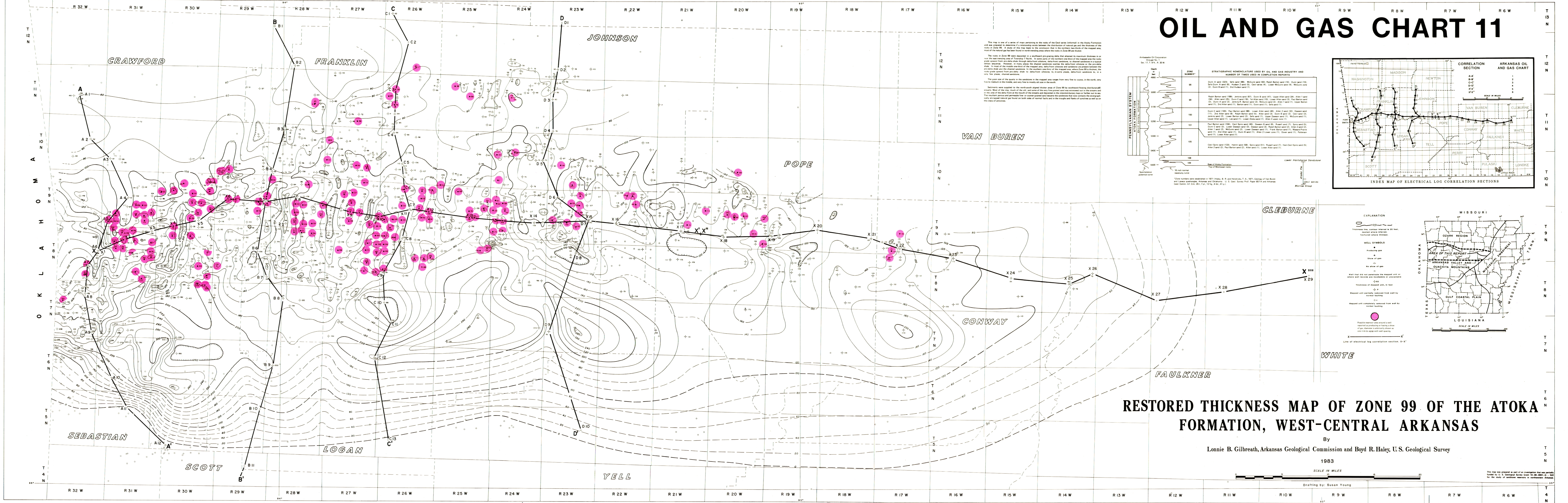


OIL AND GAS CHART 11



This map is one of a series of maps pertaining to the rocks of the Coal series (informal) in the Atoka Formation and was prepared to determine a relationship exists between the distribution of natural gas and the thickness of the rocks in Zone 99. A study of this map leads to the conclusion that in the northern two-thirds of the mapped area, most of the natural gas has been found in north-trending areas where the rocks in Zone 99 are thicker.

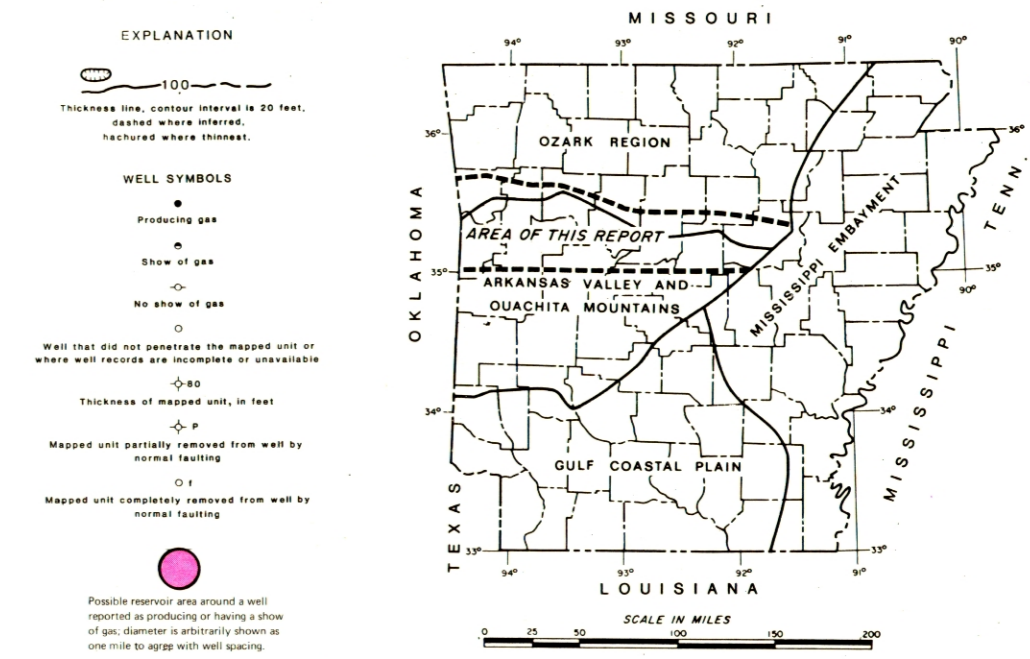
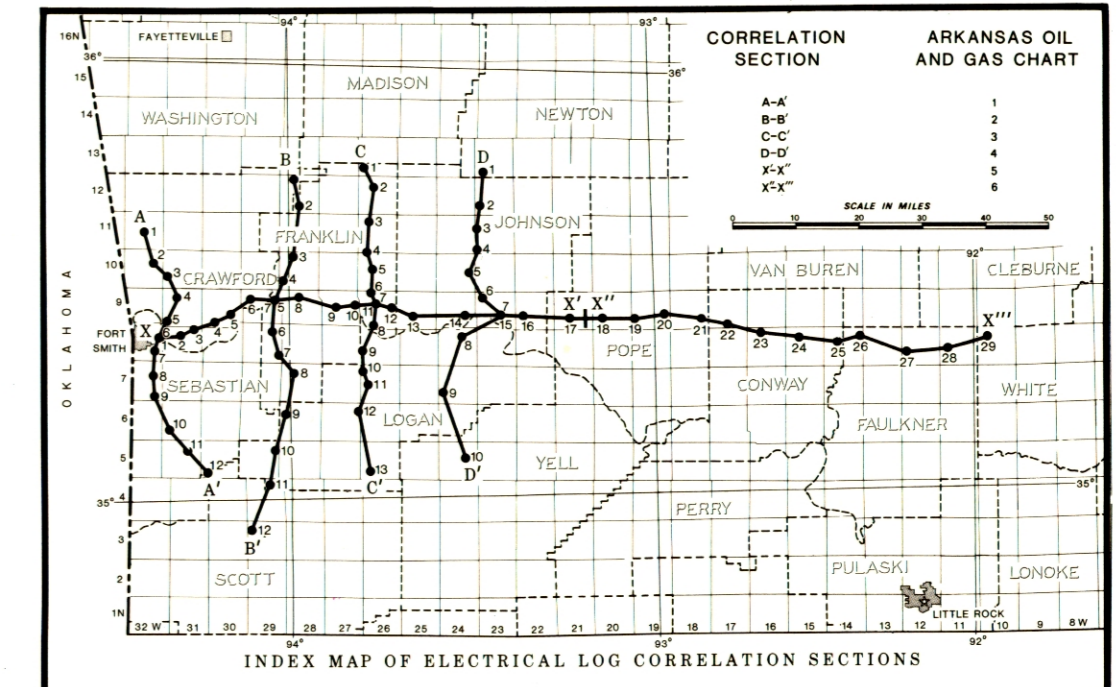
The rocks in Zone 99 were mapped in a stratigraphic sequence with that obtained in maximum thickness in or near the east-trending axis of Township 7 North. In some parts of the section near that of the mapped area, the rocks are not in the same sequence. However, in many places the (darker) sandstone overlies the (lighter) limestone or the granite shale. In most of the middle one-third of the mapped area, the sandstone and limestone are present between the granite shale and the cherted sandstone. In the southern one-third of the mapped area, where Zone 99 is thickest, the rocks grade upward from granite shale to (darker) sandstone, to (lighter) limestone, and (lighter) sandstone, in a sequence similar to that in the northern part of the section.

The gas in the zone in the sandstone in the mapped area ranges from very fine to coarse, in the north, very fine to medium in the middle, and very fine to mostly silt size in the south.

