EXP IS VILAS SH THRU STONER LS MBR. COLL CRACK-OUT ENTELETES-DOMINATED FAUNA IN PLACE FROM UPPER 2-3 FT OF CAPTAIN CREEK LS MBR JUST BELOW THE BLACK FISSILE EUDORA SH MBR. SAME LOC AS USGS COLLN 31353-PC.

(BL)31353-PC

JOHNSON CO, KS  
SERIES: MSSR  
FM: STANTON LS  
SYSTEM: PENN  
GROUP: LANSING  
STONER LS MBR  
QUAD: EUDORA 7.5  
NE-SE-SE SEC 36 TNSP 12 S RNGE 21 E  
LAT: 38.5734 LONG: 95.0115  
DATE: 05/10/1991  
COLL: MAPLES CG  
SAME LOC AS USGS COLLN 31352-PC BUT FROM DIFFERENT MBR HIGHER IN ROADCUT. CRACKOUT FAUNA OF ANTIQUATONIA, CHONETIDS, NEOSPIRIFER, LINOPRODUCTUS; PARTIALLY SILICIFIED FAUNA NEAR TOP OF MBR NEAR TOP OF ROADCUT ON N SIDE OF ST HWY K-10.

(BL)31354-PC

ANDERSON CO, KS  
SERIES: MSSR  
FM: STANTON LS  
SYSTEM: PENN  
GROUP: LANSING  
EUDORA SH \* MBR  
QUAD: WELDA 7.5  
NW-SE-NW SEC 16 TNSP 21 S RNGE 19 E  
LAT: 38.1324 LONG: 95.1944  
DATE: 05/10/1991  
COLL: HENRY TW  
SMALL ABANDONED QUARRY JUST N OF MISSOURI PACIFIC RR TRX & NEAR HEAD SMALL TRIBUTARY OF CEDAR CREEK. QUARRY IN CAPTAIN CREEK LS MBR; DARK FOSS SH IS EUDORA SH MBR; MOST OF MATERIAL COLL FROM TALUS ON NE SIDE OF QUARRY & IN PLACE ON S SIDE OF SAME; LOC ABOUT 2.5 MI E OF MONT IDA, KS. (\*) MAINLY FROM EUDORA SH MBR; SOME MATERIAL ALSO FROM OVERLYING STONER LS MBR. ABDT, DIVERSE FAUNA W/ JURESANIA, NEOSPIRIFER, COMPOSITA, PUNCTOSPIRIFER, ECHINOCONCHUS, SMALL CORALS. SAME LOC AS USGS 31355-PC.

(BL)31355-PC

ANDERSON CO, KS  
SERIES: MSSR  
FM: STANTON LS  
SYSTEM: PENN  
GROUP: LANSING  
STONER LS MBR  
QUAD: WELDA 7.5  
NW-SE-NW SEC 16 TNSP 21 S RNGE 19 E  
LAT: 38.1320 LONG: 95.1942  
DATE: 05/10/1991  
COLL: MAPLES CG  
SAME QUARRY AS USGS COLLN 31354-PC BUT FROM HIGHER UNIT.

(BL)31356-PC

ANDERSON CO, KS  
SERIES: VIRG  
FM: STANTON LS  
SYSTEM: PENN  
GROUP: DOUGLAS  
WESTPHALIA LS MBR  
QUAD: WESTPHALIA 7.5  
SW-NW-NW-NW SEC 24 TNSP 21 S RNGE 17 E  
LAT: 38.1241 LONG: 95.2955  
DATE: 05/10/1991  
COLL: HENRY TW  
EQUALS USGS COLLN 31098-PC. COLL FROM THIN LEDGES OF FUSULINID-RICH RUBBLY LS FROM ROAD DITCHES JUST S OF BRIDGE OVER CHERRRY CREEK ABOUT 2 MI NNW OF WESTPHALIA, KS; V SMALL COLLN, CRACKOUT MATERIAL; LINOPRODUCTUS.

(BL)31357-PC

WOODSON CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: DOUGLAS  
FM: LAWRENCE SH WATHENA SH MBR  
QUAD: TORONTO 7.5  
C-S LINE-SE-SW SEC 25 TNSP 25 S RNGE 15 E  
LAT: 37.5011 LONG: 95.5611  
DATE: 05/11/1991 COLL: HENRY TW  
COLL FROM LOW ROADCUT EXPOSURE ON NORTH SIDE U.S. HWY  
54 JUST BELOW OVERHANGING LEDGES OF TORONTO LS MBR OF  
OREAD LS; VERY SPASE DERBYIA, IN PART MOLDIC. SEE RRW  
MEAS SECTION.

(BL)31358-PC

WOODSON CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: DOUGLAS  
FM: LAWRENCE SH AMAZONIA LS MBR  
QUAD: TORONTO 7.5  
C-W LINE-NW-NW SEC 26 TNSP 25 S RNGE 13 E  
LAT: 37.5057 LONG: 95.5728  
DATE: 05/11/1991 COLL: HENRY TW  
FROM SOUTH CUTBANK OF COUNTY ROAD JUST SOUTH OF FORD  
OVER BRAZIL CREEK AND IN CREEK CUTBANKS JUST NORTH OF  
ROAD; AMAZONIA FORMS SMALL LEDGES, VERY SILTY. GOOD  
SMALL COLLN OF JURESANIA, LINOPRODUCTUS.

(BL)31359-PC

WOODSON CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: DOUGLAS  
FM: LAWRENCE SH WATHENA SH MBR  
QUAD: TORONTO 7.5  
E/2-NE-SE-SW SEC 26 TNSP 25 S RNGE 13 E  
LAT: 37.5022 LONG: 95.5659  
DATE: 05/11/1991 COLL: MAPLES CG  
J.H. SEARS & SONS (HUTCHINSON, KS) QUARRY IN TORONTO LS  
MBR ABOUT 2 MI N OF TORONTO, KS; FROM SPOIL PILE IN NE  
CORNER OF RECENTLY ACTIVE QUARRY; UPPER BEDS IN  
LAWRENCE SH BETWEEN WILLIAMSBURG COAL BED (EXPOSED  
INPT) AND BSE OF TORONTO LS MBR; FOSSILS FRAGILE, MOSTLY  
DERBYIA FROM DK-GRY SH. SAME LOC AS USGS COLLN. 31360-  
PC.

(BL)31360-PC

WOODSON CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: OREAD LS TORONTO LS MBR  
QUAD: TORONTO 7.5  
SE-SW SEC 26 TNSP 25 S RNGE 13 E  
LAT: 37.5021 LONG: 95.5659  
DATE: 05/11/1991 COLL: HENRY TW  
J.H. SHEARS & SONS (HUTCHINSON, KS) QUARRY IN TORONTO LS  
ABOUT 2 MI N OF TORONTO, KS. TORONTO IS ABOUT 10-12 FT  
THICK, MICRICIC W/ SPARSE MACROFAUNA (MOSTLY  
LINOPRODUCTUS), CRACK-OUT MATERIAL; COLL SMALL BAG OF  
SHALE TO WASH FROM ABOUT 3 FT ABOVE BASE. SNYDERVILLE  
SH MBR OF OREAD LS WELL EXPOSED IN HIGHWALL; CONSISTS  
OF SOME GRNSH-GRY & GRYSH-RED COLORED MUDROCK  
(UNFOSSILIFEROUS).

(BL)31361-PC

WOODSON CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: DOUGLAS  
FM: LAWRENCE SH WATHENA SH MBR  
QUAD: TORONTO 7.5  
SE-SW-SE-SW SEC 26 TNSP 25 S RNGE 13 E  
LAT: 37.5012 LONG: 95.5706  
DATE: 05/11/1991 COLL: HENRY TW  
SEE USGS COLLN. 31359-PC. ON NORTH ROADCUT OF US HWY 54  
IMMEDIATELY S OF JH SHEARS & SONS QUARRY, ABOUT 2 MI N  
OF TORONTO, KS. FROM V DK GRV SH; MOSTLY DERBYIA.

(BL)31362-PC

COFFEY CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: DOUGLAS  
FM: STRANGER FM WESTPHALIA LS MBR  
QUAD: LE ROY 7.5  
SW-SE-SE-SE SEC 29 TNSP 22 S RNGE 16 E  
LAT: 38.0642 LONG: 95.4004  
DATE: 05/11/1991 COLL: HENRY TW  
FROM CREEK BANKS & TALUS IN BED OF LONG CREEK NEAR  
CONFLUENCE W/ NEOSHO RIVER; CGM MAP STA 23. MOSTLY  
ABRADED LINOPRODUCTUS, JURESANIA, NEOSPIRIFER IN  
FUSULINID GRAINSTONE.

(BL)31952-PC

SHAWNEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: HOWARD LS AARDE SH MBR  
QUAD: WAKARUSA 7.5  
NE-NE-NE-SE SEC 23 TNSP 12 S RNGE 15 E  
LAT: 38.5958 LONG: 95.4227  
DATE: 06/25/1991 COLL: HENRY TW  
LOC 0.8 MI NW OF TOPEKA SOUTH ENTRANCE TO KANSAS  
TURNPIKE (I-70); ON LOW CUTBANK OF NW INTERCHANGE OF I-  
470 & BURLINGAME ROAD. FROM UPPER 1.7 FT OF AARDE SH  
MBR ABOVE NODAWAY COAL BED. HBR = HB ROLLINS (PITT)  
STOP # 11 OF WHATNEY, L., AND OTHERS, 1991, UPPER  
PENNSYLVANIAN (VIRGILIAN AND MISSOURIAN) CYCLOTHERMS IN  
THE LAWRENCE, KANSAS, AREA: KANSAS GEOL SURV OPEN-FILE  
REPT 91-22, 128 P. SEE MEAS SEC P 109.

(BL)31953-PC

DOUGLAS CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: LECOMPTON LS BEIL LS MBR  
QUAD: WILLIAMSTOWN 7.5  
NW-NW-NW-NW SEC 24 TNSP 12 S RNGE 18 E  
LAT: 39.0002 LONG: 95.2218  
DATE: 06/25/1991 COLL: HENRY TW  
SEC ALONG N SIDE CUTBANKS KANSAS TURNPIKE ABOUT 6 MI W  
OF WEST LAWRENCE EXIT; FROM UPPER PART OF ROADCUT.  
CONTAINS ABUNDANT BRACHIOPOD FAUNA, ESP NEOSPIRIFER,  
NEOCHONETES, JURESANIA. SAME LOC AS TWH-91-104. STOP # 9  
OF WHATNEY, L., AND OTHERS, 1991, UPPER PENNSYLVANIAN  
(VIRGILIAN AND MISSOURIAN) CYCLOTHERMS IN THE LAWRENCE,  
KANSAS, AREA: KANSAS GEOL SURV OPEN-FILE REPT 91-22, 128 P.  
SEE P. 103 FOR MEAS SEC.

(BL)31954-PC

WYANDOTTE CO, KS SYSTEM: PENN  
SERIES: MSSR GROUP: LANSING  
FM: PLATTSBURG LS MERIAM LS MBR  
QUAD: EDWARDSVILLE 7.5  
SE-NW-NE-SW SEC 12 TNSP 11 S RNGE 23 E  
LAT: 39.0629 LONG: 94.4833  
DATE: 06/25/1991 COLL: HENRY TW  
ON S SIDE RAMP OF I-70 & I-435 INTERCHANGE; ON RAMP S-W OFF  
I-435. ABDT SPLIT-SULCUS LINOPRODUCTUS, SOME IN GROWTH  
POSITION, LONG SPINES; FROM BSL 1-2 FT OF ABNORMALLY  
THICK MERIAM LS MBR (BRACHIOPOD, SKEL PACKSTONE).  
STOP # 3 OF WHATNEY, L., AND OTHERS, 1991, UPPER  
PENNSYLVANIAN (VIRGILIAN AND MISSOURIAN) CYCLOTHERMS IN  
THE LAWRENCE, KANSAS, AREA: KANSAS GEOL SURV OPEN-FILE  
REPT 91-22, 128 P. MEAS SEC VIII ON P. 71; SEE ALSO P. 62-73.

(BL)31955-PC

SHAWNEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: HOWARD LS WINZELER SH MBR  
QUAD: WAKARUSA 7.5  
NE-NE-NE-SE SEC 23 TNSP 12 S RNGE 15 E  
LAT: 38.5958 LONG: 95.4227  
DATE: 06/25/1991 COLL: HENRY TW  
STOP 11 OF WHATNEY & OTHERS (1991, P. 108); LOC 0.8 MI NW OF  
TOPEKA SOUTH ENTRANCE TO KANSAS TURNPIKE (I-70); EXP ON  
LOW CUTBANK OF NW INTERCHANGE OF I-470 & BURLINGAME  
ROAD. \* COLL TWH & HB ROLLINS (U OF PITTS); EQUALS USGS  
COLLN 31313-PC. STOP # 11 OF WHATNEY, L., AND OTHERS, 1991,  
UPPER PENNSYLVANIAN (VIRGILIAN AND MISSOURIAN)  
CYCLOTHERMS IN THE LAWRENCE, KANSAS, AREA: KANSAS GEOL  
SURV OPEN-FILE REPT 91-22, 128 P. SEE P. 109 FOR MEAS SEC.

