INDEX

This index is not designed to contain all of the entries that may be required by the research worker because to do so would make it unduly long, and the added detail is of doubtful value. Since the subject matter consists of oil-field descriptions, any subjects which are ordinarily common to such articles are omitted, for example, history of development, general stratigraphy, geologic history, topographic and geographic data, structure, drilling practices, oil occurrence, and production data.

In general the index is composed of the following:

1. Names of authors and subjects of their articles (subjects in *italics*).
2. Names of individuals cited in text and referred to in footnotes for clearer understanding of the subject.
3. Geologic names.
4. Types of stratigraphic reservoirs peculiar to the subject matter of this book, such as shoestring sands, stream channels, and offshore bars.
5. References to the origin, migration, and accumulation of oil and gas.
6. Analyses of oil, gas, and water.
7. Secondary methods of recovery.
8. Water conditions.
10. Cost of operation.
11. Items of special interest in the study of stratigraphic type oil fields.

The Table of Contents in the front of the book lists the fields by states. The Selected Bibliography of Stratigraphic Type Oil Fields, as the last article of the book, is arranged alphabetically by authors under fields grouped by states.

---

Accumulation of gas, Austin field, 246
Hugoton field, 96
Michigan shoestring sands, 244
Six Lakes field, 258
Vernon field, 265
Accumulation of oil, Big Sinking field, 194
Border-Red Coulee field, 305, 310
Bryson field, 547
Bush City field, 49
Cross Cut-Blake district, 562–563
Cut Bank field, 349, 369
East Texas, 618
Edison field, 5
Gay-Spencer-Richardson trend, 821, 823, 824, 827
Greasewood field, 41
Hardin field, 598
Hitchcock field, 651
Hull-Silk field, 673
Lopez field, 689
Music Mountain, 497
Noodle Creek pool, 706
O’Herne field, 730, 746
Olympic pool, 463
Osage field, 849–850

Red Fork shoestring sand pool, 485–488
Sand Belt area, 758, 759
Seymour pool, 762, 793
Shinnston pool, 841, 843
Venango sands, 538
Walnut Bend pool, 798
Wherry pool, 127
Zenith pool, 161

Ada formation, Dora pool, 411
Adams Branch limestone, Cross Cut-Blake district, 549, 551
Walnut Bend pool, 785
Adams, J. E., cited on Ochoa series, 752
Air lift, Chanute pool, 62
Alberta, Canada, and Toole County, Montana, Border-Red Coulee oil field, 267
Alberta, Athabaska oil sands, 859
Bow Island gasfield, 859
Brooks gas field, 859
Foremost gas field, 859
Viking gas field, 859

Alden, W. C., cited on glacial geology, 331
Alexandrian, Big Sinking field, 170
Allegheny formation, Gay-Spencer-Richardson trend, 810
Analyses of gas, 308, 315, 377, 856

885
INDEX

Analyses of oil, 7, 8, 17, 49, 53, 75, 76, 117, 164, 206, 312, 375, 376, 406, 407, 452, 453, 454, 455, 471, 472, 491, 695, 740, 774, 856


Anderson County, Kansas, Bush City oil field, 43

Arbuckle dolomite, Nikkel pool, 110

Arbuckle limestone, Chanute pool, 63, 65

Archer County, Texas, Hull-Silk oil field, 661

Arkansas, East El Dorado field, 860

El Dorado field, 860

Lisbon field, 860

Rainbow City field, 860

Stephens field, 860

Ashburner, C. A., cited on Marvin Creek limestone, 495

Ashley, George H., cited on Appalachian fields, 538

Athy, L. F., cited on compaction-depth relations, 49

Aurand, Harry A., cited on gas reserves, 104

Aurin, F. L., Clark, G. C., and Trager, E. A., cited on Boone formation, 445

Austin chalk, East Texas, 611

Austin field, accumulation of gas, 246

B

Ball, Douglas S., Ball, Max W., Weaver, T. J., and Crider, H. D., shoestring gas fields of Michigan, 237

Ball, Max W., Weaver, T. J., Crider, H. D., and Ball, Douglas S., shoestring gas fields of Michigan, 237

Barnett, D. G., O'Hern field, Duval and Webb counties, Texas, 722

Barnett shale, Bryson field, 541, 542

Barrier beach, Davis sand, Hardin field, 594

Bartle, Glenn G., and Smith, Rufus M., cited on gas reserves, 104

Bartlesville sandstone, Chanute pool, 64-68

East Tuskegee pool, 445

Barton, H. E., Murphy, James K., and Purcell, Paul E. M., Seymour pool, Baylor County, Texas, 760

Bartram, J. G., 165

Bartram, J. G., and Erdmann, C. E., cited on gas, Montana, 273

Barwick, John S., cited on Welch chert, 127

Basal Pennsylvanian conglomerate, Zenith pool, 143

Basement complex, Edison field, 4

Kern Front field, 12

Bass, N. W., 435, 473

cited on Cowley County, Kansas, 95

cited on origin of sand bodies, 819

cited on Verden sandstone, 478

dhoestring sands, 238, 419, 486, 488

Bass, N. W., Dillard, W. Reese, and Oak, Donald P., Chanute pool, Neosho County, Kansas—a waterflooding operation, 57


dhoestring sands 478


Bass, N. W., and Smith, H. M., cited on crude oils, 309

Bastin, E. S., cited on oil-field waters, 319

Bauer, C. M., and Robinson, E. G., cited on Montana, 337

Baylor County, Texas, Seymour pool, 760

Beaumont clays, Hitchcock field, 643

Belle City limestone, Dora pool, 412

Belle Fourche shale, Osage field, 851

Belvidere formation, Hugoton field, 84

Bend series, Hull-Silk field, 671

Seymour pool, 763

Benton formation, Greasewood field, 26

Bentonite zone, Hardin field, 567

Berea, Ohio pools, 383

Berea sandstone, Gay-Spencer-Richardson trend, 517

Berry, E. W., cited on Cenomanian flora, 285

Sapindus georgiana, 588

Best, J. Boyd, Lopez oil field, Webb and Duval counties, Texas, 680

Bibliography, selected, by articles describing stratigraphic type oil fields, 858

Big Blue series, Hugoton field, 83-90, 92, 93

Big Injun formation, Ohio pools, 383

Big Sinking field, Lee County, Kentucky, 166

accumulation of oil, 194

analyses of oil and water, 206-207

cost of development, 204

Black, J. F., 846

Blackburn, Gerald, 565

Blackleaf member, Border-Red Coulee field, 283

Blaine formation, Hugoton field, 84, 86

Blixt, John E., Cut Bank oil and gas field, Glacier County, Montana, 327

Boggy formation, Dora pool, 414

Borden group, Big Sinking field, 180

Bibliography, selected, by articles describing stratigraphic type oil fields, 858

Big Blue series, Hugoton field, 83-90, 92, 93

Big Injun formation, Ohio pools, 383

Big Sinking field, Lee County, Kentucky, 166

accumulation of oil, 194

analyses of oil and water, 206-207

cost of development, 204

Black, J. F., 846

Blackburn, Gerald, 565

Blackleaf member, Border-Red Coulee field, 283

Blaine formation, Hugoton field, 84, 86

Blixt, John E., Cut Bank oil and gas field, Glacier County, Montana, 327

Boggy formation, Dora pool, 414

Borden group, Big Sinking field, 180

Downloaded from https://pubs.geoscienceworld.org/books/chapter-pdf/3840746/9781629812502_backmatter.pdf by guest
INDEX

Borden, Joseph L., and Brant, Ralph A., East Tuskegee pool, Creek County, Oklahoma, 436
Border-Red Coulee oil field, Toole County, Montana, and Alberta, Canada, 267
accumulation of oil, 305, 310
analyses of gas, 308, 315
analyses of oil, 312
analyses of water, 316, 317
field waters, 315-322
reserves, 324-325
Bornholdt pool, 122, 131
Bottom-hole pressure, Cut Bank field, 372-373
East Texas, 626, 628-631, 633-635
Hardin field, 591
Hull-Silk field, 678
Lopez field, 693
Olympic pool, 467
Seymour pool, 769
Wherry pool, 128
Bottom-hole temperature, Cut Bank field, 373
Bourbon group, Chanute pool, 62, 63
Bowen, J. P., work in Davenport field, 387
Bowen, J. P., and Gibbs, James F., cited on Bryson field, 539, 541, 545
Bownocker, J. A., cited on Ohio, 385
quoted on Clinton sand, 382
Boyles, N. L., 846
Brace, O. L., 595
cited on discovery of Hardin field, 566
Brad group, Cross Cut-Blake district, 549
Bradley, Walter W., 1
oil-field waters, 403
quoted on Prue sand, 394-395
Brant, R. A., 473
Brant, Ralph A., and Borden, Joseph L., East Tuskegee pool, Creek County, Oklahoma, 436
Brassfield limestone, Big Sinking field, 179
Breckenridge limestone, Seymour pool, 762
Brewer, Charles, Jr., cited on sand bodies, 819, 820
Bronson group, Bush City field, 44, 45
Chanute pool, 62, 63
Brown County, Texas, Cross Cut-Blake district, 548
Bryant, Howard S., 104
Bryson oil field, Jack County, Texas, 539
accumulation of oil, 546, 547
cost of drilling, 547
Bryson sand, Bryson field, 541, 542
Bucher, Walter H., cited, 796
Bullard, Bess Mills, cited on Tuskegee pool, 437
oil sands, 482
Bullard, Fred M., cited on Cretaceous, 85
cited on Love County, Oklahoma, 793
Marietta syncline, 793
Bunte, Arnold S., and Fortier, Leo R., Nikkel pool, McPherson and Harvey counties, Kansas, 105
Burger, Charles R., Jr., cited on Weld County, Colorado, 21
Bush City oil field, Anderson County, Kansas, 43
accumulation of oil, 49, 52
analyses of oil, 53-54
cost of drilling, 56
Butts, Charles, cited on Music Mountain pool, 404
Bybee, Hal P., and Bullard, Fred M., cited on Washita and Fredericksburg beds, 781
C
Caddo Creek group, Cross Cut-Blake district, 540
“Caddo lime,” Bryson field, 541, 542
Caddo limestone, Cross Cut-Blake district, 557, 558, 559
Hull-Silk pool, 671
Seymour pool, 763
Calkoun, Jackson, and Roane counties, West Virginia, Gay-Spencer-Richardson oil and gas trend, 806
California, Arroyo Grande (Pismo), 867
Buena Vista Hills, 861
Coalinga, Eastside, 861
Coalinga, Eocene, 862
Coalinga, Oil City, 862
Coalinga, Westside, 862
Coles Levee, 862
Edison oil field and vicinity, Kern County, 1
Edison field, 583
Elk Hills field, 863
El Segundo, 868
Fruitvale field, 864
Greeley field, 864
Kern Front oil field, Kern County, 9
Kern Front, 864
Kern River, 864
Lawndale, 868
Los Angeles City fields, 868
Lost Hills field, 865
McKittrick Front (North area), 865
Midway-Sunset field, 865
Mountain View, 866
Newhall (Tunnel area), 867
Oxnard, 867
Paloma, 866
Placerita Canyon (Lower area), 867
Playo Del Rey, 868
Salt Lake field, 869
Santa Maria Valley field, 868
INDEX

