

anomalous drainage patterns exist which must not be confused with structurally controlled patterns.

The West Drumheller, Drumheller, Homeglen-Rimbey, and Redwater Devonian reef oil fields, all located in Alberta, were studied in detail. The drainage configuration above the West Drumheller oil field consists of a pronounced arc in the otherwise straight southeasterly course of the Red Deer River, and a repeated right-angular diversion of a tributary. The Drumheller oil field is reflected by a marked diversion and arcuate pattern of Michichi Creek. The Homeglen-Rimbey oil field is in the Blindman River system in which the tributaries flow southeasterly. At the oil field all streams are diverted toward the west, resuming the southeasterly flow at the south end of the field. These three drainage anomalies are not related to glacial landforms. Finally, the Redwater oil field is an example of a structurally controlled drainage anomaly which has been partly masked by a complex glacial history.

Other oil fields exist which are not reflected in the drainage pattern. This does not weaken the technique of drainage analysis, but indicates that in the present state of knowledge not all possible types of drainage anomalies can be recognized. It is only through continued use and research that this technique, proved to be a fast and economical exploration tool in mantled areas, can be refined.

41. Geophysical Studies of Basin Structures along Eastern Sierra Nevada: JOHN H. HEALY, California Institute of Technology, Pasadena, California.

The results of seismic refraction and gravity surveys along the eastern Sierra Nevada are presented and a preliminary interpretation in terms of the regional structure and tectonics is given. Preliminary results indicate that the basin floors dip westward reaching depths of 5,000–6,000 feet near the mountain front. Experience in numerous basins indicates that gravity data combined with a limited number of refraction profiles to check the density assumptions can yield important facts needed to understand the tectonic processes in this area. The methods of machine computation used to reduce the data and analyze the anomalies are discussed. A terrane correction program was developed from the Bendix G15 computer, and programs to compute the gravitational attraction of two- and three-dimensional bodies were written, by using the computing schemes developed by Talwani. The efficiency and accuracy of these machine computing techniques are compared with the efficiency and accuracy of the manual computing techniques.

A.A.P.G.-R.M.S. Program Co-Chairmen:
ORLO E. CHILDS
B. W. BEEBE

S.E.P.M.

Monday Afternoon, April 24

RESEARCH COMMITTEE SYMPOSIUM: WATER MOVEMENTS AND SEDIMENTATION, PART I

Presiding: ROBERT N. GINSBURG, HOWARD R. GOULD

1. Sedimentation in Tidal Flat Areas of the Netherlands: L. M. J. U. VAN STRAATEN, Geological Institute, Groningen, Netherlands
2. Genesis of Barrier Island and Chenier Sand Bodies as Related to Sediment Influx and Processes: H. A. BERNARD,* C. F. MAJOR, and B. S. PARROTT, Shell Development Company, Houston, Texas

* Denotes speaker.

3. Relations of Reefs to Water Circulation: JOSHUA I. TRACEY, JR., U. S. Geological Survey, Washington, D. C.

Tuesday Afternoon, April 25

RESEARCH COMMITTEE SYMPOSIUM, PART II

4. Effect of Wind-Driven Water Movement on Sediment Distribution, Gulf of Batabano, Cuba: ALBERT L. KIDWELL, Jersey Production Research Company, Tulsa, Oklahoma
5. Salinity of Florida Bay: JOHN S. MCCALLUM, Shell Oil Company, Roswell, New Mexico, and KENNETH W. STOCKMAN,* Shell Oil Company, Coral Gables, Florida
6. Molluscan Distribution in Florida Bay: W. J. TURNER, Shell Oil Company, Roswell, New Mexico
7. Variations in O^{18}/O^{16} Ratios of Florida Bay Mollusks and Their Application to Paleogeographic Studies: R. MICHAEL LLOYD, Shell Development Company, Houston, Texas.

Tuesday Evening, April 25

RESEARCH COMMITTEE PANEL DISCUSSION

Wednesday Morning, April 26

SEDIMENTATION AND SEDIMENTARY PETROLOGY I

Presiding: WALTER D. KELLER, HAROLD J. BISSELL

8. Laboratory Synthesis of Sedimentary Rocks: SHERMAN A. WENGERD, University of New Mexico, Albuquerque, New Mexico
9. Depositional Environment of Dakota Sandstone of Southeastern Colorado: DONALD G. MCCUBBIN, The Ohio Oil Company, Littleton, Colorado
10. Montchaue Group, Product of Pennsylvanian Epeirogeny in Wyoming: THOMAS W. TODD, California Research Corporation, La Habra, California
11. Sedimentary Petrology and Sedimentation of Miocene Browns Park Formation: WAYNE A. CHISHOLM,* The Pure Oil Company, Crystal Lake, Illinois; MARION J. BERGIN, U. S. Geological Survey, Washington, D. C.; GEORGE E. PRICHARD, U. S. Geological Survey, Denver, Colorado
12. Rapid Methods for Dimensional Grain Orientation Measurements: W. ZIMMERLE, Deutsche Erdöl—Aktiengesellschaft, Erdölwerke Wietze, Kreise Celle, Germany; L. C. BONHAM,* California Research Corporation, La Habra, California
13. Differentiation of Dune, Beach, and River Sands from Their Textural Characteristics: GERLAD M. FRIEDMAN, Pan American Petroleum Corporation, Tulsa, Oklahoma
14. Petrology of Two Turbidite Formations: GERALD V. MIDDLETON, McMaster University, Hamilton, Ontario
15. Quartz and Feldspar Content of Sands from South Platte, Platte, and Missouri Rivers: JOHN R. HAYES, Colorado School of Mines, Golden, Colorado
16. Problems of Diffusion and Accumulation of Oil: ROBERT WEYNSCHENK, Innsbruck, Austria

Wednesday Morning, April 26

Presiding: WILLIAM A. COBBAN, MANLEY L. NATLAND

PALEONTOLOGY AND STRATIGRAPHY I

17. Distribution of Recent Near-Shore Foraminifera, Western United States and Northwest Mexico: ROBERT R. LANKFORD, Pan American Petroleum Corporation, Houston, Texas

* Denotes speaker.