(BL)31959-PC

OSAGE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: OREAD LS PLATTSMOUTH LS MBR  
QUAD: WAVERLY 7.5  
NE-NW-SW SEC 35 TNSP 18 S RNGE 16 E  
LAT: 38.2720 LONG: 95.3542  
DATE: 3/30/1992 COLL: HENRY TW  
EQUALS USGS COLLN 31323-PC; SEE 31960- & E13961-PC. OSAGE  
CO HWY DEPT QUARRY JUST NE OF JCT OF STATE HWY 31S (TO  
WAVERLY) & US50-I35; FROM QUARRY QALLS 7 TALUS ON FLOOR.  
SMALL COLLN CRACKOUT MATERIAL.



(BL)31960-PC

OSAGE CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
HEUMADER SH MBR  
QUAD: WAVERLY 7.5  
S/2-NE-NW-SW SEC 25 TNSP 18 S RNGE 16 E  
LAT: 38.2717 LONG: 95.3544  
DATE: 03/30/1992 COLL: HENRY TW  
EQUALS USGS COLLN 31324-PC; SAME LOC AS 31959- & 31961-PC;  
OSAGE CO HWY DEPT QUARRY ON NE SIDE STATE ROUTE 31S (TO  
WAVERLY) & US50-135; FROM FOSS DK-GRYL SH SCRAPED OFF AT  
S END QUARRY; SMALL COLLN; SITE PRETTY WELL DEPLETED.

(BL)31961-PC

OSAGE CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
KEREFORD LS MBR  
QUAD: WAVERLY 7.5  
SE-NE-NW-SW SEC 25 TNSP 18 S RNGE 16 E  
LAT: 38.2716 LONG: 95.3545  
DATE: 03/30/1992 COLL: HENRY TW  
EQUALS USGS COLLN 31325-PC; SAME LOC AS 31959- & 31960-PC;  
FROM SMALL AREA NEAR ENTRANCE RAMP TO QUARRY FLOOR  
NEAR S END OF QUARRY; ABOUT 2-2.5 FT LS LEDGE OVERLYING  
CA 8-FT THICK HEUMADER SHALE MBR; CRACKOUT FAUNA,  
MOSTLY MEEKELLA, PHRICODOTHYRIS, SPARSE RED-COLORED  
LINOPRODUCTUS.

(BL)31962-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
HEUMADER SH MBR  
QUAD: WAVERLY 7.5  
E/2-SW SEC 6 TNSP 19 S RNGE 17 E  
LAT: 38.2512 LONG: 95.3446  
DATE: 03/30/1992 COLL: HENRY TW  
EQUALS USGS COLLN 31021-PC; NOW MUCH LARGER NELSON  
BROS QUARRY; FROM CALC V DK GRY SH IN SCRAPED OFF AREA  
ABOVE MAIN BODY OF PLATTSMOUTH LS MBR WHICH IS BEING  
QUARRIED; HEUMADER CONTAINS ABDT NODULAR WAVY  
BEDDED LS HERE.

(BL)31963-PC

WOODSON CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
TORONTO LS MBR  
QUAD: TORONTO 7.5  
SE-SW SEC 26 TNSP 25 S RNGE 13 E  
LAT: 37.5023 LONG: 95.5704  
DATE: 03/31/1992 COLL: HENRY TW  
JH SHEARS & SONS TORONTO QUARRY; EQUALS USGS 31360-PC;  
MOST MATERIAL THIS COLLN TAKEN FROM THICK MICRITIC  
(SKELETAL WACKESTONE) BED AT TOP OF TORONTO LS MBR,  
MOSTLY FROM NORTH END QUARRY; COLL QUARRY WALLS &  
ROCK PILES; SPARSE MACROFAUNA INCL SOME LINOPRODUCTUS  
IN GROWTH POSITION, JURASANIA, LARGE NEOSPIRIFER,  
WILKINGIA.

(BL)31964-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
PLATTSMOUTH LS MBR  
QUAD: BURLINGTON 7.5  
C-N/2 SEC 24 TNSP 21 S RNGE 15 E  
LAT: 38.1237 LONG: 95.4232  
DATE: 03/31/1992 COLL: HENRY TW  
EQUALS USGS COLLN 31065-PC; NELSON BROS QUARRY, NOW  
BEING USED AT NORTH END AS SANITARY LANDFILL FOR  
BURLINGTON, KS; NOW LARGELY WATER-FILLED; SMALL COLLN.  
RETICULARIA, OTHER PRODUCTIDS. SAME LOC AS 31965-PC.

(BL)31965-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
HEUMADER SH MBR  
QUAD: BURLINGTON 7.5  
C-N/2 SEC 24 TNSP 21 S RNGE 15 E  
LAT: 38.1237 LONG: 95.4232  
DATE: 03/31/1992 COLL: HENRY TW  
SAME LOC AS USGS COLLN 31964-PC BUT DIFFERENT BED;  
EQUALS USGS COLLN 31066-PC. SMALL COLLN INCLUDING LARGE  
CRUSHED JURASANIA.

(BL)31966-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: LECOMPTON LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
"QUEEN HILL" SH MBR  
QUAD: JOHN REDMOND DA 7.5  
C W SIDE NW-NW-NW SEC 24 TNSP 21 S RNGE 14 E  
LAT: 38.1247 LONG: 95.4945  
DATE: 03/31/1992 COLL: HENRY TW  
BULK SHALE SMPL W/ ABDT CRURITHYRIDS, VERY SMALL  
GERONTIC COMPOSITA, CHONETINELLA, SOME LARGER  
PRODUCTIDS; BULK SMPL FROM E SIDE SEC LINE RD IN DITCH  
BENEATH LONG OVERHANG FORMED BY BEIL LS MBR; ISOLATED  
SPECIMENS FROM W SIDE RD ALSO.

(BL)31967-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: LECOMPTON LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
AVOCA LS MBR  
QUAD: OTTUMWA 7.5  
C E SIDE-NE-NE SEC 3 TNSP 21 S RNGE 14 E  
LAT: 38.1527 LONG: 95.5050  
DATE: 03/31/1992 COLL: HENRY TW  
COLL ON W SIDE SEC LINE RD BELOW LEDGE FORMED BY UPPER  
AVOCA LS MBR; SH BREAK W/IN AVOCA LS MBR; POOR BULK  
COLLN W/ CRURITHYRIS, CHONETIDS.

(BL)31968-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
JACKSON PARK SH MBR  
QUAD: JOHN REDMOND DA 7.5  
NW-SW-SW-NW SEC 12 TNSP 21 S RNGE 14 E  
LAT: 38.1416 LONG: 95.4942  
DATE: 03/31/1992 COLL: HENRY TW  
CHONETID BED IN TOP OF JACKSON PARK SH MBR; SWASH ZONE  
ON W SIDE JOHN REDMOND RESERVOIR, JUST BELOW YLLWSH-  
ORNG BSL LS BED OF CLAY CREEK LS MBR. COLL CGM TWH  
3/31/1992; RECOLL TWH EMF 04/02/1992; SEE MEAS SEC.; NEAR  
USGS COLLN 31969-PC.

(BL)31969-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
CLAY CREEK LS MBR  
QUAD: JOHN REDMOND DA 7.5  
NW-SW-SW-NW SEC 12 TNSP 21 S RNGE 14 E  
LAT: 38.1417 LONG: 95.4942  
DATE: 03/31/1992 COLL: HENRY TW  
FROM STRONGLY X-BEDDED (N50E, DIP 23-30 DEG NW), COATED-  
GRAIN CALCARENITE IN CLAY CREEK LS MBR (SAME BED AS AT  
NEW STRAWN, KS; USGS COLLN. 31033-PC), SAME LOC AS USGS  
31968-PC BUT APPROX 16 FT HIGHER ON TRAIL NEAR PARKING  
AREA; EQUALS CG MAPLES MAP STA 2 APPROX EQUALS USGS  
COLLN 31983-PC; X-BEDDED UNIT 6 OF MEAS SEC, 4.8 FT THICK,  
OVERLAIN BY SH W/ FLOAT OF SS ABOVE.

(BL)31970-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: TOPEKA LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
CURZON LS MBR  
QUAD: GRIDLEY NW 7.5  
S/2-S/2-NE-NE SEC 30 TNSP 21 S RNGE 14 E  
LAT: 38.1146 LONG: 95.5417  
DATE: 04/01/1992 COLL: HENRY TW  
EQUALS USGS COLLN 31349- & 32079-PC; FROM SOUTH END OF  
TRULOVE QUARRY (NELSON BROS) IN SCRAPED OFF AREA;  
LARGE COLLN. SAME LOC AS USGS COLLN 31971-PC BUT FROM  
LOWER MBR.

(BL)31971-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: TOPEKA LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
JONES POINT SH ? MBR  
QUAD: GRIDLEY NW 7.5  
SE-SW-NE-NE SEC 30 TNSP 21 S RNGE 14 E  
LAT: 38.1146 LONG: 95.5421  
DATE: 04/01/1992 COLL: HENRY TW  
SMALL COLLN FROM SMALL OUTCROP OF CALC SH IN OLD  
ROADWAY INTO SCRAPED OFF BENCH AT S END NELSON BROS  
QUARRY (ABOUT 25 YDS DUE W OF USGS COLLN 319970-PC);  
EXPOSURE ABOUT 15 FT BY 20 FT IN ROADWAY; SAME UNIT  
EXPOSED BENEATH PRESUMED SHELTON LS MBR ON W SIDE  
QUARRY HIGHWALL BUT NOT COLLECTED; PRESUMED SHELTON  
LS MBR IS CA 2.5-3 FT THICK & WELL EXP IN W WALL ABOUT 35  
YDS SSE OF SMALL HILL.

(BL)31972-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: TOPEKA LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
HARTFORD LS MBR  
QUAD: GRIDLEY NW 7.5  
C-NW SEC 30 TNSP 21 S RNGE 14 E  
LAT: 38.1142 LONG: 95.5456  
DATE: 04/01/1992 COLL: HENRY TW  
SAME LOC AS USGS COLLN 31973-PC; SMALL COLLN FROM  
HARTFORD LS MBR BLOCKS NEAR N END OF QUARRY.

(BL)31973-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: TOPEKA LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
CURZON LS MBR  
QUAD: GRIDLEY NW 7.5  
C-NW SEC 30 TNSP 21 S RNGE 14 E  
LAT: 38.1142 LONG: 95.5456  
DATE: 04/01/1992 COLL: HENRY TW  
FROM SPOIL PILES IN QUARRYING OPERATION; EQUALS USGS  
COLLN 31350-PC; SAME GEN LOC AS 31972- & 31974-PC.

(BL)31974-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: TOPEKA LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
JONES POINT SH ? MBR  
QUAD: GRIDLEY NW 7.5  
SE-NW SEC 30 TNSP 21 S RNGE 14 E  
LAT: 38.1141 LONG: 95.5454  
DATE: 04/01/1992 COLL: HENRY TW  
COLL FROM 10-15 FT THICK CALC SH W/ LS NODULES ON S & E  
SIDES OF SAME ABD QUARRY AS USGS COLLNS. 31972- & 31973-  
PC; SHELTON LS MBR MAKES TOPMOST EXPOSURES; COLLN  
FROM CLEARED AREA ABOVE MAIN QUARRY, CONSISTING  
MAINLY OF YLLWSH-GRY WEATHERED FLOAT MATERIAL; GOOD  
COLN OF WELL-PRESERVED RETICULATIA & DERBYIA, FEW  
CHONETIDS.

(BL)31975-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: CALHOUN SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
"TONOVAY" LS MBR  
QUAD: JOHN REDMOND DA 7.5  
SE-SW-SE-SW SEC 15 TNSP 22 S RNGE 14 E  
LAT: 38.0737 LONG: 95.5137  
DATE: 04/01/1992 COLL: HENRY TW  
SMALL OUTCROP & TALUS BLX ON N SIDE SEC LINE RD AT POINT  
0.2 MI W OF TEACHOUT CEMETARY; COATED-GRAIN  
CALCARENITE W/ ABDT LINOPRODUCTUS, NEOSPIRIFER, SMALL  
JURESANIA; PINNA IN GROWTH POSITION. RECOLL 04/09/1992  
TWH EMF. EQUALS CGM MAP STA 59 "MOUSEHOUSE".