Colorado formation, Cut Bank field, 337
Colorado group, Osage field, 850
Colorado shale, Border-Red Coulee field, 283, 318
Comanche series, Hugoton field, 84
Walnut Bend pool, 779, 781
Conemaugh formation, Gay-Spencer-Richardson trend, 809
Conewango group, Music Mountain pool, 495
Conlham, Howard J., 436
Conneaut group, Music Mountain pool, 495
Conodonts, Zenith pool, 148
Convergence, Greasewood field, 31
Cook County, Texas, Walnut Bend pool, 776
Cooper, H. H., cited on South Texas, 730
Cordry, C. D., 802
“Corniferous” fields, 167, 196, 197
Cosmos sand, Border-Red Coulee field, 292
Cost of drilling, Big Sinking field, 204
Bryson field, 547
Bush City field, 56
Cut Bank field, 372
Davenport field, 399
Dora pool, 433
East Texas, 629
Edison field, 5
Greasewood field, 41
Hitchcock field, 642, 643
Hull-Silk field, 678-679
Lopez field, 694
Red Fork shoestring sand pool, 490
Cotner, Victor, and Crum, H. E., cited on rock pressure, 101
Cottingham, Kenneth, cited on Ohio, 385
Council Grove group, Hugoton field, 84
Cram, I. H., 436
cited on Misener sand, 446
Fernvale limestone, 448
Fite limestone, 449
Crawford, J. G., cited on Border-Red Coulee field, 315
cited on water analyses, 855
Creek County, Oklahoma, East Tuskegee pool, 436
Creek, Pawnee, and Tulsa counties, northeastern Oklahoma, Red Fork shoestring sand pool, 473
Cretaceous, Border-Red Coulee field, 274, 283, 285
East Texas, 605
Greasewood field, 23
Hugoton field, 83-85
Osage field, 849
Zenith pool, 141
Crickmay, C. H., cited on Border-Red Coulee region, 300, 302
Crider, H. D., Ball, Max W., Weaver, T. J., and Ball, Douglas S., shoestring gas fields of Michigan, 237
Cromwell sand, Dora pool, 422
Cross Cut-Blake district, Brown County, Texas, 548
accumulation of oil and gas, 553, 562, 563
Cross Cut sand, Cross Cut-Blake district, 549, 554, 555, 556
Crum, L. A., 104
Cut Bank oil and gas field, Glacier County, Montana, 327
accumulation of oil, 349, 369
analyses of oil, 375-376
analyses of water, 377-381
analysis of gas, 377
cost of drilling, 372
Cut Bank sand, Cut Bank field, 349
Cynithiana limestone, Big Sinking field, 178

D
Dakota group, Greasewood field, 26
Dakota sandstone, Greasewood field, 23, 28, 29
Hugoton field, 84, 85
Darton, N. H., cited on Newcastle Quadrangle, 849
Davenport field, Lincoln County, Oklahoma, 386
accumulation of oil, 394, 407
analyses of oil, 406, 407
analyses of water, 403
cost of drilling, 399
Davis sand, Hardin field, 568, 570, 571
Davis sand lens, Hardin field, Liberty County, Texas, 564
accumulation of oil, 569, 598
Davis zone, Hardin field, 571
Dawson, William, and Dawson, G. M., cited on Kootenai formation, 285
Dean, C. J., 9
DeFord, R. K., cited on Whitehorse group, 752
DeFord, R. K., and Wahistem, E. A., cited on Dockum group, 752
Denham, R. L., and Dougherty, W. E., “Sand Belt” area of Ward and Winkler counties, Texas, and Lea County, New Mexico, 750
Des Moines series, Bush City field, 45
East Tuskegee pool, 443
Olympic pool, 460
Deussen, Alexander, cited on Hardin field, 588
Devonian, Big Sinking field, 180
Chanute pool, 62, 63
Davenport field, 389
Shinnston pool, 834-836, 837, 838
Venango district, 511
INDEX

Dewey Lake formation, Sand Belt, 752
Dickey, P. A., Sherrill, R. E., and Matte­son, L. S., types of stratigraphic oil pools in Venango sands of north­western Pennsylvania, 597
Dickey, Parke A., cited on Pennsylvania, 538
Dillard, W. Reese, cited on shoestring sands, 488
Olympic pool, Hughes and Okfuskee counties, Oklahoma, 456
Dillard, W. Reese, Oak, Donald P., and Bass, N. Wood, Chanute pool, Neosho County, Kansas—a water-flooding operation, 57
Discorbis yeguaensis zone, Hardin field, 507
Discorbis zone, Hitchcock field, 644
Dobbin, C. E., and Erdmann, C. E., cited on structure, Montana, 273, 283, 303
Dobbin, C. E., and Miller, J. C., Osage oil field, Weston County, Wyoming, 847
Dockum group, Sand Belt, 752
Dora oil pool, Seminole County, Oklahoma, 408
accumulation of oil, 422
reserves, 435
Dora sand, Dora pool, 419
Dotham limestone, Noodle Creek pool, 702
Dougherty, W. E., and Denham, R. L., "Sand Belt" area of Ward and Winkler counties, Texas, and Lea County, New Mexico, 750
Dowling, D. B., cited on Alberta plain, 271, 273
Dunkard formation, Gay-Spencer-Richardson trend, 809
Dutcher sand, East Tuskegee pool, 445
Duvall and Webb counties, Texas, Lopez oil field, 685
O'Hean field, 722

Eagle Ford-Woodbine group, East Texas, 611
Eagle sandstone, Border-Red Coulee field, 277, 318
Cut Bank field, 335
East Baton Rouge Parish, Louisiana, stratigraphic reservoirs in University oil field, 208
East Texas oil field, Rusk, Cherokee, Smith, Gregg, and Upshur counties, Texas, 600
accumulation of oil, 618
analyses of water, 639
cost of drilling, 629
East Tuskegee pool, Creek County, Oklahoma, 436
accumulation of oil, 451
analyses of oil, 452–455
Eden formation, Big Sinking field, 178
Edison oil field and vicinity, Kern County, California, 1
accumulation of oil, 5
analyses of oil and water, 7–8
cost of drilling, 5
Edson, Fanny C., cited on Sooy conglomerate, 124
Edwards, Everett C., Edison oil field and vicinity, Kern County, California, 1
Kern Front oil field, Kern County, California, 90
Elias, Maxim K., cited on Wallace County, Kansas, 81
Ellenburger limestone, Bryson field, 541, 542
Hull-Silk pool, 671
Ellis formation, Border-Red Coulee field, 301, 319, 320
Ellis shale, Cut Bank field, 339
Elson, W. H., 436
Eocene, Edison field, 4
Hardin field, 567
Kern Front field, 12
Lopez field, 689
Eponides yeguaensis zone, Hardin field, 568
Equus beds, Nikkel pool, 106
Erdmann, C. E., 327
Erdmann, C. E., and Davis, N. A., cited on Kevin-Sunburst dome, 303–304
Cut Bank area, 365
Erdmann, Charles E., and Schwabrow, John R., Border-Red Coulee oil field, Toole County, Montana, and Alberta, Canada, 267
Etchegoin claystone, Kern Front field, 11
Evans, C. S., cited on Alberta geology, 271, 273, 283, 297
fossils in Montana, 281
quoted on Vanalta oil sand, 297
F
Fall River sandstone, Osage field, 851
"Famoso" sand, Kern Front field, 12
Fanelli, E., 327
Fath, A. E., cited on structure, 451
Feland, O. D., 601
"Fernvale" limestone, Zenith pool, 148, 149, 150, 151
Fettke, Charles R., cited on Bradford First sand, 495, 496
Music Mountain oil pool, McLean County, Pennsylvania, 492
Fifty-Foot sand, Shinnston pool, 837, 838, 839