Sections were sampled for the north-south-trending Van Buren area of Zone 99 for southward flowing distribution of gas. Most of the logs, most of the gas, and most of the gas from the zone were measured out in the open and the gas in the zone of the logs of the gas and measured in the representative logs in further out to sea. The gas in the zone of the logs of the gas and measured in the representative logs in further out to sea. The gas in the zone of the logs of the gas and measured in the representative logs in further out to sea.

AMBASSADOR OIL CORPORATION
Kempco No. 1
Sec. 17, T. 9 N., R. 30 W.

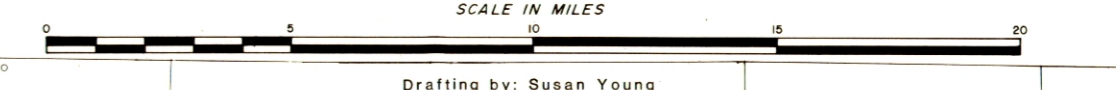
DEPTH	ZONE NUMBER	STRATIGRAPHIC NOMENCLATURE USED BY OIL AND GAS INDUSTRY AND NUMBER OF TIMES USED IN COMPLETION REPORTS
0-100	99	Dunn A sand (22); Sels sand (86); McCune sand (100); Ralph Barton sand (14); Dunn sand (15); Sels sand (18); Dunn A sand (8); Dunn B sand (11); Dunn C sand (11); Dunn D sand (11); Dunn E sand (11); Dunn F sand (11); Dunn G sand (11); Dunn H sand (11); Dunn I sand (11); Dunn J sand (11); Dunn K sand (11); Dunn L sand (11); Dunn M sand (11); Dunn N sand (11); Dunn O sand (11); Dunn P sand (11); Dunn Q sand (11); Dunn R sand (11); Dunn S sand (11); Dunn T sand (11); Dunn U sand (11); Dunn V sand (11); Dunn W sand (11); Dunn X sand (11); Dunn Y sand (11); Dunn Z sand (11); Dunn AA sand (11); Dunn AB sand (11); Dunn AC sand (11); Dunn AD sand (11); Dunn AE sand (11); Dunn AF sand (11); Dunn AG sand (11); Dunn AH sand (11); Dunn AI sand (11); Dunn AJ sand (11); Dunn AK sand (11); Dunn AL sand (11); Dunn AM sand (11); Dunn AN sand (11); Dunn AO sand (11); Dunn AP sand (11); Dunn AQ sand (11); Dunn AR sand (11); Dunn AS sand (11); Dunn AT sand (11); Dunn AU sand (11); Dunn AV sand (11); Dunn AW sand (11); Dunn AX sand (11); Dunn AY sand (11); Dunn AZ sand (11); Dunn BA sand (11); Dunn BB sand (11); Dunn BC sand (11); Dunn BD sand (11); Dunn BE sand (11); Dunn BF sand (11); Dunn BG sand (11); Dunn BH sand (11); Dunn BI sand (11); Dunn BJ sand (11); Dunn BK sand (11); Dunn BL sand (11); Dunn BM sand (11); Dunn BN sand (11); Dunn BO sand (11); Dunn BP sand (11); Dunn BQ sand (11); Dunn BR sand (11); Dunn BS sand (11); Dunn BT sand (11); Dunn BU sand (11); Dunn BV sand (11); Dunn BW sand (11); Dunn BX sand (11); Dunn BY sand (11); Dunn BZ sand (11); Dunn CA sand (11); Dunn CB sand (11); Dunn CC sand (11); Dunn CD sand (11); Dunn CE sand (11); Dunn CF sand (11); Dunn CG sand (11); Dunn CH sand (11); Dunn CI sand (11); Dunn CJ sand (11); Dunn CK sand (11); Dunn CL sand (11); Dunn CM sand (11); Dunn CN sand (11); Dunn CO sand (11); Dunn CP sand (11); Dunn CQ sand (11); Dunn CR sand (11); Dunn CS sand (11); Dunn CT sand (11); Dunn CU sand (11); Dunn CV sand (11); Dunn CW sand (11); Dunn CX sand (11); Dunn CY sand (11); Dunn CZ sand (11); Dunn DA sand (11); Dunn DB sand (11); Dunn DC sand (11); Dunn DD sand (11); Dunn DE sand (11); Dunn DF sand (11); Dunn DG sand (11); Dunn DH sand (11); Dunn DI sand (11); Dunn DJ sand (11); Dunn DK sand (11); Dunn DL sand (11); Dunn DM sand (11); Dunn DN sand (11); Dunn DO sand (11); Dunn DP sand (11); Dunn DQ sand (11); Dunn DR sand (11); Dunn DS sand (11); Dunn DT sand (11); Dunn DU sand (11); Dunn DV sand (11); Dunn DW sand (11); Dunn DX sand (11); Dunn DY sand (11); Dunn DZ sand (11); Dunn EA sand (11); Dunn EB sand (11); Dunn EC sand (11); Dunn ED sand (11); Dunn EE sand (11); Dunn EF sand (11); Dunn EG sand (11); Dunn EH sand (11); Dunn EI sand (11); Dunn EJ sand (11); Dunn EK sand (11); Dunn EL sand (11); Dunn EM sand (11); Dunn EN sand (11); Dunn EO sand (11); Dunn EP sand (11); Dunn EQ sand (11); Dunn ER sand (11); Dunn ES sand (11); Dunn ET sand (11); Dunn EU sand (11); Dunn EV sand (11); Dunn EW sand (11); Dunn EX sand (11); Dunn EY sand (11); Dunn EZ sand (11); Dunn FA sand (11); Dunn FB sand (11); Dunn FC sand (11); Dunn FD sand (11); Dunn FE sand (11); Dunn FF sand (11); Dunn FG sand (11); Dunn FH sand (11); Dunn FI sand (11); Dunn FJ sand (11); Dunn FK sand (11); Dunn FL sand (11); Dunn FM sand (11); Dunn FN sand (11); Dunn FO sand (11); Dunn FP sand (11); Dunn FQ sand (11); Dunn FR sand (11); Dunn FS sand (11); Dunn FT sand (11); Dunn FU sand (11); Dunn FV sand (11); Dunn FW sand (11); Dunn FX sand (11); Dunn FY sand (11); Dunn FZ sand (11); Dunn GA sand (11); Dunn GB sand (11); Dunn GC sand (11); Dunn GD sand (11); Dunn GE sand (11); Dunn GF sand (11); Dunn GG sand (11); Dunn GH sand (11); Dunn GI sand (11); Dunn GJ sand (11); Dunn GK sand (11); Dunn GL sand (11); Dunn GM sand (11); Dunn GN sand (11); Dunn GO sand (11); Dunn GP sand (11); Dunn GQ sand (11); Dunn GR sand (11); Dunn GS sand (11); Dunn GT sand (11); Dunn GU sand (11); Dunn GV sand (11); Dunn GW sand (11); Dunn GX sand (11); Dunn GY sand (11); Dunn GZ sand (11); Dunn HA sand (11); Dunn HB sand (11); Dunn HC sand (11); Dunn HD sand (11); Dunn HE sand (11); Dunn HF sand (11); Dunn HG sand (11); Dunn HH sand (11); Dunn HI sand (11); Dunn HJ sand (11); Dunn HK sand (11); Dunn HL sand (11); Dunn HM sand (11); Dunn HN sand (11); Dunn HO sand (11); Dunn HP sand (11); Dunn HQ sand (11); Dunn HR sand (11); Dunn HS sand (11); Dunn HT sand (11); Dunn HU sand (11); Dunn HV sand (11); Dunn HW sand (11); Dunn HX sand (11); Dunn HY sand (11); Dunn HZ sand (11); Dunn IA sand (11); Dunn IB sand (11); Dunn IC sand (11); Dunn ID sand (11); Dunn IE sand (11); Dunn IF sand (11); Dunn IG sand (11); Dunn IH sand (11); Dunn II sand (11); Dunn IJ sand (11); Dunn IK sand (11); Dunn IL sand (11); Dunn IM sand (11); Dunn IN sand (11); Dunn IO sand (11); Dunn IP sand (11); Dunn IQ sand (11); Dunn IR sand (11); Dunn IS sand (11); Dunn IT sand (11); Dunn IU sand (11); Dunn IV sand (11); Dunn IW sand (11); Dunn IX sand (11); Dunn IY sand (11); Dunn IZ sand (11); Dunn JA sand (11); Dunn JB sand (11); Dunn JC sand (11); Dunn JD sand (11); Dunn JE sand (11); Dunn JF sand (11); Dunn JG sand (11); Dunn JH sand (11); Dunn JI sand (11); Dunn JJ sand (11); Dunn JK sand (11); Dunn JL sand (11); Dunn JM sand (11); Dunn JN sand (11); Dunn JO sand (11); Dunn JP sand (11); Dunn JQ sand (11); Dunn JR sand (11); Dunn JS sand (11); Dunn JT sand (11); Dunn JU sand (11); Dunn JV sand (11); Dunn JW sand (11); Dunn JX sand (11); Dunn JY sand (11); Dunn JZ sand (11); Dunn KA sand (11); Dunn KB sand (11); Dunn KC sand (11); Dunn KD sand (11); Dunn KE sand (11); Dunn KF sand (11); Dunn KG sand (11); Dunn KH sand (11); Dunn KI sand (11); Dunn KJ sand (11); Dunn KL sand (11); Dunn KM sand (11); Dunn KN sand (11); Dunn KO sand (11); Dunn KP sand (11); Dunn KQ sand (11); Dunn KR sand (11); Dunn KS sand (11); Dunn KT sand (11); Dunn KU sand (11); Dunn KV sand (11); Dunn KW sand (11); Dunn KX sand (11); Dunn KY sand (11); Dunn KZ sand (11); Dunn LA sand (11); Dunn LB sand (11); Dunn LC sand (11); Dunn LD sand (11); Dunn LE sand (11); Dunn LF sand (11); Dunn LG sand (11); Dunn LH sand (11); Dunn LI sand (11); Dunn LJ sand (11); Dunn LK sand (11); Dunn LL sand (11); Dunn LM sand (11); Dunn LN sand (11); Dunn LO sand (11); Dunn LP sand (11); Dunn LQ sand (11); Dunn LR sand (11); Dunn LS sand (11); Dunn LT sand (11); Dunn LU sand (11); Dunn LV sand (11); Dunn LW sand (11); Dunn LX sand (11); Dunn LY sand (11); Dunn LZ sand (11); Dunn MA sand (11); Dunn MB sand (11); Dunn MC sand (11); Dunn MD sand (11); Dunn ME sand (11); Dunn MF sand (11); Dunn MG sand (11); Dunn MH sand (11); Dunn MI sand (11); Dunn MJ sand (11); Dunn MK sand (11); Dunn ML sand (11); Dunn MM sand (11); Dunn MN sand (11); Dunn MO sand (11); Dunn MP sand (11); Dunn MQ sand (11); Dunn MR sand (11); Dunn MS sand (11); Dunn MT sand (11); Dunn MU sand (11); Dunn MV sand (11); Dunn MW sand (11); Dunn MX sand (11); Dunn MY sand (11); Dunn MZ sand (11); Dunn NA sand (11); Dunn NB sand (11); Dunn NC sand (11); Dunn ND sand (11); Dunn NE sand (11); Dunn NF sand (11); Dunn NG sand (11); Dunn NH sand (11); Dunn NI sand (11); Dunn NJ sand (11); Dunn NK sand (11); Dunn NL sand (11); Dunn NM sand (11); Dunn NN sand (11); Dunn NO sand (11); Dunn NP sand (11); Dunn NQ sand (11); Dunn NR sand (11); Dunn NS sand (11); Dunn NT sand (11); Dunn NU sand (11); Dunn NV sand (11); Dunn NW sand (11); Dunn NX sand (11); Dunn NY sand (11); Dunn NZ sand (11); Dunn OA sand (11); Dunn OB sand (11); Dunn OC sand (11); Dunn OD sand (11); Dunn OE sand (11); Dunn OF sand (11); Dunn OG sand (11); Dunn OH sand (11); Dunn OI sand (11); Dunn OJ sand (11); Dunn OK sand (11); Dunn OL sand (11); Dunn OM sand (11); Dunn ON sand (11); Dunn OO sand (11); Dunn OP sand (11); Dunn OQ sand (11); Dunn OR sand (11); Dunn OS sand (11); Dunn OT sand (11); Dunn OU sand (11); Dunn OV sand (11); Dunn OW sand (11); Dunn OX sand (11); Dunn OY sand (11); Dunn