(BL)31976-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
JACKSON PARK SH ? MBR  
QUAD: JOHN REDMOND DA 7.5  
C-S LINE SW SEC 12 TNSP 22 S RNGE 14 E  
LAT: 38.0830 LONG: 95.4930  
DATE: 04/01/1992 COLL: HENRY TW  
COLL JUST INSIDE FENCE ON N SIDE SEC LINE RD JUST BELOW  
LOWER BED OF CLAY CREEK LS(?) MBR; ON E SIDE OF SMALL  
TRIBUTARY OF NORTH BIG CREEK; FROM CA 8 FT THICK CALC SH  
EXPOSED JUST ABOVE CREEK. COLL 04/01/1992 TWH, EMF, CGM;  
RECOLL 04/02/1992 TWH EMF; BULK SMPL TAKEN TO WASH.

(BL)31977-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: LAWRENCE SH  
SYSTEM: PENN  
GROUP: DOUGLAS  
AMAZONIA LS MBR  
QUAD: LE ROY 7.5  
NEAR C-SE-SE-SE SEC 34 TNSP 22 S RNGE 15 E  
LAT: 38.0501 LONG: 95.4423  
DATE: 04/02/1992 COLL: HENRY TW  
OUTCROPS IN AND ON W CUTBANK OF SMALL NORTH-FLOWING  
TRIBUTARY OF SOUTH BIG CREEK JUST UPSTREAM FROM  
BREACHED POND DAM, IN PASTURE; FROM 3.5 FT THICK  
NODULAR, ALGAL LS, LESS FOSSILIFEROUS THAN NORMAL FOR  
MEMBER; SMALL COLLN; AMAZONIA OVERLAIN BY DK-GRY SH&  
COVERED INTERVAL CA 15 FT THICK TO BSL TORONTO LS MBR;  
UNDERLAIN BY VDK GRY SH.

(BL)31979-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
CLAY CREEK LS MBR  
QUAD: JOHN REDMOND DA 7.5  
N/2-SW-SW-NW SEC 12 TNSP 21 S RNGE 14 E  
LAT: 38.1416 LONG: 95.4942  
DATE: 04/02/1992 COLL: HENRY TW  
SAME GEN LOC AS 31978-PC & RELATED COLLNS IN MEAS SEC;  
SMALL COLLN FROM 1.7-FT THICK, MED-GRY, ALGAL COATED,  
SKELETAL WACKSTONE TO PACKSTONE ("OATMEAL ROCK"),  
UNIT 4 OF MEAS SEC; JUST ABOVE COLLN. 31978-PC. DERBYIA,  
CRURITHYRIS.

(BL)31980-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
CLAY CREEK LS MBR  
QUAD: JOHN REDMOND DA 7.5  
NW-SW-SW-NW SEC 12 TNSP 21 S RNGE 14 E  
LAT: 38.1414 LONG: 95.4940  
DATE: 04/02/1992 COLL: HENRY TW  
FLOAT COLLN FROM ALMOST IN PLACE S OF MAIN MEAS SEC OF  
USGS COLLN 31979-PC. FROM THIN LS PROB EQUIV TO UNIT 4 OF  
MEAS SEC, AT POINT 5.0 FT ABOVE TOP OF UNIT 2; NOTE: UNIT 4  
PINCHES OUT SOUTHWARD FROM MEAS SEC.; COLLN PROB  
EQUIV TO USGS COLLN 31979-PC.

(BL)31981-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
CLAY CREEK LS MBR  
QUAD: JOHN REDMOND DA 7.5  
SW-NW-SW-NW SEC 12 TNSP 21 S RNGE 14 E  
LAT: 38.1414 LONG: 95.4940  
DATE: 04/02/1992 COLL: HENRY TW  
FLOAT COLLN OF DERBYIA FROM N OF MEAS SECTION;  
PROBABLY FROM BEDS EQUIVALENT TO UNIT 5.

(BL)31982-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
CLAY CREEK LS MBR  
QUAD: JOHN REDMOND DA 7.5  
SE-NE-SE-NE SEC 11 TNSP 21 S RNGE 14 E  
LAT: 38.1417 LONG: 95.4944  
DATE: 04/02/1992 COLL: HENRY TW  
BOTH TO NORTH & SOUTH OF MEAS SEC, THE LS BED, UNIT 4, OF  
MEAS SEC APPEARS TO PINCH OUT, & APPARENTLY SECTION  
FILLS UP W/ SH; TO NORTH ON OLD SEC LINE RD, UNIT 6 IS  
EXPOSED IN GULLY ON N DITCH OF FORMER ROAD; BULK SMPL  
OF CHONETIDS WAS TAKEN FROM JUST BELOW LS OF UNIT 6.

(BL)31983-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: KANWAKA SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
CLAY CREEK LS MBR  
QUAD: JOHN REDMOND DA 7.5  
N/2-SW-SW-NW SEC 12 TNSP 21 S RNGE 14 E  
LAT: 38.1416 LONG: 95.4942  
DATE: 04/02/1992 COLL: HENRY TW  
SMALL COLLN. FROM COATED-GRAINED WACKSTONE BED ON S  
SIDE OF ROAD IN MAIN MEASURED SECTION; PROBABLY FROM  
UNIT 6 OF MEAS SEC, BUT SLIGHTLY SLUMPED MATERIAL; SAME  
BED & SIMILAR LOC AS USGS COLLN. 31969-PC. JURESANIA W/  
SPINES.

(BL)31984-PC

COFFEY CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: KANWAKA SH STULL SH MBR  
QUAD: JOHN REDMOND DA 7.5  
SW-NE-SW-SE SEC 14 TNSP 21 S RNGE 14 E  
LAT: 38.1253 LONG: 95.5007  
DATE: 04/02/1992 COLL: MAPLES CG  
NATURAL OUTCROPS ON SE BANKS OF OTTER CREEK. COLL  
BULK SMPL FOR CHONETIDS JUST BELOW SPRING BRANCH/BIG  
SPRING LS LEDGE. BEDS JUST BELOW CONTAIN ABDT MYALINIDS  
TYPICAL OF STULL SHALE MBR OF KANWAKA SHALE. JUST  
DOWNSTREAM FROM USGS COLLNS 31985- & 31986-PC.

(BL)31985-PC

COFFEY CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: LECOMPTON LS "QUEEN HILL" SH 7 MBR  
QUAD: JOHN REDMOND DA 7.5  
SW-NE-SW-SE SEC 14 TNSP 21 S RNGE 14 E  
LAT: 38.1252 LONG: 95.5009  
DATE: 04/02/1992 COLL: HENRY TW  
BULK SMPL & SMALL COLLN CRURITHYRIDS, CHONETIDS FROM  
TOP CA 4-FT THICK SH JUST BELOW LEDGE FORMED BY BEIL LS  
MBR OF LECOMPTON LS; JUST UPSTREAM FROM USGS COLLN  
31984-PC & SAME LOC AS USGS COLLN. 31986-PC. CHONETIDS,  
CRURITHYRIS.

(BL)31986-PC

COFFEY CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: LECOMPTON LS BEIL LS MBR  
QUAD: JOHN REDMOND DA 7.5  
SW-NE-SW-SE SEC 14 TNSP 21 S RNGE 14 E  
LAT: 38.1252 LONG: 95.5009  
DATE: 04/02/1992 COLL: HENRY TW  
FROM LEDGES ON BANKS OF, SMALL WATERFALL IN, AND  
STREAM FLOAT OF BEIL LS MBR IN OTTER CREEK; CRACKOUT  
FAUNA W/ SPARSE BRACHIOPODS, GASTROPODS; ESSENTIALLY  
SAME LOC AS 31985-PC & JUST UPSTREAM FROM 31984-PC.

(BL)31987-PC

COFFEY CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: KANWAKA SH JACKSON PARK SH MBR  
QUAD: OTTUMWA 7.5  
NE-SE-SE-SE SEC 32 TNSP 20 S RNGE 15 E  
LAT: 38.1539 LONG: 95.4557  
DATE: 04/09/1992 COLL: HENRY TW  
COLLECTED CHONETIDS FROM SHALE ON AND IMMEDIATELY  
NORTH OF WHERE PIPELINE CROSSES DITCH ON W SIDE NEW  
GRAVEL ROAD ABOUT 500 FT N OF SEC LINE CORNER; UNIT  
STRATIGRAPHICALLY EQUIVALENT TO TWH-92-83.

(BL)31988-PC

WOODSON CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: DOUGLAS  
FM: LAWRENCE SH WATHENA SH MBR  
QUAD: TORONTO SE 7.5  
SE COR SE-NE-SE SEC 18 TNSP 25 S RNGE 15 E  
LAT: 37.5207 LONG: 95.4738  
DATE: 04/03/1992 COLL: HENRY TW  
IN DITCHES AND IN ROADBED OF SEC LINE RD AT POINT 0.2 MI S  
OF US HWY 54; EQUIVALENT TO USGS COLLN 31334-PC.

(BL)31989-PC

WOODSON CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: DOUGLAS  
FM: LAWRENCE SH AMAZONIA LS MBR  
QUAD: TORONTO 7.5  
NW-NW-NE-NE SEC 36 TNSP 25 S RNGE 13 E  
LAT: 37.5008 LONG: 95.5532  
DATE: 04/03/1992 COLL: HENRY TW  
EXPOSURES ON S SIDE US HWY 54 JUST E OF BRIDGE OVER  
CEDAR CREEK; SMALL COLLN JURESANIA FROM RIPPLE-BEDDED  
CALC SILTSTONE OVERLAIN BY THICKER MICRITIC. VERY  
SPARSELY FOSS LS. SAME LOC AS USGS COLLN 31990-PC.

(BL)31990-PC

WOODSON CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: DOUGLAS  
FM: LAWRENCE SH WATHENA SH MBR  
QUAD: TORONTO 7.5  
NW-NW-NE-NE SEC 36 TNSP 25 S RNGE 13 E  
LAT: 37.5009 LONG: 95.5529  
DATE: 04/03/1992 COLL: HENRY TW  
SAME LOC AS USGS COLLN 31989-PC; S SIDE US HWY 54 JUST E OF  
BRIDGE OVER CEDAR CREEK; EQUALS CGM MAP STA 4; SMALL  
COLL OF DERBYIA FROM ABOVE 9.5 IN. THICK WILLIAMSBURG  
COAL BED; SPARSE FOSSLS IN GRASSY AREA NEAR TOP OF  
OVERGROWN CUTBANK.

(BL)31991-PC

WOODSON CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: DOUGLAS  
FM: LAWRENCE SH AMAZONIA LS MBR  
QUAD: TORONTO 7.5  
EXTREME SW COR SEC 26 TNSP 25 S RNGE 13 E  
LAT: 37.5013 LONG: 95.5728  
DATE: 04/03/1992 COLL: HENRY TW  
COLL FROM N BANK AND IN STREAM OF SMALL CHANNELIZED  
SMALL TRIBUTARY OF VERDIGRIS RIVER ON N SIDE US HWY 54 IN  
EXTREME SW COR SEC 26 & EXTREME SE COR SEC 27. FROM CA  
10 FT OF RIPPLE-BEDDED, NODULAR LIMY SILTSTONE TO SANDY  
LS W/ ABDT JURESANIA W/ LONG SPIES, MANY FLIPPED, SOME  
LINOPRODUCTUS; PROBABLY INTERTIDAL UNIT; EQUALS CGM  
MAP STA 6 EXTENDED (= RRW LOC 924 AND USGS COLLN 32078-  
PC).

(BL)31992-PC

WOODSON CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: DOUGLAS  
FM: LAWRENCE SH WATHENA SH MBR  
QUAD: TORONTO 7.5  
NEAR SW COR SEC 13 TNSP 26 S RNGE 13 E  
LAT: 37.4642 LONG: 95.5633  
DATE: 04/03/1992 COLL: HENRY TW  
SMALL COLLN OF DERBYIA ON E SIDE ROAD ABOUT 50 YDS S OF  
ENTRANCE (FEE) BLDG TO TORONTO STATE PARK; FROM JUST  
BELOW BASAL BED OF TORONTO LS MBR OF OREAD LS; CGM  
MAP STA 14. SEE USGS COLLN 31993-PC.

(BL)31993-PC

WOODSON CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: OREAD LS TORONTO LS MBR  
QUAD: TORONTO 7.5  
SW COR SEC 13 TNSP 26 S RNGE 13 E  
LAT: 37.4643 LONG: 95.5634  
DATE: 04/03/1992 COLL: HENRY TW  
ESSENTIALLY SAME LOC AS USGS COLLN 31992-PC BUT FROM  
BOTH SIDES ROAD ALONG ROADCUTS NEAR SE COR SEC 14 & SW  
COR SEC 13; TORONTO STATE PARK. BULK SMPL FROM SH  
BREAK ABOUT 1 FT BELOW TOP LS; BED NEAR BASE W/ LARGE  
CHONETID, RETICULARIA, ANTIQUATONIA?, WELLERELLA,  
NECHONETES, "DESMOINESIA", COMPOSITA, LINOPRODUCTUS,  
PUNCTOSPRIFFER, NEOSPRIFFER, ECHINOCONCHID.