Downloaded from https://pubs.geoscienceworld.org/books/chapter-pdf/3840746/9781629812502_backmatter.pdf by guest
INDEX

First Cow Run sand, Ohio pools, 385
First sand pools, Venango district, 516
Fischer, C. A., cited on Kootenai formation, 285, 286, 338
Fischer, E. L., 239
Fischer, E. L., cited on Michigan Stray sand, 238
Fisher, Frank, 118
Fitzgerald, P. E., 435
Flowing pressure, University field, 212–213
Foerste, A. F., cited on eastern Kentucky, 170
Folger, Anthony, 104, 118
Folger, Anthony, and Hall, Roy H., cited on Pennsylvanian conglomerate, 124
Welch chert, 127
Foreman, Fred, and Thomsen, Harry L., cited on Berea sand, 821
Foremost formation, Border-Red Coulee field, 274
Foreword, ix
Formation pressure, Bryson field, 546
Fort Hays limestone, Greasewood field, 26, 32
Fort Scott limestone, East Tuskegee pool, 443
Fortier, Leo R., and Bunte, Arnold S., Nikkel pool, McPherson and Harvey counties, Kansas, 105
Fortier, R. G., 239
Foster-Reno-Oil City pool, Venango district, 522
Fox Hills formation, Greasewood field, 24
Francis formation, Dora pool, 412
Olympic pool, 458
Francis sand, Dora pool, 423
Frazier sand, Hardin field, 388
Fredericksburg group, Walnut Bend pool, 781
Freeman, Louise Barton, Big Sinking field, Lee County, Kentucky, 166
Freeman silt, Edison field, 4
Kern Front field, 12
Fridley, Harry M., 827
Frio formation, Hitchcock field, 645
Fruittvale sand, Edison field, 3
Kern Front field, 11
Funkhouser, E. M., 505
Fuqua, H. B., 802

G

Gabel, H. J., 239
Galpin, S. L., 827
Galveston County, Texas, showing stratigraphic accumulation and structure, Hitchcock field, 641
Garlough, John L., and Taylor, Garvin L., Hugoton gas field, Grant, Haskell, Morton, Stevens, and Seward counties, Kansas, and Texas County, Oklahoma, 78
Garrard sandstone, Big Sinking field, 178
Gas analyses, 308, 315, 377, 856
Gas drive, Gay-Spencer-Richardson trend, 812
Gas pressure, Austin field, 246
Six Lakes field, 259–260
Vernon field, 265
Gay-Spencer-Richardson oil and gas trend, Jackson, Roane, and Calhoun counties, West Virginia, 806
accumulation of oil and gas, 821, 823, 824, 827
Gentry, H. L., cited on Michigan Stray sand, 238
George, R. D., quoted on Weld County area, 21
Giddens, Paul H., cited, 538
Ginter, R. L., cited on black sand, 66
Glacier County, Montana, Cut Bank oil and gas field, 327
Glen Rose formation, Walnut Bend pool, 781
Goudkoff, Paul P., 1
Gould, C. N., cited on Wetumka shale, 443
Seminole formation, 458
Grabau, A. W., cited on Chattanooga shale, 172
Grafard group, Cross Cut-Blake district, 549
Graham group, Cross Cut-Blake district, 549
Grain-size analyses, 293, 584, 595
Grand Valley First Sand pool, Venango district, 517
Grand Valley-Triumph pool, Venango district, 523
Graneros shale, Hugoton field, 84, 85
Osage field, 851
Grant, Haskell, Morton, Stevens, and Seward counties, Kansas, and Texas County, Oklahoma, Hugoton gas field, 78
Gravity of oil (see oil analyses)
Greasewood oil field, Weld County, Colorado, 19
accumulation of oil, 41, 42
analyses of oil and water, 40–41
cost of drilling, 41
Greasewood sandstone, Greasewood field, 26, 28, 29, 33, 35, 36
Greenbrier limestone, Gay-Spencer-Richardson trend, 810
Greenhorn limestone, Hugoton field, 84, 85
Osage field, 851
Gregg, Rusk, Cherokee, Smith, and Upshur...
INDEX

counties, Texas, East Texas oil field, 600
Gribben, D. J., Jr., 9
Gulf series, Hugoton field, 84
Gunsight sand, Seymour pool, 762
Guthrey, W. M., and Miller, C. A., cited on upper Deese beds, 797

H

Haase, Fred, 698
Hake, B. F., cited on origin of gas sands, 238
Halbouty, Michel T., stratigraphic reservoirs in University oil field, East Baton Rouge Parish, Louisiana, 208
Halbouty, Michel T., and Simmons, Benjamin T., Hitchcock field, Galveston County, Texas, showing stratigraphic accumulation and structure, 641
Hall, Roy H., cited on age of Welch chert, 127
Hancock, E. T., cited on Montana, 277, 281, 293
Hanna, Marcus A., and Minor, H. E., East Texas oil field, Rusk, Cherokee, Smith, Gregg, and Upshur counties, Texas, 600
Hard, E. W., cited on origin of gas sands, 238
Hardin field, Liberty County, Texas, Davis sand lens, 564
Harris, R. W., 802
cited on Oil Creek ostracods, 701
Harrisburg Run sand, Music Mountain pool, 500
Harrison County, West Virginia, Shinnton oil pool, 830
Harvey and McPherson counties, Kansas, Nikkel pool, 105
Haskell, Grant, Morton, Stevens, and Seward counties, Kansas, and Texas County, Oklahoma, Hugoton gas field, 78
Haworth, Erasmus, cited on Chanute district, 57
Heald, K. C., quoted on closed synclines, 823
Heaton, Ross L., 327
cited on ancestral Rocky Mountains, 96, 100, 101
Heck, A. S., cited on Gay-Spencer-Richardson trend, 811
Heck, E. T., cited on barium in brines, 810
cited on pyrite and formation of oil, 811
Gay-Spencer-Richardson oil and gas trend, Jackson, Roane, and Calhoun counties, West Virginia, 506
Heck, E. T., Hare, Charles E., and Hosskins, Homer A., cited on connate waters, 826
Hedberg, Hollis D., Rasmussen, Clayton, Levorsen, A. I., and Tuttle, Helen Fowler, selected bibliography of articles describing stratigraphic type oil fields, 858
Heiser, F. W., 119
Hemsell, Clenon C., cited on Hugoton gas field, 90
Henderson, Junius, Greasewood Lake area, 21
Hendrickson, A. B., cited on Kern Front field, 9, 15
Hendrickson, V. J., 327
cited on Greasewood sandstone, 28
Hennen, Ray V., cited on Gay-Spencer-Richardson trend, 808, 818
cited on Shinnston pool, 832, 841
Heroy, William B., 595
Hess, E. L., Jr., 239
Heterostegina zone, Hitchcock field, 644
Hiestand, T. C., Bryson oil field, Jack County, Texas, 539
High Bridge series, Big Sinking field, 175
Hill, R. T., cited on Eagle Ford-Woodbine beds, 618
Hill, R. T., cited on Washita and Fredericksburg beds, 781
Hilseweck, Helen M., 802
Hilseweck, William J., Walnut Bend pool, Cooke County, Texas, 779
Hitchcock field, Galveston County, Texas, showing stratigraphic accumulation and structure, 641
accumulation of oil, 651
cost of completion, 642, 643
Holdenville formation, Dora pool, 413
Olympic pool, 459
Hollow field, 115
Home Creek limestone, Cross Cut-Blake district, 549, 551
Seymour pool, 762
Hornady, A. C., 661, 698
Howell, W. F., cited on Kevin-Sunburst field, 273
Hudnall and Pirtle, 548
Hughes and Okfuskee counties, Oklahoma, Olympic pool, 456
Hugoton gas field, Grant, Haskell, Morton, Stevens, and Seward counties, Kansas, and Texas County, Oklahoma, 78
accumulation of gas, 96
reserves, 103
Hull-Silk oil field, Archer County, Texas, 661
accumulation of oil, 673
cost of completion, 678-679
Hume, G. S., cited on western Canada, 273, 285

Downloaded from https://pubs.geoscienceworld.org/books/chapter-pdf/3840746/9781629812502_backmatter.pdf by guest
INDEX

Humphreys sand, Hardin field, 568
Hunt, E. H., 327
Hunt, Aubrey, 661
Hunton limestone, Nikkel pool, 109, 113
Hupp, J. E., 327
Hupp, J. E., and McCourt, J. H., cited on Colorado formation, 337
Cut Bank field, 334
Hygiene sandstone, Greasewood field, 25, 28

I
Illing, V. C., cited on migration of oil, 310, 311
Illinois, Calmar field, 869
Crawford and Lawrence County fields, 869
Flat Rock, Birds, and Parker fields, 869
North Casey field, 869
Imbt, Robert, 802
Imbt, W. C., Zenith pool, Stafford County, Kansas, 139
Imholz, H. W., cited on north-central Texas, 545
Noodle Creek pool, Jones County, Texas, 698

Indiana, Sullivan County pools, 870
Trenton field, 870
Tri-County field, 870
Ingham, W. L., Dora oil pool, Seminole County, Oklahoma, 408
International Boundary, Border-Red Coulee field, 270
Inyan Kara group, Osage field, 851
Irwin, J. S., cited on Alberta, 337, 339