OZ sand (11); Dunn PA sand (11); Dunn PB sand (11); Dunn PC sand (11); Dunn PD sand (11); Dunn PE sand (11); Dunn PF sand (11); Dunn PG sand (11); Dunn PH sand (11); Dunn PI sand (11); Dunn PJ sand (11); Dunn PK sand (11); Dunn PL sand (11); Dunn PM sand (11); Dunn PN sand (11); Dunn PO sand (11); Dunn PP sand (11); Dunn PQ sand (11); Dunn PR sand (11); Dunn PS sand (11); Dunn PT sand (11); Dunn PU sand (11); Dunn PV sand (11); Dunn PW sand (11); Dunn PX sand (11); Dunn PY sand (11); Dunn PZ sand (11); Dunn QA sand (11); Dunn QB sand (11); Dunn QC sand (11); Dunn QD sand (11); Dunn QE sand (11); Dunn QF sand (11); Dunn QG sand (11); Dunn QH sand (11); Dunn QI sand (11); Dunn QJ sand (11); Dunn QK sand (11); Dunn QL sand (11); Dunn QM sand (11); Dunn QN sand (11); Dunn QO sand (11); Dunn QP sand (11); Dunn QQ sand (11); Dunn QR sand (11); Dunn QS sand (11); Dunn QT sand (11); Dunn QU sand (11); Dunn QV sand (11); Dunn QW sand (11); Dunn QX sand (11); Dunn QY sand (11); Dunn QZ sand (11); Dunn RA sand (11); Dunn RB sand (11); Dunn RC sand (11); Dunn RD sand (11); Dunn RE sand (11); Dunn RF sand (11); Dunn RG sand (11); Dunn RH sand (11); Dunn RI sand (11); Dunn RJ sand (11); Dunn RK sand (11); Dunn RL sand (11); Dunn RM sand (11); Dunn RN sand (11); Dunn RO sand (11); Dunn RP sand (11); Dunn RQ sand (11); Dunn RR sand (11); Dunn RS sand (11); Dunn RT sand (11); Dunn RU sand (11); Dunn RV sand (11); Dunn RW sand (11); Dunn RX sand (11); Dunn RY sand (11); Dunn RZ sand (11); Dunn SA sand (11); Dunn SB sand (11); Dunn SC sand (11); Dunn SD sand (11); Dunn SE sand (11); Dunn SF sand (11); Dunn SG sand (11); Dunn SH sand (11); Dunn SI sand (11); Dunn SJ sand (11); Dunn SK sand (11); Dunn SL sand (11); Dunn SM sand (11); Dunn SN sand (11); Dunn SO sand (11); Dunn SP sand (11); Dunn SQ sand (11); Dunn SR sand (11); Dunn SS sand (11); Dunn ST sand (11); Dunn SU sand (11); Dunn SV sand (11); Dunn SW sand (11); Dunn SX sand (11); Dunn SY sand (11); Dunn SZ sand (11); Dunn TA sand (11); Dunn TB sand (11); Dunn TC sand (11); Dunn TD sand (11); Dunn TE sand (11); Dunn TF sand (11); Dunn TG sand (11); Dunn TH sand (11); Dunn TI sand (11); Dunn TJ sand (11); Dunn TK sand (11); Dunn TL sand (11); Dunn TM sand (11); Dunn TN sand (11); Dunn TO sand (11); Dunn TP sand (11); Dunn TQ sand (11); Dunn TR sand (11); Dunn TS sand (11); Dunn TU sand (11); Dunn TV sand (11); Dunn TW sand (11); Dunn TX sand (11); Dunn TY sand (11); Dunn TZ sand (11); Dunn UA sand (11); Dunn UB sand (11); Dunn UC sand (11); Dunn UD sand (11); Dunn UE sand (11); Dunn UF sand (11); Dunn UG sand (11); Dunn UH sand (11); Dunn UI sand (11); Dunn UJ sand (11); Dunn UK sand (11); Dunn UL sand (11); Dunn UM sand (11); Dunn UN sand (11); Dunn UO sand (11); Dunn UP sand (11); Dunn UQ sand (11); Dunn UR sand (11); Dunn US sand (11); Dunn UT sand (11); Dunn UV sand (11); Dunn UW sand (11); Dunn UX sand (11); Dunn