(BL)31994-PC

WOODSON CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: OREAD LS TORONTO LS MBR  
QUAD: TORONTO 7.5  
C W SIDE-SW-SW SEC 12 TNSP 26 S RNGE 13 E  
LAT: 37.4742 LONG: 95.5523  
DATE: 04/03/1992 COLL: HENRY TW  
SPARSE COLLN FROM ABANDONED SEC LINE RD NEAR TOP OF  
HILL JUST BEYOND FENCE AND OPPOSITE OLD HOUSESITE.  
WILLIAMSBURG COAL BED POORLY EXPOSED BELOW IN  
ROADWAY.

**(BL)31995-PC**

WOODSON CO, KS SYSTEM: PENN  
 SERIES: VIRG GROUP: DOUGLAS  
 FM: LAWRENCE SH WATHENA SH MBR  
 QUAD: TORONTO 7.5  
 NEAR C-NW-SW-SW SEC 7 TNSP 26 S RNGE 14 E  
 LAT: 37.4742 LONG: 95.5523  
 DATE: 04/03/1992 COLL: MAPLES CG  
 SAME LOC AS USGS COLLN 31996-PC; HEAVILY GRASSED  
 ROADCUTS ON BOTH SIDES STATE ROUTE 105, ABOUT 0.1 MI NE  
 OF USGS COLLN. 31994-PC.

**(BL)31996-PC**

WOODSON CO, KS SYSTEM: PENN  
 SERIES: VIRG GROUP: SHAWNEE  
 FM: OREAD LS TORONTO LS MBR  
 QUAD: TORONTO 7.5  
 NEAR C-NW-SW-SW SEC 7 TNSP 26 S RNGE 14 E  
 LAT: 37.4742 LONG: 95.5523  
 DATE: 04/03/1992 COLL: HENRY TW  
 SMALL COLLN FROM LIMESTONE BEDS ON BOTH SIDES STATE  
 ROUTE 105 IN ROADCUTS; SAME LOC AS USGS COLLN 31995-PC.  
 0.1 MI NE OF USGS COLLN 31994-PC.

**(BL)31997-PC**

WOODSON CO, KS SYSTEM: PENN  
 SERIES: VIRG GROUP: SHAWNEE  
 FM: OREAD LS TORONTO LS MBR  
 QUAD: TORONTO 7.5  
 NW-NW-NE-SE SEC 18 TNSP 26 S RNGE 14 E  
 LAT: 37.4704 LONG: 95.5438  
 DATE: 04/03/1992 COLL: HENRY TW  
 OUTCROPS IN SMALL CUTBANK ON BOTH SIDES STATE ROUTE 105  
 ABOUT 2 MILES SE OF TORONTO, KS; SMALL COLLN. CGM MAP  
 STA 23. LOC ABOUT 1 MI SE OF USGS COLLN 31996-PC.

**(BL)31998-PC**

WOODSON CO, KS SYSTEM: PENN  
 SERIES: VIRG GROUP: SHAWNEE  
 FM: OREAD LS TORONTO LS MBR  
 QUAD: TORONTO 7.5  
 NEAR C W SIDE SEC 17 TNSP 26 S RNGE 14 E  
 LAT: 37.4711 LONG: 95.5423  
 DATE: 04/03/1992 COLL: HENRY TW  
 OUTCROPS ON BOTH SIDES SEC LINE ROAD THRU SMALL HILL  
 BEGINNING NEAR C W SIDE SEC 17 AND EXTENDING APPROX 0.1  
 MI NORTHWARD. SMALL COLLN. BLOOM OF WILLIAMSBURG  
 COAL BED ABOUT 1 FT BELOW BSE OF TORONTO IN DITCH. LOC  
 IS 0.25 MI NE OF USGS COLLN 31997-PC.

**(BL)31999-PC**

WOODSON CO, KS SYSTEM: PENN  
 SERIES: VIRG GROUP: DOUGLAS  
 FM: LAWRENCE SH HASKELL LS MBR  
 QUAD: MIDDLETOWN 7.5  
 S/2-SW-SE-SW SEC 35 TNSP 26 S RNGE 14 E  
 LAT: 37.4404 LONG: 95.5043  
 DATE: 04/03/1992 COLL: HENRY TW  
 NATURAL OUTCROPS IN WOODS ON N SIDE OF COUNTY RD JUST  
 NORTH OF WOODSON-WILSON CO LINE. HASKELL IS V DENSE, DK  
 GRAY, SKELETAL CARBONATE MUDSTONE ABOUT 1.5-2.0 FT THICK,  
 MAKING DISTINCT LEDGES IN WOODS ABOVE ROAD; CONTAINS  
 VERY SPARSE FAUNA INCLUDING DESMOINESIA, NEOSPIRIFER,  
 LINOPRODUCTUS. EQUALS CGM MAP STA 1. WESTPHALIA LS  
 MBR OF STRANGER FM CROPS OUT ON N SIDE RD DITCH CA 50-75  
 YDS TO SOUTH.

**(BL)32000-PC**

WOODSON CO, KS SYSTEM: PENN  
 SERIES: VIRG GROUP: DOUGLAS  
 FM: LAWRENCE SH WATHENA SH MBR  
 QUAD: TORONTO SE 7.5  
 NW-NW-SW-SW SEC 35 TNSP 25 S RNGE 14 E  
 LAT: 37.4929 LONG: 95.5052  
 DATE: 04/04/1992 COLL: HENRY TW  
 VERY SMALL COLLN OF PHRICODOTHYRIS & COMPOSITA FROM  
 BOTH SIDES SEC LINE ROADCUT; = CGM MAP STA 19. BLOOM OF  
 WILLIAMSBURG COAL BED JUST BELOW BSE TORONTO LS MBR.

**(BL)32001-PC**

WOODSON CO, KS SYSTEM: PENN  
 SERIES: VIRG GROUP: DOUGLAS  
 FM: LAWRENCE SH AMAZONIA LS MBR  
 QUAD: TORONTO SE 7.5  
 N SIDE NE-NW-NE-SE SEC 2 TNSP 26 S RNGE 14 E  
 LAT: 37.4850 LONG: 95.5012  
 DATE: 04/04/1992 COLL: HENRY TW  
 FROM SPOIL PILE FOR CONTAINMENT POND FOR STORAGE TANKS  
 ON BLAIR LEASE (LIC. NO. 5983) AND IN SCRAPED OFF AREA  
 ADJACENT TO POND IN PASTURE; FROM SLABBY, NODULAR,  
 LIMY SANDSTONE W/ABDT JURESANIA.

**(BL)32002-PC**

COFFEY CO, KS SYSTEM: PENN  
 SERIES: VIRG GROUP: SHAWNEE  
 FM: LECOMPTON LS AVOCA LS MBR  
 QUAD: GRIDLEY 7.5  
 NW-SW-NW-NW SEC 4 TNSP 23 S RNGE 14 E  
 LAT: 38.0450 LONG: 95.5306  
 DATE: 04/04/1992 COLL: HENRY TW  
 CUTBANKS ON BOTH SIDES PAVED COUNTY RD JUST S OF BRIDGE  
 OVER DINNER CREEK ABOUT 1 MI S OF GRIDLEY; CGM MAP STA  
 21. SMALL COLLN FROM 1.8 FT SH W/CHONETIDS UNDERLYING  
 2.5 FT LS (UPPER AVOCA) W/ABDT SYRINGOPORIDS. LOWER BED  
 OF AVOCA LS MBR IS 1.6 FT THICK.

**(BL)32003-PC**

COFFEY CO, KS SYSTEM: PENN  
 SERIES: VIRG GROUP: SHAWNEE  
 FM: LECOMPTON LS BIG SPRINGS-BEIL LS MBR  
 QUAD: GRIDLEY SE 7.5  
 C E SIDE SE-SE-NE SEC 11 TNSP 23 S RNGE 14 E  
 LAT: 38.0343 LONG: 95.4949  
 DATE: 04/04/1992 COLL: HENRY TW  
 COLL OF W SIDE OF ROAD AT APEX HILL; EQUIVALENT TO USGS  
 COLLN 31031-PC. CHONETIDS WEATHERING FROM SHALE, W/  
 LARGER MATERIAL IN LS.

**(BL)32004-PC**

DOUGLAS CO, KS SYSTEM: PENN  
 SERIES: VIRG GROUP: SHAWNEE  
 FM: OREAD LS BEIL LS MBR  
 QUAD: WILLIAMSTOWN 7.5  
 NEAR NW COR SEC 24 TNSP 12 S RNGE 18 E  
 LAT: 39.0003 LONG: 95.2215  
 DATE: 04/04/1992 COLL: HENRY TW  
 EQUALS TWH-91-105; ON N SIDE KANSAS TURNPIKE (I70) AT MP  
 196; STOP 15 OF HECKEL, BRADY, EBANKS, & PABIAN 1979, IXIC  
 GUIDEBOOK FIELDTRIP, SEE P 46 FOR MEAS SEC; BEIL NEAR TOP  
 OF CUTS, EXCEPTIONALLY DIVERSE BIOTA, V WELL PRESERVED  
 MATERIAL, INCLUDING LINOPRODUCTUS; BEIL IS ABOUT 10 FT  
 THICK HERE.

**(BL)32005-PC**

DOUGLAS CO, KS SYSTEM: PENN  
 SERIES: VIRG GROUP: SHAWNEE  
 FM: DEER CREEK LS ROCK BLUFF LS MBR  
 QUAD: PERRY 7.5  
 NE-NE-NW SEC 22 TNSP 12 S RNGE 18 E  
 LAT: 39.0002 LONG: 95.2424  
 DATE: 04/04/1992 COLL: HENRY TW  
 ON N SIDE KANSAS TURNPIKE (I77) JUST W OF MP 194; FROM  
 STOP 16 (47) OF IXIC 1979 GUIDEBOOK & STOP 10 OF WHATNEY  
 AND OTHERS (1991) KGS OF REPT 91-22. ROCK BLUFF LS MBR IS 2  
 FT THICK CONSISTING OF ALGAL WACKESTONE, DIR OVERLAIN  
 BY LARSCH-BURROAK SH MBR COLL FROM TOP PART OF BED IN  
 SLUMP BLOCK. MAINLY CRURITHYRIS, WELLERELLA. SEE MEAS  
 SEC P 106 (STOP 10) OF KGS OF REPT 91-22.

(BL)32013-PC

DONIPHAN CO, KS  
SERIES: VIRG  
FM: LAWRENCE SH  
SYSTEM: PENN  
GROUP: DOUGLAS  
AMAZONIA LS MBR  
QUAD: WATHENA 7.5  
N/2-SW-NW SEC 2 TNSP 03 S RNGE 22 E  
LAT: 39.4921 LONG: 94.5525  
DATE: 04/06/1992 COLL: HENRY TW  
CLYDE PROPHETER QUARRY (LOWER); COLLECTED FROM  
QUARRY WALLS AND BLOCKS IN FLOOR OF QUARRY; AMAZONIA  
LS IS RUGGLY ALGAL WACKSTONE TO MUDSTONE, CONTAINS  
VERY SPARSE MACROFAUNA, MAINLY COMPOSITA; MBR ABOUT  
8 FT TH; TOP IS HEAVILY AFFECTED BY SOIL FORMATION AFTER  
DEP OF OVERLYING WATHENA SHALE MBR, WHICH IS GRYSH-  
RED W/ GRNSH-GRY MUDSTONE. SEE SKETCH SECTION. SAME  
LOC AS USGS COLLNS 32014-THRU 32017-PC

(BL)32014-PC

DONIPHAN CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
SNYDERVILLE SH MBR  
QUAD: WATHENA 7.5  
N/2-SW-NW SEC 2 TNSP 03 S RNGE 22 E  
LAT: 39.4921 LONG: 94.5525  
DATE: 04/06/1992 COLL: HENRY TW  
CLYDE PROPHETER QUARRY (LOWER); COLLECTED IN PLACE ON  
W SIDE OF QUARRY; MAINLY EXPOSED ON W FACE OF LOWER  
QUARRY; CONTAINS CHONETIDS W/ ORIGINAL COLORATION,  
SOME LINOPRODUCTUS; BULK SMPL FROM SURFACE SCRAPINGS,  
ALSO FRESH SAMPLE; SNYDERVILLE ABOUT 6 FT THICK HERE,  
BEST EXPOSED ON WEST SIDE OF LOWER QUARRY, OVERLAIN  
BLACK FISSILE HEEBNER SH MBR W/ PHOS NODS. SAME LOC AS  
USGS COLLNS. 32013- THRU 32017-PC.