J
Jack County, Texas, Bryson oil field, 539
Jackson, Roane, and Calhoun counties, West Virginia, Gay-Spencer-Richardson oil and gas trend, 806
James, Beto, 698
Jenkins, H. L., 165
Jenkins, Olaf P., 1
Jewett silt, Edison field, 4
Kern Front field, 12
Johnson, D. W., cited on shore processes, 819, 820
Johnston, H. F., 846
Johnston, Lois, 802
Johnston sandy zone, Hardin field, 567
Joiner, C. M., discoverer of East Texas field, 601
Jones County, Texas, Noodle Creek pool, 698
Jones, D. J., 166
Jones, D. J., and McFarlan, Arthur C., cited on Big Sinking pool, 168

Judith River formation, Border-Red Coulee field, 274
Jurassic, Border-Red Coulee field, 301
Greasewood field, 23
Hugoton field, 85

K
K. M. A. limestone, Seymour pool, 763
Kansas, Bush City oil field, Anderson County, 43
Chanute pool, Neosho County,—a water-flooding operation, 57
eastern Kansas shoestring-sand pools, 870
Hugoton gas field, 871
Hugoton gas field, Grant, Haskell, Morton, Stevens, and Seward counties, and Texas County, Oklahoma, 78
Medicine Lodge gas field, 871
Nikkel pool, McPherson and Harvey counties, 105
Otis gas field, 871
Piqua gas field, 871
Rainbow Bend field, 872
Wherry pool, Rice County, 118
Zenith pool, Stafford County, 139
Kansas City group, Bush City field, 44, 45
Kay, John A., 775
Keenan, J. E., cited on microfossils, 148
Keener (Blue) formation, Ohio pools, 383
(White) formation, Ohio pools, 385
Kentucky, Big Sinking field, Lee County, 166
Big Sinking field, 872
Eastern Kentucky fields, 872
Irvine pool, 872
Janet gas field, 872
Menefee gas field, 872
Wayne and McCreary counties, 872
Warren County, 873
Western Kentucky fields, 873
Kern County, California, Edison oil field and vicinity, 1
Kern County, California, Kern Front oil field, 9
Kern Front oil field, Kern County, California, 9
accumulation of oil, 12-15
analyses of oil and water, 17-18
Kern River formation, Edison field, 2
Kern Front field, 10
Keroher, R. P., and Abernathy, G. E., cited on southeastern Kansas, 65
Kidd, Gentry, 680
Kimble, James C., 9
Kinderhook shale, Nikkel pool, 109, 111
Wherry pool, 125
Zenith pool, 143
Kinsey, T. M., 565
Kiowa shale, Hugoton field, 84, 85
INDEX

Kleinpell, R. M., cited on Miocene, 12
Klepser, Harry John, cited on Chattanooga shale, 172
Klinger, Edgar D., Cross Cut-Blake district, Brown County, Texas, 548
Knapp formation, Music Mountain pool, 494
Knappen, R. S., and Moulton, G. F., cited on Montana, 277
quoted on Telegraph Creek formation, 281
Knox dolomite, Big Sinking field, 174
Koenig, Ralph, cited on Weld County, Colorado, 22
Koester, E. A., cited on Central Kansas uplift, 131
Kootenai formation, Border-Red Coulee field, 285, 319
Cut Bank field, 338
Kramer, A. J., and Smith, H. M., oil analyses, 17
Krebs, Charles E., cited on Gay-Spencer-Richardson trend, 808, 809, 818
Kreyenhagen group, Kern Front field, 12
Krumbein, W. C., and Caldwell, L. T., cited on Barataria Bay, 484, 488
Lafferty, R. C., cited on Appalachian structure, 820
Lahee, F. H., cited on accumulation of oil, 618
Lake Pinto sandstone, Walnut Bend pool, 786
Lammers, Edward C. H., cited on Cloverly conglomerate, 301
Lampasas series, Bryson field, 541, 542
Landes, Kenneth K., cited on volcanic ash, 80
Lang, W. E., 166
Lansing group, Bush City field, 44, 45
Laramie formation, Greasewood field, 24, 27
Lavington, Charles S., Greasewood oil field, Weld County, Colorado, 19
Lea County, New Mexico, and Ward and Winkler counties, Texas, "Sand Belt" area of, 750
Leach, W. W., cited on Blairmore formation, 339
Leatherock, Constance, cited on Chanute pool, 66
Lee County, Kentucky, Big Sinking field, 166
Lee, Wallace, cited on Home Creek limestone, 553
cited on Mississippian rocks, 133
Lee, Willis T., cited on Rocky Mountains, 100
quoted on Dakota sandstone, 28
LeMey, John, 846
Lensing sands of Ohio, 382
Levorsen, A. I., 386
cited on accumulation of oil, 618
foreword, ix
Levorsen, A. I., Tuttle, Helen Fowler, Hedberg, Hollis D., and Rasmussen, Clayton, selected bibliography of articles describing stratigraphic type oil fields, 858
Lexington limestone, Big Sinking field, 177
Liberty County, Texas, Davis sand lens, Hardin field, 564
Lincoln County, Oklahoma, Davenport field, 386
Lissie formation, Hitchcock field, 643
Lockett, J. R., cited on Ohio, 385
Lockport formation, Big Sinking field, 179
Lonsdale, J. T., and Day, J. R., cited on Webb County, Texas, 725
Lopez oil field, Webb and Duval counties, Texas, 680
accumulation of oil, 689, 692
analyses of oil and water, 695-697
cost of drilling, 694
reserves, 695
Lopez sand, 682, 683, 689
Louisiana, Carterville-Sarepta field, 873
Shongaloo field, 873
Cotton Valley field, 873
De Soto-Red River oil and gas field, 873
Dixie oil pool, 873
Lisbon oil field, 873
Monroe gas field, 874
Richland gas field, 874
stratigraphic reservoirs in University oil field, East Baton Rouge Parish, 208
Louisiana, Urania oil field, 874
Lounsbery, D. E., 698
Lounsbery, D. E., and James, Bela, reservoir rock, Noodle Creek pool, 718-721
Lower Blairmore formation, Cut Bank field, 338
Lower Blairmore sands, Border-Red Coulee field, 299
Lower Cosmos sand, Border-Red Coulee field, 292, 320
Lower Cut Bank sand, Cut Bank field, 357
Lower Fruitvale, Edison field, 3
Kern Front field, 11
Lower Wewoka sand, Dora pool, 422
Lovejoy, J. B., 802
Lowman, S. W., cited on Inola limestone, 443
INDEX  805

cited on Pink limestone, 443  
cited on Sam Creek limestone, 445  
cited on Spaniard limestone, 445  
Luman, E. D., 436  
Lyons pool, 122, 132

M

MacNeil, D. J., cited on Blairmore formation, 339  
Madison limestone, Border-Red Coulee field, 303, 319, 320  
Maquoketa shale, Nikkel pool, 109  
Marble Falls limestone, Bryson field, 541, 542  
Marginulina zone, Hitchcock field, 644  
Markham, E. O., and Lamar, L. C., cited on "broken Red Fork" shoe- 
string, 481  
Marmaton group, Bush City field, 45, 46  
Channeled pool, 62, 63, 64  
Marshall sandstone, Michigan fields, 245  
Martens, J. H. C., cited on Gay-Spencer-Richardson trend, 815  
Mather, Kirtley F., Gilluly, James, and Lusk, Ralph G., quoted on Colorado, 22  
Mayfield, W. W., 827  
Maysville limestone, Big Sinking field, 178  
McClain, A. H., 827  
cited on Gay-Spencer-Richardson trend, 817  
McConnell, R. G., cited on Riboned sandstone, 286  
McCoy, Alex W., cited on differential subsidence, 731  
McCutchin, J. A., 775  
McFarlan, A. C., cited on Ordovician, 177  
Silurian in Irvine field, 187  
McKean County, Pennsylvania, Music Mountain oil pool, 492  
McLearn, F. H., cited on Alberta, 273, 285, 337  
McMurtry sand, Hardin field, 568  
McNeil, Harold E., Wherry pool, Rice County, Kansas, 118  
McPherson formation, Nikkel pool, 106  
McPherson and Harvey counties, Kansas, Nikkel pool, 105  
McQueen, H. S., cited on southeastern Kansas, 65  
Medinan group, Big Sinking field, 179

Meek and Hayden, cited on Great Plains region, 21  
Melton, Frank A., cited on Rocky Mountains, 100  
Meramec group, Big Sinking field, 180  
Merkle dolomite, Noodle Creek pool, 702  
Merritt, John W., and McDonald, O. G., cited on Glenn pool, 437  
Creek County, Oklahoma, 451  
Meyer, W. G., cited on Gulf Coastal Plain, 590  
Michigan fields, 874  
Michigan, shoestring gas fields of, 237  
Midway group, East Texas, 608  
Milk River sandstone, Border-Red Coulee field, 277  
Miller, A. M., cited on Pottsville formation, 173  
High Bridge series, 175  
Miller, J. C., and Dobbin, C. E., Osage oil field, Weston County, Wyoming, 847  
Miller, Lee S., 239  
Miller, W. Z., work in Davenport field, 387  
Millikan, C. V., 386  
Million limestone, Big Sinking field, 178  
Mills, R. Van A., and Wells, Roger C., cited on evaporation of water by gas, 825  
cited on oil-field waters, 319  
Milton, W. B., 601  
Mineral analyses, 586  
Minor, H. E., and Hanna, Marcus A., East Texas oil field, Rusk, Cherokee, Smith, Gregg, and Upshur counties, Texas, 600  
Miocene, Edison field, 3, 4  
Hitchcock field, 643  
Hugoton field, 84  
Kern Front field, 11, 12  
University field, 213  
Mirando sand, Lopez field, 689  
Misener formation, Nikkel pool, 109  
Wherry pool, 125  
Zenith pool, 144, 145, 146, 147, 153  
Misener sand, East Tuskegee pool, 444, 446  
Miser, H. D., cited on Fort Scott limestone, 443  
Francis formation, 458  
Missouri series, Bush City field, 44, 45  
East Tuskegee pool, 443  
Olympic pool, 460  
Mississippian, Border-Red Coulee field, 303  
Big Sinking field, 180  
Bryson field, 541, 542  
Channeled pool, 62, 63
INDEX

