

FC523



United States Department of the Interior

GEOLOGICAL SURVEY
Denver Federal Center
Denver, Colorado 80225
MS 307

IN REPLY REFER TO:

GL03754

March 13, 1979

J. Stringfellow, Librarian
Earth Science Laboratory
420 Chipeta Way, Suite 120
Salt Lake City, UT 84108

Dear Mr. Stringfellow:

Enclosed is a listing of our display panels. After reviewing the list, please let us know which panels you would care to borrow for a period not to exceed six weeks. We will absorb freight costs, both ways, and send you any panels not already committed.

We also have photos of most panels if you would prefer to indicate which photos you wish to review before selecting your loan panels.

Your reply will be expediated if mailed to:

Nicholas R. Serbu
Chief, Branch of Exhibits, PD/CR
Room 241, Bldg. 85, MS 307, DFC
Lakewood, Colorado 80225

Sincerely,

Codell A. Martinez
Clerk-Typist, Branch of Exhibits

UNIVERSITY OF UTAH
RESEARCH INSTITUTE
EARTH SCIENCE LAB.

PUBLICATIONS DIVISION

CENTRAL REGION

BRANCH OF EXHIBITS

LIST OF 4'x5' STANDARD POSTERS

CURRENT AS OF

DECEMBER 31, 1978



ADMINISTRATION DIVISION: STANDARD 4'x5' POSTERS

A-2-D

U.S. GEOLOGICAL SURVEY

Modified signature panel featuring Topo helicopter,
WRD well drilling operations and other divisional
activities.

A-3-D

ADMINISTRATION DIVISION

Signature panel with brief descriptions of functions.

CONSERVATION DIVISION: STANDARD 4'x5' POSTERS

- C-1-(a)-D CONSERVATION
Signature panel listing branch functions.
- C-2-D DAWSONITE AND NACHOLITE
New potential sources of alumina and soda ash in the oil shale of Piceance Creek Basin, Colorado. (1 of 2)
- C-3-D POTENTIAL MINERAL RESOURCES OF PICEANCE CREEK BASIN, COLORADO
Diagrammatic description and amounts of dawsonite and nacholite in Piceance Creek Basin, Colorado. (2 of 2)
- C-4-D DRILLING NEAR CORAL REEFS
Panel supports conservation measures for offshore drilling.
- C-5-D OPERATIONS ON A PRODUCTION PLATFORM
Shows 6 pictures and illustration of offshore drilling equipment.
- C-6-D POLLUTION CONTROL
Depicts method for oil spill control.
- C-7-D CONSERVATION DIVISION
Signature Panel.
- C-8-D US GEOLOGICAL SURVEY CONSERVATION DIVISION - RESOURCE EVALUATION AND ANALYSIS
No. 1 in set of 3 describing functions of each office.
- C-8a-D US GEOLOGICAL SURVEY CONSERVATION DIVISION - FIELD OPERATIONS
No. 2 in set of 3 describing functions of each office.
- C-8b-D US GEOLOGICAL SURVEY CONSERVATION DIVISION - PRODUCTION CONTROL
No. 3 in set of 3 describing functions of each office.
- C-9-D CONSERVATION DIVISION - LEASABLE MINERALS ON FEDERAL LANDS
States 1975 royalties for oil, coal, sodium, potash, and phosphate and has picture of mining area for each.
- C-10-D CONSERVATION DIVISION USGS
Signature panel listing functions of four offices of Conservation.

GEOLOGY DIVISION: 4'x5' STANDARD POSTERS

- G-1-D MINERAL PRODUCTS OF COLORADO
Shown with maps, photos and graphs.
- G-2-D GEOLOGY
Signature panel, revised 1970 showing activities of 5 subdivisions.
- G-3-D SILVER IN COLORADO
Places historical emphasis on areas of discovery and production.
- G-4-D PALEOECOLOGY
Story of how fossils of Pentamerus, a Silurian brachiopod, affects iron ores of Birmingham District, Alabama.
- G-5-D TIME DIMENSION
Describes how isotopes found in an Ordovician volcanic ash are used to determine absolute geologic age.
Revised 9/78.
- G-6-D SEISMIC MEASUREMENTS
Map of the U.S. depicting Mean Crustal Velocity and photos of seismic equipment illustrate the importance seismic-refraction explosion in study of earth structure.
- G-7-D INTERPRETATION OF SEISMIC DATA
Two seismograms and three interpretation charts used in seismic-refraction studies. Part 2 to G-6-D. (1964)
- G-9-D GEOCHEMICAL PROSPECTING WITH MERCURY
Describes technique developed by the U.S.G.S., based on Atomic Absorption. Revised 1965.
- G-10-D ALASKA'S GOOD FRIDAY EARTHQUAKE, MARCH 27, 1964
Faulting on Montague Island. 1965 panel.
- G-11-D EFFECTS OF WAVES
By photos and maps of Alaskan Earthquake, March 27, 1964.
- G-12-D CHANGES OF LAND LEVEL
Photos and map depict changes caused by Alaskan Earthquake, March 27, 1964. Correlates to panels G-10-D & G-11-D.
Duplicate posters made for Menlo Park, California.
- G-13-D THE PRESENT A KEY TO THE PAST
Photo comparison of primary sedimentary structures produced in USGS sedimentation lab with photos of modern and ancient laminae. Correlates to G-14-D