(BL)32015-PC

DONIPHAN CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
SNYDERVILLE SH MBR  
QUAD: WATHENA 7.5  
N/2-SW-NW SEC 2 TNSP 03 S RNGE 22 E  
LAT: 39.4921 LONG: 94.5525  
DATE: 04/06/1992 COLL: HENRY TW  
CLYDE PROPHETER QUARRY (LOWER), WEST SIDE; COLL IN  
PLACE FROM UPPER 0.5 FT OF MBR & FROM BSE OF BLX OF  
LEAVENWORTH LS MBR; BULK SMPL; SAME LOC AS USGS  
COLLNS. 32013- THRU 32017-PC.

(BL)32016-PC

DONIPHAN CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
LEAVENWORTH LS MBR  
QUAD: WATHENA 7.5  
N/2-SW-NW SEC 2 TNSP 03 S RNGE 22 E  
LAT: 39.4921 LONG: 94.5525  
DATE: 04/06/1992 COLL: HENRY TW  
CLYDE PROPHETER QUARRY (LOWER), COLL IN PLACE ON W  
SIDE QUARRY AND FROM BLX IN QUARRY; MAINLY FROM 0.1 FT  
THICK BIOCLASTIC SHALE PARTING IN MIDDLE OF MEMBER,  
WHICH IS ABOUT 2 FT THICK TOTAL HERE; MAINLY  
CRURITHYRIS, OTHER SMALL BRACHIOPODS. SAME LOC AS  
USGS COLLNS 32013- THRU 32016-PC.

(BL)32017-PC

DONIPHAN CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
HEEBNER SH MBR  
QUAD: WATHENA 7.5  
N/2-SW-NW SEC 2 TNSP 03 S RNGE 22 E  
LAT: 39.4921 LONG: 94.5525  
DATE: 04/06/1992 COLL: HENRY TW  
CLYDE PROPHETER QUARRY (LOWER), WEST SIDE, COLL FROM  
BSL 0.5 FT, SURFACE SCRAPINGS W/ CRURITHYRIS. SAME LOC  
AS USGS COLLNS. 32013- THRU 32016-PC.

(BL)32018-PC

DONIPHAN CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
PLATTSMOUTH LS MBR  
QUAD: WATHENA 7.5  
SW-NW-NW SEC 2 TNSP 03 S RNGE 22 E  
LAT: 39.4926 LONG: 94.5523  
DATE: 04/06/1992 COLL: HENRY TW  
CLYDE PROPHETER QUARRY (UPPER), COLL FROM QUARRY  
WALLS, BLX IN QUARRY, & QUARRY FLOOR. SAME LOC AS USGS  
COLLN 32019-PC.

(BL)32019-PC

DONIPHAN CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
HEUMADER SH MBR  
QUAD: WATHENA 7.5  
SW-NW-NW SEC 2 TNSP 03 S RNGE 22 E  
LAT: 39.4926 LONG: 94.5523  
DATE: 04/06/1992 COLL: MAPLES CG  
CLYDE PROPHETER QUARRY (UPPER), COLL FROM HIGHWALL AT  
N END OF QUARRY. SAME LOC AS USGS COLLN 32018-PC.

(BL)32020-PC

DONIPHAN CO, KS  
SERIES: VIRG  
FM: LAWRENCE SH  
SYSTEM: PENN  
GROUP: DOUGLAS  
WATHENA SH MBR  
QUAD: WATHENA 7.5  
NW-SW-NW SEC 15 TNSP 03 S RNGE 22 E  
LAT: 39.4738 LONG: 94.5639  
DATE: 04/06/1992 COLL: HENRY TW  
JAN LAIPPLE QUARRY; COLL FROM TALUS BLOCKS OF TORONTO  
LS MBR W/UPPERMOST PART OF WATHENA SH MBR ADHERING &  
FROM QUARRY WALL; BULK SMPL TAKEN IN PLACE; UPPER 0.5-  
0.7 FT FOSSILIFEROUS ABOVE SMALL CARB SH. SAME LOC AS  
USGS COLLNS 32021- THRU 32022-PC.

(BL)32021-PC

DONIPHAN CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
TORONTO LS MBR  
QUAD: WATHENA 7.5  
NW-SW-NW SEC 15 TNSP 03 S RNGE 22 E  
LAT: 39.4738 LONG: 94.5639  
DATE: 04/06/1992 COLL: HENRY TW  
JAN LAIPPLE QUARRY; COLL FROM SH PARTING IN MIDDLE &  
FROM LS ITSELF; SMALL COLLN; MAINLY FROM BLX IN QUARRY;  
MBR ABOUT 2.5 FT THICK HERE. SAME LOC AS USGS COLLNS  
32020- THRU 32022-PC.

(BL)32022-PC

DONIPHAN CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
SNYDERVILLE SH MBR  
QUAD: WATHENA 7.5  
NW-SW-NW SEC 15 TNSP 03 S RNGE 22 E  
LAT: 39.4738 LONG: 94.5639  
DATE: 04/06/1992 COLL: HENRY TW  
JAN LAIPPLE QUARRY; COLL FROM MATERIAL IN PLACE IN UPPER  
2 FT OF MBR; BULK SMPL. SAME LOC AS USGS COLLNS 32020-  
THRU 32022-PC.

(BL)32023-PC

DONIPHAN CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
PLATTSMOUTH LS MBR  
QUAD: WATHENA 7.5  
SE-NE-NE SEC 16 TNSP 03 S RNGE 22 E  
LAT: 39.4742 LONG: 94.5646  
DATE: 04/06/1992 COLL: HENRY TW  
JAN LAIPPLE QUARRY (ACTIVE); COLL FROM TALUS BLX ON  
EDGE OF QUARRY; MAT IN QUARRY TOO FRESH FOR GOOD  
COLLECTING.

(BL)32027-PC

DONIPHAN CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: OREAD LS PLATTSMOUTH LS MBR  
QUAD: WATHENA 7.5  
C-NE-NW-NW SEC 2 TNSP 03 S RNGE 22 E  
LAT: 39.4935 LONG: 94.5523  
DATE: 04/07/1992 COLL: HENRY TW  
STUDER QUARRY (INACTIVE), AN ELONGATE QUARRY ON BLUFFS  
OVERLOOKING GLADDEN BOTTOM (MISSOURI RIVER) ABOUT 0.2  
MI N OF CLYDE PROPHETER QUARRY (UPPER) AND USGS COLLNS  
32018- & 32019-PC; GOOD COLLECTING INCL. LARGE COLLN. OF  
LARGE CHONETIDS IN PLACE COMING FROM UPPER PART OF  
PLATTSBURG LS MBR; COLL FROM BLX & HIGHWALL. SAME LOC  
AS USGS COLLN 32028-PC.

(BL)32028-PC

DONIPHAN CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: OREAD LS KEREFORD LS MBR  
QUAD: WATHENA 7.5  
C-NE-NW-NW SEC 2 TNSP 03 S RNGE 22 E  
LAT: 39.4935 LONG: 94.5523  
DATE: 04/07/1992 COLL: HENRY TW  
STUDER QUARRY (INACTIVE), SAME LOC AS USGS COLLN 32027-  
PC; FROM SLUMP BLX FROM HIGHWALL OF BIOCLASTIC  
GRAINSTONE-PAKSTONE, ABOUT 2-2.5 FT THICK; ONE BLK W/  
ABDT ORBICULOIDES; 1 SMPL W/ CRURITHYRIS. SMALL COLLN.

(BL)32038-PC

DOUGLAS CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: LECOMPTON LS AVOCA LS MBR  
QUAD: LAWRENCE WEST 7.5  
NE COR SEC 31 TNSP 12 S RNGE 19 E  
LAT: 38.5815 LONG: 95.2006  
DATE: 04/08/1992 COLL: HENRY TW  
AND NW COR SEC 32. FROM E & W SHALLOW CUTBANKS OF  
HWY AT JCT OF US HWY 40 & CLINTON LAKE ROAD. MOST  
MATERIAL IS CRUSHED AND ALGAL COATED; LARGE CHONETIDS.

(BL)32039-PC

DOUGLAS CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: LECOMPTON LS BEIL LS MBR  
QUAD: PERRY 7.5  
SE COR NE-NE SEC 35 TNSP 11 S RNGE 17 E  
LAT: 39.0316 LONG: 95.2857  
DATE: 04/08/1992 COLL: HENRY TW  
FROM OLD AT&SF QUARRY IN BEIL LS, NOW USED AS SHOOTING  
RANGE ON BLUFFS ON S SIDE KANSAS RIVER ABOVE RR TRX;  
COLL FROM TOP OF LIMESTONE FLOOR OF QUARRY; ABDT  
SMALL BRX, INCLUDING BEECHERIA. KING HILL SH & AVOCA LS  
MBR EXP ON LOW HIGHWALL TO WEST OF COLLN; KING HILL  
HAS SOIL.

(BL)32040-PC

SHAWNEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: HOWARD LS CHURCH LS MBR  
QUAD: TOPEKA 7.5  
SE-SW-NW-SW SEC 3 TNSP 12 S RNGE 16 E  
LAT: 39.0204 LONG: 95.3748  
DATE: 04/08/1992 COLL: HENRY TW  
NORTH AND SOUTH ROADCUTS OF I-70 (KANSAS TURNPIKE) IN  
TOPEKA, KS, ABOUT 0.2 MI E OF EXIT MP 365. FROM CA 3.5 FT-  
THICK GRAYISH-ORANGE WEATHERING SDY LS W/ RETICULATIA;  
NODAWAY COAL BED DUG OUT ON S SIDE HWY. SAME LOC AS  
USGS COLLNS 32041- & 32042-PC.

(BL)32041-PC

SHAWNEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: HOWARD LS WINZELER SH MBR  
QUAD: TOPEKA 7.5  
SE-SW-NW-SW SEC 3 TNSP 12 S RNGE 16 E  
LAT: 39.0204 LONG: 95.3748  
DATE: 04/08/1992 COLL: HENRY TW  
NORTH ROADCUT I-70 (KANSAS TURNPIKE) IN TOPEKA, KS,  
ABOUT 0.2 MI E OF EXIT MP 365. FREE-WEATHERING FOSSILS ON  
CUTBENCH FROM ABOUT 3 FT OF GRYSH-ORNG WEATHERING  
CALC SHALE; H FOSS, MANY CRUSHED. SAME LOC AS USGS  
COLLNS 32040- & 32042-PC.

(BL)32042-PC

SHAWNEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: HOWARD LS UTOPIA LS MBR  
QUAD: TOPEKA 7.5  
SE-SW-NW-SW SEC 3 TNSP 12 S RNGE 16 E  
LAT: 38.5957 LONG: 95.4226  
DATE: 04/08/1992 COLL: HENRY TW  
NORTH ROADCUT I-70 (KANSAS TURNPIKE) IN TOPEKA, KS,  
ABOUT 0.2 MI E OF EXIT 364 AT MP 365; UTOPIA IS ABOUT 0.9 FT  
THICK NEAR APEX OF ROADCUT, V SPARSELY FOSSILIFEROUS.  
SAME LOC AS USGS COLLNS 32041- & 32041-PC.

(BL)32043-PC

SHAWNEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: HOWARD LS AARDE SH MBR  
QUAD: WAKARUSA 7.5  
NE-NE-NE-SE SEC 23 TNSP 12 S RNGE 15 E  
LAT: 38.5958 LONG: 95.4227  
DATE: 04/08/1992 COLL: HENRY TW  
EQUIVALENT TO USGS COLLN 31313-PC.

(BL)32044-PC

SHAWNEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: HOWARD LS CHURCH LS MBR  
QUAD: WAKARUSA 7.5  
C-SW-NW-NW SEC 24 TNSP 12 S RNGE 15 E  
LAT: 38.5952 LONG: 95.4217  
DATE: 04/08/1992 COLL: MAPLES CG  
COLL BETWEEN NORTHBOUND EXIT OF I-470 AND MAIN HWY AT  
BURLINGAME EXIT IN PROXIMITY OF BM 967; SMALL COLLN.  
NEAR USGS COLLN 39043-PC.

(BL)32045-PC

SHAWNEE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: HOWARD LS WINZELER SH MBR  
QUAD: WAKARUSA 7.5  
NE-NE-NE-SE SEC 23 TNSP 12 S RNGE 15 E  
LAT: 39.5958 LONG: 95.4227  
DATE: 04/08/1992 COLL: HENRY TW  
EQUIVALENT TO USGS COLLN 31314-PC & TWH-91-106B.

(BL)32046-PC

COFFEY CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: KANWAKA SH JACKSON PARK SH MBR  
QUAD: NEW STRAWN 7.5  
NE COR NE-NW-NE SEC 3 TNSP 21 S RNGE 15 E  
LAT: 38.1532 LONG: 95.4434  
DATE: 04/09/1992 COLL: HENRY TW  
COLL JUST N OF NEW FIRE STATION AT NEW STRAWN, KS,  
DIAGONALLY SE ACROSS RD FROM USGS COLLN 31033-PC; BEST  
COLLECTING ON BERM JUST ABOVE ROAD DITCH BELOW  
NODULAR ZONE. LARGE COLLN OF CHONETIDS, SPARSE  
CRURITHYRIS, & BULK SMPL FROM GRNSH-GRY SH W/ SPARSE  
IRONSTONE NODS.