Davenport field, 380
East Tuskegee pool, 445
Michigan fields, 245
Music Mountain pool, 494
Nikkel pool, 106–108
Seymour pool, 763
Shinnston pool, 834, 837
Venango district, 510, 511
Wherry pool, 124
Zenith pool, 143
Mississippian limestone, Chanute pool, 63, 64
East Tuskegee pool, 445
Nikkel pool, 106
Moncrief, E. C., 118
Monongahela formation, Gay-Spencer-Richardson trend, 809
Montana, Bannatyne field, 875
Border-Red Coulee oil field, Toole County, and Alberta, Canada, 207
Cut Bank field, 874
Cut Bank oil and gas field, Glacier County, 327
Kevin-Sunburst field, 874
Pondera field, 875
Sweetgrass Hills field, 875
Montana group, Osage field, 850
Moody, C. L., cited on geology of Louisiana and Mississippi, 605
Sabine uplift, 607
Moore, H. L., 436
Moore, R. C., cited on southeastern Kansas, 64
Moore, R. C., and Holl, F. G., cited on gas reserves, 103
Welch chert, 127
Moore, R. C., Newell, N. D., Dott R. H., and Borden, J. L., cited on Coffeyville formation, 441
Montana series, Bryson field, 541, 542
Morton, Grant, Haskell, Stevens, and Seward counties, Kansas, and Texas County, Oklahoma, Hugoton gas field, 78
Moulton zone, Cut Bank field, 344
Muddy sandstone, Greasewood field, 26
Munson, H. E., cited on Red Coulee field, 290, 330
Murphy, James K., Purcell, Paul E. M., and Barton, H. E., Seymour pool, Baylor County, Texas, 760
Murray, A. N., cited on Wetumka shale, 443
Music Mountain oil pool, McKean County, Pennsylvania, 492
accumulation of oil, 497
N
Navarro formation, East Texas, 609
Nelson, W. S., 327

Neosho County, Kansas—a water-flooding operation, Chanute pool, 57
Nevin, C. M., cited on Montana, 304
Newberry, J. S., cited on Berea sand of Ohio, 821
Newburg sand, Ohio pools, 383
Newcastle sandstone, Osage field, 851, 854
Newcombe, R. B., cited on Michigan Stray sand, 238, 239
Newlon, J. H., 846
New Mexico, Artesia field, 875
Loco Hills field, 875
“Sand Belt” area of Lea County, and Ward and Winkler counties, Texas, 750
New York, Bradford field, 875
southwestern New York gas field, 875
Niagaran, Big Sinking field, 179
Nickell, C. O., cited on Colorado River, 551
Nikkel pool, McPherson and Harvey counties, Kansas, 105
accumulation of oil, 113
analysis of oil and water, 117
Niobrara formation, Greasewood field, 25
Noodle Creek limestone, 718, 719, 721
Noodle Creek pool, Jones County, Texas, 608
accumulation of oil, 706, 708
reserves, 716
Norton, George H., 104
cited on Stone Corral dolomite, 86, 96
Nutting, P. G., lower Cosmos sand, quoted on Gas sand, Border-Red Coulee field, 200, 201
Nutty, P. M., cited on Big Sinking pool, 168, 104

O
Oak, Donald P., Dillard, W. Reese, and Bass, N. Wood, Chanute pool, Neosho County, Kansas—a water-flooding operation, 57
Oborne, Harry W., cited on Greasewood area, 22
Ochoa series, Sand Belt, 752
Offshore bar, Dora pool, 410
gas fields of Michigan, 238
Music Mountain pool, 499
Venango district, 537
O’Hern field, Duval and Webb counties, Texas, 722
accumulation of oil, 730, 746
analyses of oil and water, 740–741
reserves, 740
O’Hern sand, O’Hern field, 726, 727, 728
Lopez field, 680
Ohio, Bremen oil field, 875
Cadiz Quadrangle, 876
Cleveland gas field, 876

Downloaded from https://pubs.geoscienceworld.org/books/chapter-pdf/3840746/9781629812502_backmatter.pdf by guest
<table>
<thead>
<tr>
<th>Index Entry</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinton gas field</td>
<td>876</td>
</tr>
<tr>
<td>eastern Ohio fields</td>
<td>876</td>
</tr>
<tr>
<td>lensing sands of</td>
<td></td>
</tr>
<tr>
<td>Sugar Grove gas field</td>
<td>876</td>
</tr>
<tr>
<td>Trenton limestone field</td>
<td>876</td>
</tr>
<tr>
<td>Oil analyses</td>
<td></td>
</tr>
<tr>
<td>Oil Creek formation, Walnut Bend pool</td>
<td>790–791</td>
</tr>
<tr>
<td>Oil gravity (see oil analyses)</td>
<td></td>
</tr>
<tr>
<td>Okfuske and Hughes counties, Oklahoma,</td>
<td>456</td>
</tr>
<tr>
<td>Olympic pool</td>
<td></td>
</tr>
<tr>
<td>Oklahoma, Billings pool</td>
<td>877</td>
</tr>
<tr>
<td>Burbank field</td>
<td>877</td>
</tr>
<tr>
<td>Crinerville field</td>
<td>877</td>
</tr>
<tr>
<td>Davenport field, Lincoln County, 386</td>
<td></td>
</tr>
<tr>
<td>Delaware Extension pool</td>
<td>877</td>
</tr>
<tr>
<td>Dora oil pool, Seminole County, 408</td>
<td></td>
</tr>
<tr>
<td>Dora pool</td>
<td>877</td>
</tr>
<tr>
<td>East Tuskegee pool, Creek County, 436</td>
<td></td>
</tr>
<tr>
<td>Glenn pool</td>
<td>877</td>
</tr>
<tr>
<td>Hogshooter gas field</td>
<td>878</td>
</tr>
<tr>
<td>Hugoton gas field, Texas County, and Grant, Haskell, Morton, Stevens, and Seward counties, Kansas, 78</td>
<td>878</td>
</tr>
<tr>
<td>Madill field</td>
<td>878</td>
</tr>
<tr>
<td>northeastern, Red Fork shoestring sand pool, Pawnee, Creek, and Tulsa counties, 473</td>
<td>878</td>
</tr>
<tr>
<td>northern Oklahoma, General, 878</td>
<td></td>
</tr>
<tr>
<td>Olympic pool</td>
<td>878</td>
</tr>
<tr>
<td>Olympic pool, Hughes and Okfuske counties,</td>
<td>456</td>
</tr>
<tr>
<td>Osage County, 878</td>
<td></td>
</tr>
<tr>
<td>Robberson field</td>
<td>879</td>
</tr>
<tr>
<td>South Burbank field</td>
<td>879</td>
</tr>
<tr>
<td>Tatums pool</td>
<td>879</td>
</tr>
<tr>
<td>Olcese sand, Edison field, 3</td>
<td></td>
</tr>
<tr>
<td>Kern Front field, 11</td>
<td></td>
</tr>
<tr>
<td>Olcott, Perry, 565</td>
<td></td>
</tr>
<tr>
<td>Oligocene, Kern Front field, 12</td>
<td></td>
</tr>
<tr>
<td>Hitchcock field, 643</td>
<td></td>
</tr>
<tr>
<td>Oliver, Herbert, 601</td>
<td></td>
</tr>
<tr>
<td>Oliver sand, Hardin field, 568</td>
<td></td>
</tr>
<tr>
<td>Olympic pool, Hughes and Okfuske counties,</td>
<td></td>
</tr>
<tr>
<td>Oklahoma, 456</td>
<td></td>
</tr>
<tr>
<td>analyses of oil, 471, 472</td>
<td></td>
</tr>
<tr>
<td>migration of oil, 463</td>
<td></td>
</tr>
<tr>
<td>Olympic sand, Olympic pool, 459</td>
<td></td>
</tr>
<tr>
<td>Ordovician, Big Sinking field, 173, 175, 177</td>
<td></td>
</tr>
<tr>
<td>Chanute pool, 62, 63</td>
<td></td>
</tr>
<tr>
<td>Davenport field, 389</td>
<td></td>
</tr>
<tr>
<td>East Tuskegee pool, 448</td>
<td></td>
</tr>
<tr>
<td>Nikkel pool, 109</td>
<td></td>
</tr>
<tr>
<td>Walnut Bend pool, 790</td>
<td></td>
</tr>
<tr>
<td>Wherry pool, 125</td>
<td></td>
</tr>
<tr>
<td>Zenith pool, 147</td>
<td></td>
</tr>
<tr>
<td>Oregon formation, Big Sinking field, 175</td>
<td></td>
</tr>
<tr>
<td>Oriskany formation Ohio pools, 383</td>
<td></td>
</tr>
<tr>
<td>O'Rourke, E. V., lensing sands of Ohio, 382</td>
<td></td>
</tr>
<tr>
<td>Osage oil field, Weston County, Wyoming, 847</td>
<td></td>
</tr>
<tr>
<td>accumulation of oil, 840–850, 856</td>
<td></td>
</tr>
<tr>
<td>analyses of oil and gas, 856–857</td>
<td></td>
</tr>
<tr>
<td>analyses of water, 855</td>
<td></td>
</tr>
<tr>
<td>Ostracods, Zenith pool, 148</td>
<td></td>
</tr>
<tr>
<td>Oswayo formation, Music Mountain pool, 495</td>
<td></td>
</tr>
<tr>
<td>Ozan-Brownstown, East Texas, 609</td>
<td></td>
</tr>
</tbody>
</table>