GEOLOGY DIVISION: 4'x5' STANDARD POSTERS (Cont.)

- G-14-D RIPPLE LAMINATION BY CURRENTS OR WAVES
Formation charts of ripple marks and laminae and
chart of controlling factors. Part 2 of G-13-D.
- G-15-D OIL SHALE RESOURCES OF THE GREEN RIVER FORMATION
Pictures, map and paper of Utah, Colorado and Wyoming
oil shale resources.
- G-16-D OIL SHALE DEPOSITS OF THE PICEANCE CREEK BASIN, COLORADO
Illustration, photos and resource map illustrate deposits.
Revised 1978.
- G-17-D GEOLOGY OF THE GREEN RIVER FORMATION
Oil shale samples and illustrations of shale thickness
tell about geologic formation of oil shale. Rev. 6/78.
- G-18-D U.S. GEOLOGICAL SURVEY ASTRONAUT TRAINING PROGRAM, NEVADA
TEST SITE
Uses area maps, photos and graphs to illustrate.
- G-19-D GEOLOGY OF NORTHERN YUCCA FLAT, NEVADA TEST SITE
Five maps of area.
- G-20-D GEOLOGY OF PAHUTE MESA, NEVADA TEST SITE
Maps and cross section.
- G-21-D GRAVITY SURVEYS IN YUCCA FLAT, NEVADA TEST SITE
A map portrayal.
- G-22-D EXPLOSION EFFECTS - FAULTS AND FRACTURES IN NORTHERN YUCCA
FLAT NEVADA TEST SITE
Revised, 1968. Uses Technical letter NTS-195 and maps.
- G-23-D GEOHYDROLOGY OF NEVADA TEST SITE AND VICINITY
Two maps and a chart used to illustrate relationship
of hydrologic gradient to lithology.
- G-24-D OPTICAL EMISSION FOR ANALYZING TRACE ELEMENTS IN ROCKS
Photos of equipment, diagram and graph. No. 1 of 3.
- G-25-D ANALYSIS AND METHOD RESEARCH BY DIRECT READING SPECTROMETER
Photos of equipment, print out and code card. No. 2 of 3.
- G-26-D SPECTROCHEMICAL ANALYSIS
By X-ray Fluorescence and electron microprobe. Correlates
with G-24-D and G-25-D.

GEOLOGY DIVISION: 4'x5' STANDARD POSTERS (Cont'd.)

- G-27-D ENGINEERING GEOLOGY OF STRAIGHT CREEK TUNNEL, FRONT RANGE,
COLORADO
 An example of predicting geologic conditions at depth
 shown in maps, charts and photos. No. 1 of 3.
- G-28-D STRAIGHT CREEK TUNNEL, ENGINEERING GEOLOGY INVESTIGATIONS
IN PILOT BORE
 Depicts methods of obtaining geologic data. No. 2 of 3.
- G-29-D SUPPORT FROM LABORATORIES, STRAIGHT CREEK TUNNEL PROJECT
 Methods of observing rock behavior used for project
 analysis. No. 3 of 3.
- G-31-D GEOLOGY OF PAHUTE MESA, NEVADA TEST SITE
 Geologic map to supplement G-20-D, No. 7 of Nevada Test
 Site Panels. April, 1966.
- G-32-D TYPES OF SAND DUNES
 Introduction to dune formation featuring dunes formed
 by effective winds from one direction. White Sands, N.M.
 No. 1 of 4.
- G-33-D TYPES OF SAND DUNES (Cont'd.)
 Examples from Great Sand Dunes, Colorado, Libya and
 Saudia Arabia of complex dunes formed by effective
 winds from more than one direction. No. 2 of 4.
- G-34-D DUNE FORMATION AND MOVEMENT
 Photos and illustrations show saltation, migration
 and structure study. No. 3 of 4.
- G-35-D DUNE STRUCTURE
 Comparison of the internal structure of dune types.
 Illustrations and photos. No. 4 of 4.
- G-36-D FLOODING OF BIJOU CREEK, COLORADO - JUNE, 1965
 A study of flood sediment deposition along Bijou Creek
 to determine criteria useful for study of flood deposits
 in ancient rocks.
- G-37-D U.S. GEOLOGICAL SURVEY PALEOTECTONIC MAPS OF THE PERMIAN
SYSTEM
 Map and Professional Paper 515 used to show records
 and interpretations of geologic events of the permian
 period in the conterminous United States. No. 1 of 2.