(BL)32047-PC

COFFEY CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: KANWAKA SH JACKSON PARK SH MBR  
QUAD: NEW STRAWN 7.5  
NE COR NE-NW-NE SEC 3 TNSP 21 S RNGE 15 E  
LAT: 38.1532 LONG: 95.4434  
DATE: 04/09/1992 COLL: HENRY TW  
COLL AT SAME SITE AS 32046-PC FROM X-BEDDED COATED-GRAIN  
LS EXPOSED IN NEW CUTS FOR NEW FIRE STATION ON S SIDE  
HWY (LAKE RD) LEADING TO JOHN REDMOND DAM; SPARSE COLL  
BIOCLASTIC MATERIAL. SAME LOC AS USGS COLLN 32046-PC; DUE  
SOUTH ACROSS ROAD FROM USGS COLLN 31033-PC; SAME BEDS  
AS USGS COLLN 31969-PC.

(BL)32048-PC

OSAGE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: OREAD LS PLATTSMOUTH LS MBR  
QUAD: WAVERLY 7.5  
E/2-NE-SE SEC 25 TNSP 18 S RNGE 16 E  
LAT: 38.2718 LONG: 95.3455  
DATE: 04/09/1992 COLL: HENRY TW  
COLL FROM LARGE ABD OSAGE COUNTY HWY DEPT QUARRY  
JUST N OF I-35 ON E SIDE OF ROCK CREEK; PLATTSMOUNT CA 12-  
15 THICK, OVERLAIN BY HEUMADER SH & THICK KEREFORD LS  
MBR AT TOP CUTFACE OF QUARRY; ABDT MEEKELLA NEAR TOP  
OF PLATTSMOUTH; THIN SH UNITS NEAR TOP W/ HUSTEDIA,  
RHIPIDOMELLA, NEOSPIRIFER, BUT DEF IN PLATTSMOUTH, NOT  
HEUMADER. SAME LOC AS USGS COLLN 32049-PC.

(BL)32049-PC

OSAGE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: KANWAKA SH CLAY CREEK LS MBR  
QUAD: LYNDON 7.5  
E/2-SE-NW-SW SEC 1 TNSP 18 S RNGE 15 E  
LAT: 38.3043 LONG: 95.4220  
DATE: 04/09/1992 COLL: HENRY TW  
EXPOSURES ON NW SIDE OUTLET FOR MELVERN LAKE, ABOUT 10  
FT ABOVE WATER LEVEL; FROM ALGAL-COATED MAT IN GRNSH-  
GRY ARGILL LS W/ SCATTERED LARGE CHONETIDS, V SPARSE  
CRURITHYRIS; SEE SKETCH SECTION; COLL FROM CA 1.3 FT  
ALGAL ARGILL LS JUST BELOW 1.3 FT-THICK PHYLLOID ALGAL  
LS; COLLN FROM ABOUT 5 FT ABOVE TOP OF RIPPLE BEDDED SS  
IN JACKSON PARK SHALE JUST ABOVE STREAM LEVEL IN CUTS  
FOR LAKE OUTLET.

(BL)32050-PC

OSAGE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: KANWAKA SH STULL SH MBR  
QUAD: LYNDON 7.5  
SE-NE-SW-NE SEC 36 TNSP 17 S RNGE 15 E  
LAT: 38.3150 LONG: 95.4253  
DATE: 04/09/1992 COLL: HENRY TW  
EXPOSURES ON BOTH SIDES OF CREEK AT OVERFLOW DIVERSION  
AREA FOR MELVERN RESERVOIR, LOCATED ON N SIDE OF DAM  
ROAD, JUST N OF DAM; GOOD SECTION (SEE SKETCH). SAME LOC  
AS USGS COLLNS 32051- THRU 32053-PC.

(BL)32051-PC

OSAGE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: LECOMPTON LS BIG SPRINGS LS MBR  
QUAD: LYNDON 7.5  
SE-NE-SW-NE SEC 36 TNSP 17 S RNGE 15 E  
LAT: 38.3150 LONG: 95.4253  
DATE: 04/09/1992 COLL: HENRY TW  
EXPOSURES ON BOTH SIDES OF CREEK AT OVERFLOW DIVERSION  
FOR MELVERN RESERVOIR; LOC ON N SIDE OF DAM ROAD JUST N  
OF DAM; SEE SKETCH SECTION. SAME LOC AS USGS COLLNS  
32050- THRU 32053-PC.

(BL)32052-PC

OSAGE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: LECOMPTON LS "QUEEN HILL" SH MBR  
QUAD: LYNDON 7.5  
SE-NE-SW-NE SEC 36 TNSP 17 S RNGE 15 E  
LAT: 38.3150 LONG: 95.4253  
DATE: 04/09/1992 COLL: HENRY TW  
BOTH SIDES OF CREEK AT BOTH SIDES OF OVERFLOW FOR  
MELVERN LAKE; LOC ON N SIDE OF DAM ROAD JUST N OF DAM;  
SEE SKETCH SECTION; ABDT CHONETIDS. SAME LOC AS USGS  
COLLNS 32050- THRU 32053-PC.

(BL)32053-PC

OSAGE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: LECOMPTON LS BEIL LS MBR  
QUAD: LYNDON 7.5  
SE-NE-SW-NE SEC 36 TNSP 17 S RNGE 15 E  
LAT: 38.3150 LONG: 95.4254  
DATE: 04/09/1992 COLL: HENRY TW  
BOTH SIDES OF CREEK AT BOTH SIDES OF OVERFLOW FOR  
MELVERN LAKE; LOC ON N SIDE OF DAM ROAD JUST N OF DAM.  
SAME LOC AS USGS COLLNS 32050- THRU 32053-PC.

(BL)32054-PC

OSAGE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: LECOMPTON LS KING HILL SH MBR  
QUAD: LYNDON 7.5  
NE-SW-SE-NE SEC 36 TNSP 17 S RNGE 15 E  
LAT: 38.3148 LONG: 95.4247  
DATE: 04/09/1992 COLL: MAPLES CG  
NEAR USGS COLLNS 32050- THRU 32053-PC BUT FROM E SIDE OF  
ROADWAY ON FLOOR OF SPILLWAY. SMALL COLLN. SEE SKETCH  
SECTION.

(BL)32055-PC

OSAGE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: LECOMPTON LS KING HILL SH MBR  
QUAD: LYNDON 7.5  
C-NE-NE-NE SEC 36 TNSP 17 S RNGE 15 E  
LAT: 38.3206 LONG: 95.4133  
DATE: 04/09/1992 COLL: HENRY TW  
IN RD DITCH ON N SIDE OF STATE HWY 278 AT POINT 0.1 MI W OF  
JCT W/ US HWY 75. TWO LINOPRODUCTUS IN THIN LS IN FLOAT,  
ASSOC W/ PUNKY YELLOWISH-GRY CALC NODULES (SOIL MAT)  
IN KING HILL.

(BL)32056-PC

OSAGE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: KANWAKA SH STULL SH MBR  
QUAD: LYNDON 7.5  
N/2-SE-SE-SW SEC 6 TNSP 17 S RNGE 16 E  
LAT: 38.3543 LONG: 95.4106  
DATE: 04/09/1992 COLL: HENRY TW  
SMALL CUT ON W SIDE US HWY 75 AT JCT W/ STATE RT 68 ABOUT  
1 MI S OF LYNDON, KANSAS. BIG SPRINGS/BEIL EXPOSED AT TOP  
OF DITCH.

(BL)32057-PC

OSAGE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: LECOMPTON LS AVOCA LS MBR  
QUAD: VASSAR 7.5  
C W SIDE SW SEC 24 TNSP 16 S RNGE 16 E  
LAT: 38.3822 LONG: 95.3602  
DATE: 04/09/1992 COLL: HENRY TW  
AND C E SIDE SE SEC 23; COLLN FROM BOTH SIDES STATE RT 268  
ABOUT 1 MI SE OF VASSAR, KAN; GOOD ROAD CUTS EXPOSING  
KING HILL SH THRU OZAWKIE LS MBR. COLLN MADE FROM  
LOWER LS & OVERLYING SH OF AVOCA LS JUST BELOW  
FUSULINID LS W/ SYRINGOPORA (UPPER AVOCA). SEE SKETCH  
SECTION.

(BL)32058-PC

OSAGE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: KANWAKA SH CLAY CREEK LS MBR  
QUAD: VASSAR 7.5  
NE-NE-NW-SE SEC 19 TNSP 16 S RNGE 17 E  
LAT: 38.3839 LONG: 95.3408  
DATE: 04/09/1992 COLL: HENRY TW  
BASAL BED OF CLAY CREEK LS MBR EXPOSED IN FLOOR OF  
DIVERSION SPILLWAY OF POMONA RESERVOIR ON W SIDE  
ROAD, FROM LS BLX IN PLACE. SPARSELY FOSSILIFEROUS W/  
CHONETIDS, NEOSPIRIFER, LARGE BELLEROPHONTIDS, SPARSE  
FUSULINIDS. NEAR USGS COLLN 32059-PC.

(BL)32059-PC

OSAGE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: KANWAKA SH STULL SH MBR  
QUAD: VASSAR 7.5  
NW-NW-NE-SE SEC 19 TNSP 16 S RNGE 17 E  
LAT: 38.3840 LONG: 95.3407  
DATE: 04/09/1992 COLL: EMF  
EXPOSED IN DK-GRY SH IN CUTS ON E SIDE OF SPILLWAY TO  
POMONA RESERVOIR, CA 30-40 YDS E OF USGS COLLN 32058-PC.  
FROM THIN SLABBY SDY LS & RIPPLE-BEDDED CALC SS;  
MYALINA BED IN DK-GRY SH. NEAR USGS COLLN 32058-PC.

(BL)32060-PC

OSAGE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: TOPEKA LS CURZON LS MBR  
QUAD: LEBOW 7.5  
C SEC 21 TNSP 18 S RNGE 15 E  
LAT: 38.2811 LONG: 95.4521  
DATE: 04/10/1992 COLL: HENRY TW  
ABD NELSON BROS QUARRY IN HARTFORD LS ABOUT 0.75 MI SSW  
OF OLIVET, KAN; QUARRY LOC JUST S OF AT&SF RR TRX, PRETTY  
WELL OVERGROWN.

(BL)32061-PC

OSAGE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: HOWARD LS CHURCH LS MBR  
QUAD: LEBOW 7.5  
C-SW SEC 21 TNSP 18 S RNGE 14 E  
LAT: 38.2758 LONG: 95.5216  
DATE: 04/10/1992 COLL: HENRY TW  
LARGE, ABD HR HAM QUARRY (OSAGE CO #033) IN CHURCH LS  
MBR ABOUT 0.75 MI S OF ARVONIA, KAN; GOOD COLLN FROM  
SPARSELY FOSSILIFEROUS LS; COLL BLX & SOME MAT IN PLACE;  
QUARRY MOSTLY WATER FILLED. RETICULATIA, ANTIQUATONIA,  
DESMOINESIA. HOWARD ABOUT 2.5 FT THICK; WEATHERS RUSTY,  
DRK-REDDISH-BROWN. SAME QUARRY AS USGS COLLN 32062-PC;  
SEE SKETCH SECTION.

(BL)32062-PC

OSAGE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: HOWARD LS CHURCH LS MBR  
QUAD: LEBOW 7.5  
NW-SE-SW-SW SEC 21 TNSP 18 S RNGE 14 E  
LAT: 38.2751 LONG: 95.5225  
DATE: 04/10/1992 COLL: HENRY TW  
FROM MATERIAL IN PLACE FROM WALL ON SW CORNER OF HR  
HAM QUARRY (SAME QUARRY AS USGS COLLN 32061-PC). V  
SPARSE COLLN OF LINOPRODUCTUS, NEOSPIRIFER FROM NEAR  
MIDDLE OF 1.8 FT UTOPIA LS MBR; BED AT TOP W/ ABDT  
MYALINIDS. SAME QUARRY AS USGS COLLN 32061-PC.