P

Page, J. H., cited on estimate of gas, 103, 104

Pakowski shale, Border-Red Coulee field, 274

Palo Pinto limestone, Bryson field, 541, 542

Seymour pool, 763

Walnut Bend pool, 785

Paluxy formation, Walnut Bend pool, 781

Pawnee, Creek, and Tulsa counties, northwestern Oklahoma, Red Fork shoestring sand pool, 473

Pennsylvania, Bradford oil field, 879

Burgettown Quadrangle, 879

Carnegie Quadrangle, 879

Claysville Quadrangle, 879

Music Mountain oil pool, McKean County, 492

northwestern, types of stratigraphic oil pools in Venango sands of, 507

Steubenville Quadrangle, 879

Tidioute oil pool, 880

Pennsylvania, Big Sinking field, 181

Bryson field, 541, 542

Bush City field, 44, 45

Chanute pool, 62, 63

Cross Cut-Blake district, 551

Davenport field, 389

East Tuskegee pool, 441

Gay-Spencer-Richardson trend, 809

Hull-Silk pool, 665

Michigan fields, 245

Music Mountain pool, 494

Nikkel pool, 111

Noodle Creek pool, 701, 703

Olympic pool, 458, 460

Red Fork shoestring sand pool, 475

Seymour pool, 760, 762

Shinnston pool, 833, 837

Venango district, 509, 510

Walnut Bend pool, 781

Wherry pool, 124

Zenith pool, 143
Permeability analyses, 504, 524, 528, 729, 730
Perry, Eugene S., cited on Sweetgrass arch, 273, 291
Petit, T. F., 698
Cited on north-central Texas, 545
Permi an, Gay-Spencer-Richardson trend, 809
Hugoton field, 85, 87
Hull-Silk pool, 665
Noodle Creek pool, 701, 702
Sand Belt, 752
Seymour pool, 760, 762
Shinnston pool, 833
Wherry pool, 124
Zenith pool, 141
Perryville limestone, Big Sinking field, 177
Phebus, Clayton, 327
Pierce, W. G., and Courtier, W. H., cited on southeastern Kansas, 64
Pierce, W. G., and Hunt, C. B., cited on Montana, 277
Pierre shale, Greasewood field, 25
Pirtle, George W., cited on convergence above Cross Cut sand, 557
Pleistocene, Border-Red Coulee field, 274
Hitchcock field, 643
Hugoton field, 80, 84
Kern Front field, 11, 12
Michigan fields, 245
Pliocene, Hitchcock field, 643
Hugoton field, 84
Kern Front field, 11, 12
Plummer, F. B., cited on Cretaceous, 618
Cited on Home Creek limestone, 551
Plummer, F. B., and Moore, R. C., cited on Black Ranch limestone, 551
Plummer, F. B., and Sargent, C. E., cited on Woodbine map, 607
Porosity analyses, 504, 524, 528, 729, 730
Potamides matsoni zone, Hitchcock field, 644
Pottsville, Big Sinking field, 181
Pottsville formation, Gay-Spencer-Richardson trend, 810
Pottsville series, Music Mountain pool, 494
Powars, Sidney, cited on Crinerville field, 708
Pre-Bogg Pen nsylvanian formations, Dora pool, 414
Pre-Cambrian, Chanute pool, 63, 65
Zenith pool, 153
Pre-Cretaceous, Edison field, 4
Kern Front field, 12
Pre-Dakota formations, Greasewood field, 28
Pre-Pennsylvania beds, Dora pool, 415
Pre-Stray, Austin field, 246
Price, Paul H., cited on Appalachian structure, 820
Prue sand, Davenport field, 394
Purcell, Paul E. M., Murphy, James K., and Barton, H. E., Seymour pool,
Baylor County, Texas, 760
Quaternary, Hugoton field, 80, 83, 84
Nikkel pool, 106
Queen sand group, Sand Belt, 752, 759
Radler, Dollie, 386
Ramp, George, 827
Ranger limestone, Cross Cut-Blake district, 549, 551, 552
Walnut Bend pool, 785
Rankin, Charles H., Jr., cited on Pierre shale, 31
Rasmussen, Clayton, Levenson, A. L., Tuttle, Helen Fowler, Hedberg, Hollis D., selected bibliography of articles describing stratigraphic type oil fields, 858
Reagan sand, Zenith pool, 151
Reeside, John B., Jr., cited on Fox Hills formation, 24
Reeves, Frank, cited on "Caddo lime," 557
Cited on "dry sands," 826
Cited on Montana, 277
Red Fork shoestring sand, 478, 483
Red Fork shoestring sand pool, Pawnee, Creek, and Tulsa counties, north-
eastern Oklahoma, 473
Red Fork shoestring sand analysis of oil, 491
cost of completion, 490
Reger, David B., Shinnston oil pool, Harrison County, West Virginia, 830
Represuring, Big Sinking field, 199, 204
Shinnston oil pool, 470
Shinnston pool, 845
Reserves, Border-Red Coulee, 324, 325
Dora pool, 435
O'Hern field, 738
Shinnston pool, 845
Reservoir pressure, Gay-Spencer-Richardson trend, 812
Revelle, Roger, and Shepard, F. P., cited on Recent sediments, 483
INDEX

Ribbon sand, Cut Bank field, 362
Rice County, Kansas, Wherry pool, 118
Rich, John L., cited on age of Welch chert, 127
cited on origin of sand bodies, 819
Rocky Mountain physiography, 100
cited on sand bodies, 40
Richardson sand, Hardin field, 568
Richmond formation, Big Sinking field, 178
Roane, Jackson, and Calhoun counties, West Virginia, Gay-Spencer-Richardson oil and gas trend, 806
Robbins, L. S., 327
Rock pressure, Hugoton field, 101
O'Hern field, 724
Venango district, 531
Rogers, Douglas, 827
Rogers, G. S., cited on oil-field waters, 319
Romine, Thomas B., cited on Sweetgrass Arch, 73
Rosewarne, P. V., Chamberlin, H. McD., and Swinnerton, A. A., cited on oil analysis, 308
Ross, C. S., cited on heulandite in Colorado shale, 284
Ross, C. S., Miser, H. D., and Stephen-son, L. W., cited on volcanic rocks, 615
Ross, J. S., and Swedenborg, E. A., cited on oil-field waters, 319
Roth, E. E., cited on Upper Cretaceous beds, 849
Rusk, Cherokee, Smith, Gregg, and Upshur counties, Texas, East Texas oil field, 600
Rustler formation, Sand Belt, 752
Russell, Loris S., cited on Southern Alberta, 273
quoted on Telegraph Creek formation, 281, 282
S
Saginaw formation, Michigan fields, 245
Salt sand formation, Gay-Spencer-Richardson trend, 810
San Angelo conglomerate, Noodle Creek pool, 702
Sand bars, Austin field, 250-258
Dora pool, 419
Hardin field, 590-591, 595-597
Music Mountain pool, 496-497, 499, 506
Olympic pool, 461-463
Six Lakes field, 258-265
Vernon field, 265-266
"Sand Belt" area of Ward and Winkler counties, Texas, and Lea County, New Mexico, accumulation of oil, 758, 759
Sand body, Gay-Spencer-Richardson trend, 810-825
Sanderson, J. O. G., cited on Eagle sandstone, 277
Savage, T. E., cited on eastern Kentucky, 170
Sayre, A. W., cited on Duval County, Texas, 725
Schillhardt, M. A., cited on solubility of gas, 749
Schilthuis, R. J., cited on connate water, 749
Schwabrow, John R., and Erdmann, Charles E., Border-Red Coulee oil field, Toole County, Montana, and Alberta, Canada, 267
Scott, Gayle, cited on Cretaceous, 618
Screen analyses, 293, 503, 583, 612
Second Sand pools, Venango district, 517
Secondary recovery, Gay-Spencer-Richardson trend, 812
Noodle Creek pool, 715
Red Fork shoestring, 490
Selected bibliography of articles describing stratigraphic type oil fields, 858
Seminoile County, Oklahoma, Dora oil pool, 408
Seminoile formation, Dora pool, 412
Olympic pool, 458
Seminoile sandstone, East Tuskegee pool, 441
Senora formation, Dora pool, 413
Olympic pool, 459
Senora sand, Dora pool, 422
Seymour pool, Baylor County, Texas, 760
accumulation of oil, 762, 763
analysis of oil, 774
Seward, Grant, Haskell, Morton, and Stevens counties, Kansas, and Texas County, Oklahoma, Hugoton gas field, 75
Sherrill, R. E., and Matteson, L. S., cited on Pennsylvania, 538
Shideler, W. H., quoted on "Fernvale," 149-150
Shinnston oil pool, Harrison County, West Virginia, 830
accumulation of oil, 841, 843
Shira Streak pool, Venango district, 527
Shoenfelt, C. E., 19
Shoestring gas fields of Michigan, 237
accumulation of gas, 244
Shoestring sand bodies, Bush City field, 45-53