UY sand (11); Dunn UZ sand (11); Dunn VA sand (11); Dunn VB sand (11); Dunn VC sand (11); Dunn VD sand (11); Dunn VE sand (11); Dunn VF sand (11); Dunn VG sand (11); Dunn VH sand (11); Dunn VI sand (11); Dunn VJ sand (11); Dunn VK sand (11); Dunn VL sand (11); Dunn VM sand (11); Dunn VN sand (11); Dunn VO sand (11); Dunn VP sand (11); Dunn VQ sand (11); Dunn VR sand (11); Dunn VS sand (11); Dunn VT sand (11); Dunn VU sand (11); Dunn VV sand (11); Dunn VW sand (11); Dunn VX sand (11); Dunn VY sand (11); Dunn VZ sand (11); Dunn WA sand (11); Dunn WB sand (11); Dunn WC sand (11); Dunn WD sand (11); Dunn WE sand (11); Dunn WF sand (11); Dunn WG sand (11); Dunn WH sand (11); Dunn WI sand (11); Dunn WJ sand (11); Dunn WK sand (11); Dunn WL sand (11); Dunn WM sand (11); Dunn WN sand (11); Dunn WO sand (11); Dunn WP sand (11); Dunn WQ sand (11); Dunn WR sand (11); Dunn WS sand (11); Dunn WT sand (11); Dunn WU sand (11); Dunn WV sand (11); Dunn WW sand (11); Dunn WX sand (11); Dunn WY sand (11); Dunn WZ sand (11); Dunn XA sand (11); Dunn XB sand (11); Dunn XC sand (11); Dunn XD sand (11); Dunn XE sand (11); Dunn XF sand (11); Dunn XG sand (11); Dunn XH sand (11); Dunn XI sand (11); Dunn XJ sand (11); Dunn XK sand (11); Dunn XL sand (11); Dunn XM sand (11); Dunn XN sand (11); Dunn XO sand (11); Dunn XP sand (11); Dunn XQ sand (11); Dunn XR sand (11); Dunn XS sand (11); Dunn XT sand (11); Dunn XU sand (11); Dunn XV sand (11); Dunn XW sand (11); Dunn XX sand (11); Dunn XY sand (11); Dunn XZ sand (11); Dunn YA sand (11); Dunn YB sand (11); Dunn YC sand (11); Dunn YD sand (11); Dunn YE sand (11); Dunn YF sand (11); Dunn YG sand (11); Dunn YH sand (11); Dunn YI sand (11); Dunn YJ sand (11); Dunn YK sand (11); Dunn YL sand (11); Dunn YM sand (11); Dunn YN sand (11); Dunn YO sand (11); Dunn YP sand (11); Dunn YQ sand (11); Dunn YR sand (11); Dunn YS sand (11); Dunn YT sand (11); Dunn YU sand (11); Dunn YV sand (11); Dunn YW sand (11); Dunn YX sand (11); Dunn YY sand (11); Dunn YZ sand (11); Dunn ZA sand (11); Dunn ZB sand (11); Dunn ZC sand (11); Dunn ZD sand (11); Dunn ZE sand (11); Dunn ZF sand (11); Dunn ZG sand (11); Dunn ZH sand (11); Dunn ZI sand (11); Dunn ZJ sand (11); Dunn ZK sand (11); Dunn ZL sand (11); Dunn ZM sand (11); Dunn ZN sand (11); Dunn ZO sand (11); Dunn ZP sand (11); Dunn ZQ sand (11); Dunn ZR sand (11); Dunn ZS sand (11); Dunn ZT sand (11); Dunn ZU sand (11); Dunn ZV sand (11); Dunn ZW sand (11); Dunn ZX sand (11); Dunn ZY sand (11); Dunn ZZ sand (11);



RESTORED THICKNESS MAP OF ZONE 99 OF THE ATOKA FORMATION, WEST-CENTRAL ARKANSAS

By
Lonnie B. Gilbreath, Arkansas Geological Commission and Boyd R. Haley, U.S. Geological Survey

1983



Drafting by: Susan Young

This map was prepared as part of an investigation that was partially funded by U.S. Geological Survey Grant 14-08-0061-2, -3, -4 for the study of sedimentary basins in northwestern Arkansas.