(BL)32063-PC

OSAGE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: WABAUNSEE  
FM: HOWARD LS BACHELOR CREEK LS MBR  
QUAD: OSAGE CITY SE 7.5  
E/2-SE-NE-NE-NE SEC 9 TNSP 18 S RNGE 14 E  
LAT: 38.3012 LONG: 95.5129  
DATE: 04/10/1992 COLL: HENRY TW  
LOC ON BOTH E 7 W ROAD CUT ST HWY 170 ABOUT 2 MI N OF  
LAKE MELVERN; CUT JUST S OF LITTLE CABLE CREEK. FROM  
BIOTURBATED CALC SS W/ EXCEPTIONALLY WELL-PRESERVED  
ANTIQUATONIA (W/SPINES), & NEOCHONETES; JURASANIA,  
COMPOSITA, NEOSPIRIFER SPARSE. ABOUT 5 FT OF MBR  
EXPOSED, W/ ROOTED MYALINID BED AT TOP; NODAWAY COAL  
BED EXP ABOUT 4 FT ABOVE TOP BACHELOR CREEK LS MBR ON  
W SIDE OF ROAD IN CUTBENCH; SEE SKETCH SECTION.

(BL)32064-PC

OSAGE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: TOPEKA LS HARTFORD LS MBR  
QUAD: OSAGE CITY SE 7.5  
SW-SW SEC 30 TNSP 17 S RNGE 15 E  
LAT: 38.3212 LONG: 95.4754  
DATE: 04/10/1992 COLL: HENRY TW  
NELSON BROS QUARRY (OSAGE CO # ), INACTIVE, JUST N OF  
INLET OF MELVERN RESERVOIR ON TRIBUTARY OF TURKEY  
CREEK; SMALL COLLN FROM SPONGE-BEARING HARTFORD LS.  
SEE USGS COLLNS 32065- THRU 32068-PC. SEE SKETCH SECTION.

(BL)32065-PC

OSAGE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: TOPEKA LS CURZON LS MBR  
QUAD: OSAGE CITY SE 7.5  
SW-SW SEC 30 TNSP 17 S RNGE 15 E  
LAT: 38.3212 LONG: 95.4754  
DATE: 04/10/1992 COLL: EMF TWH  
NELSON BROS QUARRY; SAME LOC AS 32064- THRU 32068-PC.  
USGS 31093- & 31094-PC; FROM SPOIL PILES AND MATERIAL IN  
QUARRY ON TOP OF CURZON LIMESTONE. SEE USGS COLLNS  
32064- THRU 32068-PC. SEE SKETCH SECTION.

(BL)32066-PC

OSAGE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: TOPEKA LS SHELDON LS MBR  
QUAD: OSAGE CITY SE 7.5  
SE-SE-SW-SW SEC 30 TNSP 17 S RNGE 15 E  
LAT: 38.3212 LONG: 95.4754  
DATE: 04/10/1992 COLL: HENRY TW  
NELSON BROS QUARRY; SAME LOC AS 32064- THRU 32068-PC.  
COLL FROM 5-FT THICK MSSV RUSTY-WEATHERING LS IN SE  
PART OF QUARRY. SEE USGS COLLNS 32064- THRU 32068-PC. SEE  
SKETCH SECTION.

(BL)32067-PC

OSAGE CO, KS SYSTEM: PENN  
SERIES: VIRG GROUP: SHAWNEE  
FM: TOPEKA LS TURNER CREEK SH ? MBR  
QUAD: OSAGE CITY SE 7.5  
SE-SE-SW-SW SEC 30 TNSP 17 S RNGE 15 E  
LAT: 38.3212 LONG: 95.4754  
DATE: 04/10/1992 COLL: HENRY TW  
NELSON BROS QUARRY; SAME LOC AS 32066-PC BUT FROM  
SCRAPED OFF AREA ON E SIDE OF SE PART OF QUARRY; 2.5-3 FT  
CALC SH W/ CHONETIDS. SEE USGS COLLNS 32064- THRU 32068-PC.  
SEE SKETCH SECTION.



(BL)32068-PC

OSAGE CO, KS  
SERIES: VIRG  
FM: TOPEKA LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
DUBOIS LS ? MBR  
QUAD: OSAGE CITY SE 7.5  
SE-SE-SW-SW SEC 30 TNSP 17 S RNGE 15 E  
LAT: 38.3212 LONG: 95.4754  
DATE: 04/10/1992 COLL: HENRY TW  
NELSON BROS QUARRY; SAME LOC AS 32067-PC BUT FROM  
LEDGES EXPOSED ON E SIDE OF SE CORNER OF QUARRY;  
CONTAINS LINOPRODUCTIDS, BED 1.0 FT THICK. SEE USGS  
COLLNS 32064- THRU 32068-PC. SEE SKETCH SETION.

(BL)32069-PC

OSAGE CO, KS  
SERIES: VIRG  
FM: HOWARD LS  
SYSTEM: PENN  
GROUP: WABAUNSEE  
BACHELOR CREEK LS MBR  
QUAD: OSAGE CITY SE 7.5  
NW-SW-NW-SW SEC 29 TNSP 17 S RNGE 15 E  
LAT: 38.3225 LONG: 95.4702  
DATE: 04/10/1992 COLL: HENRY TW  
SHALLOW CUTBANK ON E SIDE SEC LINE RD CUT THRU SMALL  
HILL HELD UP BY BACHELOR CREEK LS MBR; ABOUT 0.25 ME SE  
OF BARNS; V SDY LS W/ ANTIQUATONIA, MYALINA; HEAVILY  
BIOTURBATED. SMALL COLLN.

(BL)32070-PC

OSAGE CO, KS  
SERIES: VIRG  
FM: TOPEKA LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
CURZON LS MBR  
QUAD: OSAGE CITY SE 7.5  
SE-SW-NE-SW SEC 9 TNSP 17 S RNGE 15 E  
LAT: 38.3500 LONG: 95.4535  
DATE: 04/10/1992 COLL: HENRY TW  
ACTIVE HR HAM QUARRY IN TOPEKA LS; FROM MATERIAL  
SCRAPED OFF TOP OF HARTFORD LS IN SW CORNER OF QUARRY;  
FOSSILS ARE V DK GRY, FROM FUSULINID RICH ROCK;  
PROBABLY STRAT EQUITV TO USGS COLLN 32065-PC. MAIN  
QUARRY IN HARTFORD LS MBR. SAME LOC AS USGS COLL 32071-  
PC.

(BL)32071-PC

OSAGE CO, KS  
SERIES: VIRG  
FM: TOPEKA LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
SHELDON LS MBR  
QUAD: OSAGE CITY SE 7.5  
SE-SW-NE-SW SEC 9 TNSP 17 S RNGE 15 E  
LAT: 38.3500 LONG: 95.4535  
DATE: 04/10/1992 COLL: HENRY TW  
ACTIVE HR HAM QUARRY IN HARTFORD LS MBR; FROM  
MATERIAL IN PLACE AT TOP OF SCRAPED OFF AREA IN SW PART  
OF ACTIVE QUARRY; SMALL COLLN. FROM RUSTY-WEA MICRITIC  
LS; SPARSELY FOSSILIFEROUS. SAME LOC AS USGS COLL 32070-  
PC; STRAT EQUITV TO USGS COLLN 32066-PC.

(BL)32072-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
KEREFOED LS MBR  
QUAD: BURLINGTON 7.5  
C-NE-NE-SW SEC 10 TNSP 21 S RNGE 15 E  
LAT: 38.1404 LONG: 95.4451  
DATE: 04/12/1992 COLL: HENRY TW  
FROM SMALL 2-3 IN. FLAGGY BEDS OF LS IN ROAD DITCH ON W  
SIDE OF GRAVEL ROAD AND FROM BERM; LINOPRODUCTUS IN  
PROFUSION. [P. DENHAM HAS MOST OF MATERIAL AT KU.] COLL  
TWH, CGM, EMF, & PAULINE DENHAM.

(BL)32073-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
KEREFOED LS MBR  
QUAD: JOHN REDMOND DA 7.5  
NE-SW-NW SEC 10 TNSP 21 S RNGE 15 E  
LAT: 38.1420 LONG: 95.4510  
DATE: 04/12/1992 COLL: HENRY TW  
SOUTH OF DAMON E SIDE NEOSHO RIVER, ALONG BANK, BELOW  
DAMSITE RECREATIONAL AREA; SEE SKETCH SECTION; SPARSE  
LINOPRODUCTUS, JURESANIA & COMPOSITA FROM 10-12 FT  
SHALY LS OVERLAIN BY 5-6 FT WAVY LS & 0.3 FT ALGAL LS  
W/COMPOSITA. "WAVERLY FLAGGY". P. DEMHAM HAS MOST OF  
LINOPRODUCTIDS AT KU; SHALY PARTINGS IN UPPER PART OF  
CUT HAS MOST OF LINOPRODUCTUS. ALSO IN 1/2-SE-NW-NW SEC  
10.

(BL)32074-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
KEREFOED LS MBR  
QUAD: JOHN REDMOND DA 7.5  
NE-NW-NW SEC 10 TNSP 21 S RNGE 15 E  
LAT: 38.1432 LONG: 95.4506  
DATE: 04/12/1992 COLL: HENRY TW  
SAME SECTION AS USGS COLLN 32073-PC BUT CRUSHED  
MATERIAL FROM OVERLYING 1.5-2.5 FT OF SKELETAL  
ARGILLACEOUS LS OVERLYING PHYLLLOID ALGAL BAD AT TOP OF  
KREFORD LS MBR; MAINLY ALONG SMALL CHANNELIZED CREEK  
BELOW ROAD TO DAM. NEAR USGS COLLN 32073-PC.

(BL)32075-PC

COFFEY CO, KS  
SERIES: VIRG  
FM: TOPEKA LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
CURZON LS MBR  
QUAD: LEOB 7.5  
W/2-NW-NE SEC 12 TNSP 19 S RNGE 14 E  
LAT: 38.2504 LONG: 95.4837  
DATE: 04/12/1992 COLL: HENRY TW  
NEW EASTERN EXTENSION OF QUARRY OF 31019-PC. [IOWA POINT  
SH MBR IS 1.0 FT THICK HERE, V DK GRY FISSILE SHALE W/  
MYALINIDS.] SMALL SELECTIVE COLLECTION.

(BL)32076-PC

OSAGE CO, KS  
SERIES: VIRG  
FM: CALHOUN SH  
SYSTEM: PENN  
GROUP: SHAWNEE  
"TONOVAY" LS MBR  
QUAD: LEOB 7.5  
SW-NE-SW-NE SEC 19 TNSP 18 S RNGE 15 E  
LAT: 38.2819 LONG: 95.4724  
DATE: 04/12/1992 COLL: HENRY TW  
COLL FROM BOTH SIDES OF NEW GRAVEL ROAD IN DITCHES  
ABOUT 2 MI WSW OF OLIVET, KAN; COLL FROM 1.2 FT THICK  
ARGILL, SDY LS; CONTAINS CRUSHED LINOPRODUCTUS (V  
SPINY); DERBYIA, JURESANIA, & COMPOSITA (ALL SPARSE);  
CALHOUN SH JUST BELOW CONTAINS SPARSE MYALINIDS.

(BL)32077-PC

OSAGE CO, KS  
SERIES: VIRG  
FM: OREAD LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
PLATTSMOUTH LS MBR  
QUAD: LYNDON 7.5  
N/2-NE-NE SEC 4 TNSP 18 S RNGE 16 E  
LAT: 38.3114 LONG: 95.3824  
DATE: 04/12/1992 COLL: HENRY TW  
COLL FROM HIGHWALL AND TALUS FROM NEAR TOP OF  
PLATTSMOUTH LS MBR IN OLD (CA 1880'S) QUARRY ALONG N  
SIDE MARAIS DES CYGNES RIVER 0.75 MI N OF MELVERN,  
KANSAS. MAINLY ENTELETES & MEEKELLA. COLL TWH, CGM,  
EMF, P DENHAM.

(BL)32078-PC

WOODSON CO, KS                      SYSTEM: PENN  
SERIES: VIRG                        GROUP: DOUGLAS  
FM: LAWRENCE SH                  AMAZONIA LS MBR  
                         QUAD: TORONTO 7.5  
                         S SIDE SW-SW SEC 26 TNSP 25 S RNGE 13 E  
                         LAT: 37.5013 LONG: 95.5728  
DATE: 12/19/1991                  COLL: WEST RR  
EQUALS USGS COLLN. 31993-PC; ROAD DITCH ALONG N SIDE OF  
US HWY 54 AT WOODSON-GREENWOOD COUNTY LINE; FROM  
ALONG S LINE OF SW-SW-26-T25S-R13E, WOODSON COUNTY TO  
ALONG S LINE OF SE-SE-27, GREENWOOD COUNTY. COLL CG  
MAPLES & RR WEST.

(BL)32079-PC

COFFEY CO, KS                      SYSTEM: PENN  
SERIES: VIRG                        GROUP: SHAWNEE  
FM: TOPEKA LS                    CURZON LS MBR  
                         QUAD: GRIDLEY NW 7.5  
                         S/2-S/2-NE-NE SEC 30 TNSP 21 S RNGE 14 E  
                         LAT: 38.1146 LONG: 95.5418  
DATE: 12/04/1991                  COLL: WEST RR  
EQUALS USGS COLLNS. 31970- AND 31349-PC. COLL BY CG  
MAPLES, RR WEST, & CLASS FOR PROJECT; S END OF QUARRY  
FROM SCRAPED-OFF BENCH.