Downloaded from https://pubs.geoscienceworld.org/books/chapter-pdf/3840746/9781629812502_backmatter.pdf by guest
<table>
<thead>
<tr>
<th>Subject</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chanute pool</td>
<td>60, 63, 65, 71</td>
</tr>
<tr>
<td>Red Fork</td>
<td>473–491</td>
</tr>
<tr>
<td>Shore-line sands, O’Hern field</td>
<td>730</td>
</tr>
<tr>
<td>Shore-line sand wedges, O’Hern field</td>
<td>728–730</td>
</tr>
<tr>
<td>Silurian, Big Sinking field</td>
<td>179</td>
</tr>
<tr>
<td>Davenport field</td>
<td>389</td>
</tr>
<tr>
<td>Siluro-Devonian, Nikkel pool</td>
<td>109</td>
</tr>
<tr>
<td>Simmons, Benjamin T., and Halbouty, Michel T., Hitchcock field, Galveston County, Texas, showing stratigraphic accumulation and structure</td>
<td>641</td>
</tr>
<tr>
<td>Simpson formation, East Tuskegee pool</td>
<td>448, 450</td>
</tr>
<tr>
<td>Hull-Silk pool</td>
<td>671</td>
</tr>
<tr>
<td>Wherry pool</td>
<td>126</td>
</tr>
<tr>
<td>Zenith pool</td>
<td>150</td>
</tr>
<tr>
<td>Simpson group, Walnut Bend pool</td>
<td>700</td>
</tr>
<tr>
<td>Sisler, J D., Ashley, G. H., Moyer, F. T., and Hickok, W. O., cited on Pennsylvania</td>
<td>538</td>
</tr>
<tr>
<td>Six Lakes field</td>
<td>258, 260</td>
</tr>
<tr>
<td>Slippert, S. E., cited on gas, Alberta</td>
<td>273</td>
</tr>
<tr>
<td>Claggett shale</td>
<td>275–276</td>
</tr>
<tr>
<td>Sliverville sand, Music Mountain pool</td>
<td>497–504</td>
</tr>
<tr>
<td>Smith, Fred E.</td>
<td>505</td>
</tr>
<tr>
<td>Smith, Harold M.</td>
<td>436</td>
</tr>
<tr>
<td>Smith, Rusk, Cherokee, Gregg, and Upshur counties, Texas, East Texas oil field</td>
<td>600</td>
</tr>
<tr>
<td>Smithwick shale, Bryson field</td>
<td>541, 542</td>
</tr>
<tr>
<td>Hull-Silk pool</td>
<td>671</td>
</tr>
<tr>
<td>Smithwick shale, Seymour pool</td>
<td>763</td>
</tr>
<tr>
<td>Sooy conglomerate, Wherry pool</td>
<td>123, 124, 126</td>
</tr>
<tr>
<td>Spindle, J. E.</td>
<td>239</td>
</tr>
<tr>
<td>Stafford County, Kansas, Zenith pool</td>
<td>139</td>
</tr>
<tr>
<td>Stanton, T. W., cited on Cretaceous</td>
<td>275</td>
</tr>
<tr>
<td>Stebinger, Eugene, cited on Montana</td>
<td>273, 274, 335</td>
</tr>
<tr>
<td>Stevens, Grant, Haskell, and Seward counties, Kansas, and Texas County, Oklahoma, Hugoton gas field</td>
<td>78</td>
</tr>
<tr>
<td>Stewart, H. A.</td>
<td>327</td>
</tr>
<tr>
<td>Stewart, J. S., quoted on Blairmore conglomerate</td>
<td>301</td>
</tr>
<tr>
<td>Stockdale, Paris B., Mississippian formations</td>
<td>172, 198</td>
</tr>
<tr>
<td>Stone Corral member, Hugoton field</td>
<td>86, 98</td>
</tr>
<tr>
<td>Stose, G. W., cited on Dakota sandstone</td>
<td>28</td>
</tr>
<tr>
<td>Stout, W., cited on Ohio</td>
<td>385</td>
</tr>
<tr>
<td>Strake sand, Hardin field</td>
<td>568</td>
</tr>
</tbody>
</table>

**INDEX**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stratigraphic reservoirs in University oil field, East Baton Rouge Parish, Louisiana</td>
<td>208</td>
</tr>
<tr>
<td>Strawn series, Bryson field</td>
<td>541, 542</td>
</tr>
<tr>
<td>Cross Cut-Blake district</td>
<td>551, 552</td>
</tr>
<tr>
<td>Hull-Silk field</td>
<td>667</td>
</tr>
<tr>
<td>Seymour pool</td>
<td>763</td>
</tr>
<tr>
<td>Walnut Bend pool</td>
<td>786</td>
</tr>
<tr>
<td>Stuart formation, Doré pool</td>
<td>414</td>
</tr>
<tr>
<td>Sumner group, Hugoton field</td>
<td>87, 88</td>
</tr>
<tr>
<td>Sunburst zone, Border-Red Coulee field</td>
<td>287</td>
</tr>
<tr>
<td>Cut Bank field</td>
<td>344</td>
</tr>
<tr>
<td>Swift, A. W., cited on Red Fork shoe-string sand</td>
<td>475</td>
</tr>
<tr>
<td>Sylvan shale, East Tuskegee pool</td>
<td>448</td>
</tr>
<tr>
<td>T</td>
<td>Tags</td>
</tr>
<tr>
<td>Taggart, W. C.</td>
<td>239</td>
</tr>
<tr>
<td>Taliaferro, D. B., Jr., Johnson, T. W., and Dewees, E. J., cited on porosities</td>
<td>625</td>
</tr>
<tr>
<td>Taylor, Garvin L., and Garlough, John L., Hugoton gas field, Grant, Haskell, Morton, Stevens, and Seward counties, Kansas, and Texas County, Oklahoma</td>
<td>78</td>
</tr>
<tr>
<td>Tertiary, East Texas</td>
<td>605</td>
</tr>
<tr>
<td>Hugoton field</td>
<td>81, 83, 84</td>
</tr>
<tr>
<td>O’Hern field</td>
<td>728</td>
</tr>
<tr>
<td>Sand Belt</td>
<td>750</td>
</tr>
<tr>
<td>Zenith field</td>
<td>141</td>
</tr>
<tr>
<td>Texas, Bryson oil field, Jack County</td>
<td>539</td>
</tr>
<tr>
<td>Bryson pool</td>
<td>880</td>
</tr>
<tr>
<td>Cross Cut-Blake district, Brown County</td>
<td>548</td>
</tr>
<tr>
<td>Davis sand lens, Hardin field, Liberty County</td>
<td>564</td>
</tr>
<tr>
<td>Driscoll pool</td>
<td>880</td>
</tr>
<tr>
<td>East Texas oil field, Rusk, Cherokee, Smith, Gregg, and Upshur counties</td>
<td>600</td>
</tr>
<tr>
<td>East Texas field</td>
<td>880</td>
</tr>
<tr>
<td>Goose Creek field</td>
<td>881</td>
</tr>
<tr>
<td>Government Wells field</td>
<td>881</td>
</tr>
<tr>
<td>Greta field</td>
<td>881</td>
</tr>
<tr>
<td>Hilbig oil field</td>
<td>881</td>
</tr>
<tr>
<td>Hitchcock field, Galveston County, showing stratigraphic accumulation and structure</td>
<td>641</td>
</tr>
<tr>
<td>Hoffman field</td>
<td>881</td>
</tr>
<tr>
<td>Hull-Silk oil field, Archer County</td>
<td>661</td>
</tr>
<tr>
<td>K. M. A. field</td>
<td>881</td>
</tr>
<tr>
<td>Laredo district</td>
<td>881</td>
</tr>
<tr>
<td>Lopez oil field, Webb and Duval counties</td>
<td>680</td>
</tr>
<tr>
<td>Lytton Springs field</td>
<td>882</td>
</tr>
<tr>
<td>Magnolia City field</td>
<td>882</td>
</tr>
<tr>
<td>Noodle Creek pool, Jones County</td>
<td>698</td>
</tr>
<tr>
<td>North Texas fields</td>
<td>882</td>
</tr>
<tr>
<td>O’Hern field, Duval and Webb counties</td>
<td>722</td>
</tr>
</tbody>
</table>
INDEX

oil fields in igneous rocks, 882
Panhandle field, 882
Ranger field, 882
Refugio field, 883
"Sand Belt" area of Ward and Winkler counties, and Lea County, New Mexico, 750
Seymour pool, Baylor County, 760
Smith-Ellis field, 883
Walnut Bend pool, Cooke County, 776
Westbrook field, 883
Wheat pool, 883
Texas County, Oklahoma, and Grant, Haskell, Morton, Stevens, and Seward counties, Kansas, Hugoton gas field, 78
Third sand pools, Venango district, 523
Thomas, W. T., Jr., cited on Telegraph Creek formation, 281
quoted on dehydration of sand, 826
Thomas, S. B., 435
Thompson, Edwin L, Hull-Silk oil field, Archer County, Texas, 661
Thompson, W. C., and Hubbard, W. E., cited on Archer County, Texas, 663, 665
Thrifty group, Cross Cut-Blake district, 549
Thurman formation, Dora pool, 414
Tillotson, Allen W., cited on Olympic pool, 450, 463, 466
Tollefson, E. H., 827
Tomlinson, C. W., 802
cited on Pennsylvanian rocks, 785
Toole County, Montana, and Alberta, Canada, Border-Red Coulee oil field, 267
Torrey, Paul D., cited on origin, migration, and accumulation, 826
cited on Pennsylvania, 538
Trask, P. D., cited on marine deposition, 562
Travis Peak formation, Walnut Bend pool, 781
Triassic, Hugoton field, 85
Sand Belt, 752
Trinidad, Palo Seco field, 884
Trinity group, Walnut Bend pool, 781
Tucker, R. C., cited on deep well records, 809
cited on West Virginia, 825
Tulsa, Pawnee, and Creek counties, northwestern Oklahoma, Red Fork shoestring sand pool, 473
Tuttle, Helen Fowler, Hedberg, Hollis D., Rasmussen, Clayton, and Levorsen, A. I., selected bibliography of articles describing stratigraphic type oil fields, 858
Tuttle, R. C., 473