(GR)1300A-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: JUNCTION CITY? 7.5  
SEC 0 TNSP 11 S RNGE 6 E  
DATE:      COLL:  
FORT RILEY. HOLLINGREEN'S QUARRY. INCLUDES

(GR)1300A1- THROUGH 1300A12-PC, COLL AT VARIOUS HOR IN QUARRY. [8/1989-TNSP & RNGE ARE APPROXIMATE.]

(GR)1300C12-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: JUNCTION CITY? 7.5  
SEC 0 TNSP 11 S RNGE 6 E  
DATE:      COLL:  
FORT RILEY. LAWRENSEN'S QUARRY. [8/1989-TNSP & RNGE ARE APPROXIMATE.]

(GR)1300C7-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: JUNCTION CITY? 7.5  
SEC 0 TNSP 11 S RNGE 6 E  
DATE:      COLL:  
FORT RILEY. [8/1989-TNSP & RNGE ARE APPROX.]

(GR)1300F-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: JUNCTION CITY? 7.5  
SEC 0 TNSP 11 S RNGE 6 E  
DATE:      COLL:  
FORT RILEY. HORN'S QUARRY. FUCOIDS? OF THIS LOT TURNED OVER TO DAVID WHITE. [8/1989-TNSP & RNGE ARE APPROX.] INCLUDES (GR) 1300F9- THROUGH 1300F12-PC.

(GR)1300J-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: WREFORD 7.5  
SEC 35 TNSP 12 S RNGE 5 E  
DATE:      COLL:  
WREFORD, KS.

(GR)1300J5-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: WREFORD 7.5  
SEC 35 TNSP 12 S RNGE 5 E  
DATE:      COLL:  
WREFORD, KS.

(GR)1300L-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: JUNCTION CITY? 7.5  
SEC 0 TNSP 11 S RNGE 6 E  
DATE:      COLL:  
FORT RILEY. FOGARTY'S HILL. 1300 L? AT TOP. INCLUDES (GR)1300L9- THROUGH 1300L12-PC. [8/1989-TNSP & RNGE ARE APPROX.]

(GR)1300Q-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: JUNCTION CITY 7.5  
SEC 0 TNSP 11 S RNGE 5 E  
DATE:      COLL:  
FORT RILEY. FORSYTH MOUND. ONLY GEODES. INCLUDES (GR)1300Q1- THROUGH 1300Q14. USGS BULLETIN NO 137 (THE GEOLOGY OF FORT RILEY MILITARY RESERVATION & VICINITY) CONTAINS A MAP LOCATING FORSYTH MOUND. SECTIONS ARE NOT SURVEYED.

(GR)1300T-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: JUNCTION CITY? 7.5  
SEC 0 TNSP 11 S RNGE 5 E  
DATE:      COLL:  
FORT RILEY. 97TH MERIDIAN, S OF SMOKY RIVER.

(GR)1300Y-PC

SERIES: UNASSIGNED      GROUP: UNASSIGNED  
FM: UNASSIGNED      MEMBER: UNASSIGNED  
QUAD: JUNCTION CITY? 7.5  
SEC 0 TNSP 11 S RNGE 5 E  
DATE:      COLL:  
FORT RILEY. JUNCTION CITY. INCLUDES

(GR)1300Y1- THROUGH 1300Y13-PC.

(GR)1300Y11 IS FROM JUNCTION CITY QUARRY. [8/1989-TNSP & RNGE ARE APPROX.]

(GR)1318-PC

CHEROKEE CO, KS      SYSTEM: MISS  
SERIES: OSAG      GROUP: UNASSIGNED  
FM: CHEROKEE\*      MEMBER: UNASSIGNED  
QUAD: BAXTER SPGS 7.5  
SEC 17 TNSP 34 S RNGE 25 E  
DATE: 00/00/1890      COLL: JENNEY WP  
SW 1/4 NE 1/4 SEC 17. 0.5 MI S OF GALENA ABOVE CORAL; IN SHAFT 20 FT DEEP. OSAGE, CAVE SPRING, CARB. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(GR)1318A1-PC

CHEROKEE CO, KS      SYSTEM: MISS  
SERIES: OSAG      GROUP: UNASSIGNED  
FM: CHEROKEE\*      MEMBER: UNASSIGNED  
QUAD: BAXTER SPGS 7.5  
SEC 0 TNSP 34 S RNGE 25 E  
DATE: 00/00/1890      COLL: JENNEY WP  
GALENA. AT BRIDGE; FOSS FROM TOP OF CHEROKEE, BLUFF AT BRIDGE. PROB SEC 14 OR 23. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(GR)1318A2-PC

CHEROKEE CO, KS      SYSTEM: MISS  
SERIES: OSAG      GROUP: UNASSIGNED  
FM: BOONE\*      MEMBER: UNASSIGNED  
QUAD: BAXTER SPGS 7.5  
SEC 0 TNSP 34 S RNGE 25 E  
DATE: 00/00/1890      COLL: JENNEY WP  
GALENA. APPROX 10-15 FT ABOVE (GR)1318A1-PC. PROB SEC 14 OR 23. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(GR)1318B-PC

CHEROKEE CO, KS      SYSTEM: MISS  
SERIES: OSAG      GROUP: UNASSIGNED  
FM: BOONE\*      MEMBER: UNASSIGNED  
QUAD: BAXTER SPGS 7.5  
SEC 0 TNSP 34 S RNGE 25 E  
DATE: 00/00/1890      COLL: JENNEY WP  
FROM WELL 3.5 MI W OF GALENA. FOSS FROM TOP OF SHORT CREEK CHERT. PROB SEC 17 OR 20. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(GR)1318C-PC

CHEROKEE CO, KS      SYSTEM: MISS  
SERIES: OSAG      GROUP: UNASSIGNED  
FM: BOONE\*      MEMBER: UNASSIGNED  
QUAD: BAXTER SPGS 7.5  
SEC 0 TNSP RNGE  
DATE: 00/00/1890      COLL: JENNEY WP  
2 MI SW OF GALENA. SHORT CREEK CHERT. \*FM, MBR NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(GR)1318D-PC

CHEROKEE CO, KS  
SERIES: OSAG  
FM: CHEROKEE\*  
SYSTEM: MISS  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: BAXTER SPGS 7.5  
SEC 0 TNSP 34 S RNGE 25 E  
DATE: 10/00/1890  
2 MI W OF GALENA ON SHORT CREEK. CHEROKEE LS BELOW  
COLL: JENNEY WP  
(GR)1318C-PC. PROB SEC 9, 10, OR 15. \*FM NOT LISTED IN KS  
GEOL SURVEY BULL 189, 1968.

(GR)1318E-PC

CHEROKEE CO, KS  
SERIES: OSAG  
FM: BOONE\*  
SYSTEM: MISS  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: BAXTER SPGS 7.5  
SEC 0 TNSP 34 S RNGE 25 E  
DATE: 00/00/1890  
GALENA. SHAFT NEAR  
COLL: JENNEY WP  
(GR)1318D-PC (2 MI W OF GALENA ON SHORT CK, PROB SEC 9, 10,  
OR 15). CARB. \* FM NOT LISTED IN KS GEOL SURVEY BULL 189,  
1968.

(GR)1318F-PC

CHEROKEE CO, KS  
SERIES: OSAG  
FM: BOONE\*  
SYSTEM: MISS  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: BAXTER SPGS 7.5  
SEC 0 TNSP 34 S RNGE 25 E  
DATE: 03/00/1890  
GALENA. BONANZA LEAD + ZINC CO SHAFT 1 MI N OF BRIDGE.  
COLL: JENNEY WP  
\*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(GR)1318X-PC

CHEROKEE CO, KS  
SERIES: OSAG  
FM: BOONE\*  
SYSTEM: MISS  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: BAXTER SPGS 7.5  
SEC 0 TNSP 34 S RNGE 25 E  
DATE: 0/00/1890?  
GALENA. SPECIMENS LABELED 1318 CAVE SPRING. NO CARD.  
COLL: JENNEY WP  
\*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.

(GR)1318Y-PC

CHEROKEE CO, KS  
SERIES: OSAG  
FM: BOONE\*  
SYSTEM: MISS  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: BAXTER SPGS 7.5  
SEC 0 TNSP 34 S RNGE 25 E  
DATE: 0/00/1890  
GALENA. MIXED COLLN: THESE SPECIMENS CAME IN SAME TRAY  
AS (GR)1318A2-, 1318E-, 1318C-, ETC. \*FM NOT LISTED IN KS GEOL  
SURVEY BULL 189, 1968.  
COLL: JENNEY WP

(GR)2405-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: OSWEGO 7.5  
SEC 15 TNSP 33 RNGE 21 E  
DATE: 04/17/1899  
NW1/4SEC15. NEOSHO RIVER, WATERS EDGE AT CITY OF  
OSWEGO PUMPING STA. 'CAP ROCK' OF COAL. \*FM NOT LISTED  
IN KS GEOL SURVEY BULL 189, 1968.  
COLL: ADAMS GI

(GR)2406-PC

LABETTE CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: OSWEGO 7.5  
SEC 27 TNSP 33 RNGE 21 E  
DATE: 04/17/1899  
NW1/4SEC27. STRIP PIT 1.5 MI SE OF OSWEGO. 'CAP ROCK' OF 14  
MI COAL. \*FM NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.  
COLL: ADAMS GI

(GR)2424-PC

UNASSIGNED CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: FORT SCOTT 0.0  
SEC 23 TNSP 25 RNGE 25 E  
DATE: 05/02/1899  
E SIDE SEC 23. 2 MI E OF FORT SCOTT. "DIAMOND LS." \*FM NOT  
LISTED IN KS GEOL SURVEY BULL 189, 1968.  
COLL: ADAMS GI

(GR)2497-PC

UNASSIGNED CO, KS  
SERIES: UPPER  
FM: ALTAMONT LS  
[09/1990-FIELD LABEL SAYS GARRISON FM, NEOSHO SH. UPDATED  
FROM KS GEOL SURVEY BULL 189, 1968.]  
SYSTEM: PENN  
GROUP: MARMATON  
LAKE NEOSHO SH MBR

(GR)5519-PC

CRAWFORD CO, KS  
SERIES: DESM  
FM: CHEROKEE\*  
SYSTEM: PENN  
GROUP: UNASSIGNED  
MEMBER: UNASSIGNED  
QUAD: PITTSBURG 7.5  
SEC 0 TNSP 30 S RNGE 25 E  
DATE: 0/00/1899?  
PITTSBURG COAL AT PITTSBURG, KS, IN NESCH BRICK YARDS.  
[8/1989-LOCATION IS APPROXIMATE.] \*FM NOT LISTED IN KS GEOL  
SURVEY BULL 189, 1968.  
COLL: ADAMS GI

(GR)5523A-PC

UNASSIGNED CO, KS  
SERIES: UNASSIGNED  
FORMATION: UNASSIGNED  
[09/1990-\*MBR NOT LISTED IN KS GEOL SURVEY BULL 189, 1968.  
PROB A CITY OR AREA NAME.]  
SYSTEM: PENN  
GROUP: UNASSIGNED  
PIQUA\* MBR

(GR)5903-PC

SHAWNEE CO, KS  
SERIES: VIRG  
FM: LECOMPTON LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
MEMBER: UNASSIGNED  
QUAD: RICHLAND 7.5  
SEC 34 TNSP 12 S RNGE 17 E  
DATE:  
E OF TOPEKA. DEER CREEK, NEAR COUNTY LINE NE OF BELVOIR,  
FROM LITTLE WELL DUG IN CREEK BED IN RD. SEC 34?  
COLL: BEEDE JW

(GR)5915-PC

UNASSIGNED CO, KS  
SERIES: VIRG  
FM: DEER CREEK LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
MEMBER: UNASSIGNED

(GR)5916-PC

UNASSIGNED CO, KS  
SERIES: VIRG  
FM: DEER CREEK LS  
SYSTEM: PENN  
GROUP: SHAWNEE  
MEMBER: UNASSIGNED

(GR)5953-PC

MONTGOMERY CO, KS  
SERIES: MSSR  
FM: DRUM LS  
SYSTEM: PENN  
GROUP: KANSAS CITY  
MEMBER: UNASSIGNED  
QUAD: SYCAMORE 7.5  
SEC 0 TNSP 32 S RNGE 16 E  
DATE: 09/30/1907  
DRUM LS AT DRUM, KS. SANTA FE RR, 4 MI W OF CHERRYVALE.  
DATE COLL 09/30 & 10/01/1907. [6/1989-PROB SEC 14.]  
COLL: GIRTY GH