Twenhofel, W. H., cited on sedimentation, 277
Two Medicine formation, Cut Bank field, 335
Types of stratigraphic oil pools in Venango sands of northwestern Pennsylvania, 507
Tyrone formation, Big Sinking field, 175

University oil field, stratigraphic reservoirs in, East Baton Rouge Parish, Louisiana, 208
accumulation of gas, 228
accumulation of oil, 220, 221, 229
analysis of oil, 216
reserves, 216, 217, 220
Upper Chalk group, East Texas, 609
Upper Cut Bank sand, Cut Bank field, 356
Upper Devonian, Music Mountain pool, 495
Upshur County, Texas, water analysis, 639
Upshur, Rush, Cherokee, Smith, and Gregg counties, Texas, East Texas oil field, 600
Upson, M. E., 802

V.
Vamosoa formation, Dora pool, 411
Van field, water analysis, 639
Vanalta sand, Border-Red Coulee field, 202, 209, 319
Vaqueros formation, Kern Front field, 12
Vedder sand, Edison field, 4
Kern Front field, 12
Venango group, Pennsylvania pools, 511
Venango sands of northwestern Pennsylvania, types of stratigraphic oil pools in, 507
accumulation of oil, 513, 522, 538
Venezuela, Maracaibo Basin fields, 884
Quiriquire field, 884
Vernon field, 265, 266
accumulation of gas, 265
Ver Wiebe, Walter A., ancestral Rocky Mountains, 100
cited on Permian sediments, 96
cited on Wherry pool, 124
Village Bend limestone, Walnut Bend pool, 786
Viola limestone, East Tuskegee pool, 448
Nikkel pool, 110
Wherry pool, 125
Zenith pool, 149, 151, 152
Virgelle sandstone, Border-Red Coulee field, 280
Voshell anticline, 110, 112
INDEX

field, 107, 111, 112, 114
trend, 105–107, 108, 110, 112

W
Waldschmidt, W. A., cited on Mowry shale, 26
Walker formation, Edison field, 4
Walden, J. G., 846
Walker formation, Cooke County, Texas, 776
accumulation of oil, 798
analyses of water, 803–805
Walter, H. J., producer in Chanute pool, 62
Walter, H. J., cited on Osage field, 849
Walter, K. L., cited on Osage field, 849
Ward, J. G., 846
Ward and Winkler counties, Texas, and Lea County, New Mexico, “Sand Belt” area of, 750
Washita group, Walnut Bend pool, 781
“Water-free” sands, 52, 53, 825
Weaver, T. J., Ball, Max W., Crider, H. D., and Ball, Douglas S., shoe-string gas fields of Michigan, 237
Webb and Duval counties, Texas, Lopez oil field, 680
O’Hern field, 722
Weed, W. H., cited on “Cascade” formation, 285
Weirich, T. E., 661
Welch pool, 122, 131
Weld County, Colorado, Greasewood oil field, 19
Wellhead-gauge, Austin field, 246
Six Lakes field, 258, 260
Vernon field, 265
Wellington shale, Hugoton field, 88
Wendlandt, E. A., and Knebel, G. Moses, quoted on Queen City sand, 608
Weston County, Wyoming, Osage oil field, 847
West Virginia, Cabin Creek field, 883
Copley field, 883
Gay-Spencer-Richardson oil and gas trend, Jackson, Roane, and Calhoun counties, 806
Shinnston oil pool, Harrison County, 830
Wetumka formation, Dora pool, 413
Olympic pool, 459
Wewoka formation, Dora pool, 413
Olympic pool, 459
Wherry East pool, 122, 132

Wherry pool, Rice County, Kansas, 118
accumulation of oil, 127
White, C. A., cited on Greasewood field, 21
White, Luther H., cited on Misener sand, 448
White, Stanley B., Davenport field, Lincoln County, Oklahoma, 386
Whitehorse group, Sand Belt, 752, 759
Wichita-Albany group, Seymour pool, 760–762
Wichita group, Hull-Silk pool, 665
Wickenden, R. T. D., cited on Alberta shale, 283
Wilcox group, East Texas, 608
“Wilcox” sand, East Tuskegee pool, 448–450
Wilder, N. M., 166
Williams, M. Y., and Dyer, W. S., cited on Alberta, 273
Wilson, C. W., Jr., cited on Sam Creek limestone, 445
Wimbish, Forrest E., 165
Winchell, Alexander, quoted on Lower Peninsula, Michigan, 239
Winchell member, Cross Cut-Blake district, 549, 551
Winkler and Ward counties, Texas, and Lea County, New Mexico, “Sand Belt” area of, 750
Winzler, Al, 104
Wirth, C. K., 239
Wood, R. D., 505
heavy minerals, Hardin field, 586
Wood, Virgil O., surface structure map, 388
work in Davenport field, 387
Woods, J. S., 601
Wright, Randall, Red Fork shoestring sand pool, Pawnee, Creek, and Tulsa counties, northeastern Oklahoma, 473
Wyoming, Douglas oil field, 883
Osage oil field, Weston County, 847

Y
Yarwood, W. S., cited on Red Coulee field, 273, 297, 301, 339
quoted on producing zones, 298–299
Yates sand group, Sand Belt, 752, 759
Yegua formation, Hardin field, 566, 567
Young, K. E., cited on University field, 209

Z
Zenith pool, Stafford County, Kansas, 139
accumulation of oil, 161
analyses of oil and water, 164
### STRATIGRAPHIC TYPE OIL FIELDS

#### TYPICAL OIL FIELDS

**Syndicate Miller I**, 1563

- **Admiral Formation**
- **Putnam Formation**
- **Moran Formation**
- **Pueblo Formation**
- **Harpersville Formation**
- **Twinkle Formation**
- **Graham Formation**

**Taylor-Link Miller I**, 1700

- **Admiral Formation**
- **Putnam Formation**
- **Moran Formation**
- **Pueblo Formation**
- **Harpersville Formation**
- **Twinkle Formation**
- **Graham Formation**

**Toombs Candler I**, 1642

- **Admiral Formation**
- **Putnam Formation**
- **Moran Formation**
- **Pueblo Formation**
- **Harpersville Formation**
- **Twinkle Formation**
- **Graham Formation**

**Atlantic Overall B-2**, 1689

- **Admiral Formation**
- **Putnam Formation**
- **Moran Formation**
- **Pueblo Formation**
- **Harpersville Formation**
- **Twinkle Formation**
- **Graham Formation**

**Continental Gardner 2**, 1670

- **Admiral Formation**
- **Putnam Formation**
- **Moran Formation**
- **Pueblo Formation**
- **Harpersville Formation**
- **Twinkle Formation**
- **Graham Formation**

**Root O'Hair I**, 1642

- **Admiral Formation**
- **Putnam Formation**
- **Moran Formation**
- **Pueblo Formation**
- **Harpersville Formation**
- **Twinkle Formation**
- **Graham Formation**

---

**Sample Log Below 900**

**Horizontal Scale**

**Plat Showing Location of Wells in Cross Section**

---

**Fig. 2** — Section across Coleman and Brown counties, Texas, compiled from well logs (Article by Edgar D. Klinger, "Cross Cut..."
SYMBOLS

- LIMESTONE  W - WATER
- SHALE       BLK - BLACK
- SAND        BR - BROWN
- SANDY LIMESTONE  FOS - FOSSILS
- SANDY SHALE  FUS - FUSULINIDS
- RED SHALE   BPD - BARRELS PER DAY
- GAS         HFW - HOLE FULL OF WATER
- OIL

---

1934, prepared by Edgar D. Klinger, assisted by R. H. Case, September, 1934.
- Blake District, Brown County, Texas."

Downloaded from https://pubs.geoscienceworld.org/books/chapter-pdf/3840746/9781629812502_backmatter.pdf by guest on 18 September 2019
Fig. 4—Map of Cross Cut-Blake district, Brown County, Texas, showing structure on top of Ranger limestone of Canyon group or series, by Edgar D. Klinger, supplied by H. D. Cheney, September, 1934. Contour interval, 100 feet. Datum, mean level. Base map furnished by Humble Oil and Refining Company. (Article by Edgar D. Klinger, "Cross Cut-Blake District, Brown County, Texas").
Fig. 5.—Map of Cross Cut-Blake district, Brown County, Texas, showing convergence between top of Rangeline lime member of Brad formation and top of Cross Cut sand, by Edgar D. Kliger, modified by R. B. Cheney, September, 1934. Contour interval, 10 feet. Base map furnished by Humble Oil and Refining Company.

(Article by Edgar D. Kliger, "Cross Cut-Blake District, Brown County, Texas.")