GEOLOGY DIVISION: 4'x5' STANDARD POSTERS (Cont'd.)

- G-38-D U.S. GEOLOGICAL SURVEY PALEOTECTONIC MAPS OF THE PERMIAN SYSTEM
Special features maps including those of economic significance. No. 2 of 2.
- G-39-D CONVOLUTE SEDIMENTARY STRUCTURES
Photos, rubber peels and specimen of types, stages in development and natural deposit examples. No. 1 of 2.
- G-40-D FORMATION OF CONVOLUTE STRUCTURES
Factors that control type and processes that cause other types of contortions depicted by cross section photos.
No. 2 of 2.
- G-41-D EARTH SCIENCE DATA FOR EVALUTATION OF TEST SITES
Maps and papers. 10/68
- G-42-D EXPLOSION EFFECTS, CENTRAL NEVADA FAULTLESS EVENT
Map, chart, photos and paper. 10/68
- G-43-D EXPLOSTION EFFECTS, PAHUTE MESA, NEVADA TEST SITE, GREELY EVENT
Photos, paper, map and chart. 10/68
- G-44-D EXPLOSION EFFECTS, PAHUTE MESA, NEVADA TEST SITE, BOXCAR EVENT
Map, charts, and papers. 10/68
- G-45-D STUDIES OF AVALANCHING SAND
Photos and text of cause and effect tests in laboratory.
No. 1 of 3.
- G-46-D DEPOSITIONAL PROCESSES
Uses pairs of photos and illustrations to show structural process of sand dunes. No. 2 of 3.
- G-47-D FACTORS CONTROLLING STRUCTURE FORMATION
How movements, tensional and compressional forces and wetness of sand effect sand dune structure. No. 3 of 3.
- G-48-D PALYNORMORPHS
From Naval Petroleum Reserve No. 4, enlarged photos of pollens and spores from Alaska North Slope.
- G-49-D OIL SHALE ON ALASKA NORTH SLOPE
Photos and map show location of deposits.
- G-50-D GEOLOGY OF RAPID CITY, SOUTH DAKOTA
Features 1/24,000 scale quadrangle of Rapid City West and open file copy of Rapid City East.

GEOLOGY DIVISION: 4'x5' STANDARD POSTERS (Cont'd.)

- G-54-D GEOLOGIC TIME
 Story of age of the earth using publication #380-6-13
 of the same name. 7/70
- G-55-D "BRIEFS" ABOUT OUR PLANET
 Physical facts of the earth. Revised 10/78.
- G-56-D ZEOLITES
 A brief description of zeolites, maps showing the
 locations of the deposit samples attached to panel.
- G-57-D FLORIDA PHOSPHATE MINING AND RECLAMATION
 Photos, sample and illustration depict mining operations.
 No. 1 of 2.
- G-58-D FLORIDA PHOSPHATE RECLAMATION
 Illustration and photos showing land use of reclaimed
 land. No. 2 of 2.
- G-59-D URANIUM
 Charts, cross section illustrations and photos used
 to explain the theory of origin and form of roll-
 type deposits of uranium in the basins of Wyoming and
 the Texas Coastal Plains.
- G-60-D AEROMAGNETIC MAPPING OF MINNESOTA
- G-61-D MEASUREMENT AND INTERPRETATION OF DEEP D.C. RESISTIVITY
 SOUNDINGS
 A reconnaissance investigation of groundwater resources
 in the Snake River Basin, Idaho and upper Arkansas
 River Basin.
- G-62-D REMOTE SENSING GEOPHYSICS
 Illustrates techniques to map geologic units of Mill Creek
 Area, Oklahoma.
- G-63-D This panel was sent to Washington, January, 1972 to remain there.
 A duplicate was made.
- G-64-D ORTHOPHOTOGRAPHS FOR GEOLOGIC USE
 Uses Morrison, Colorado Map as example.
- G-65-D LAND USE INTERPRETATIONS
 Non-Standard panel of ERTS photos of Tucson area.
- G-66-D GEOLOGIC MAP OF MARS

GEOLOGY DIVISION: 4'x5' STANDARD POSTERS (Cont'd.)

- G-82-D ALPINE LAKE PRIMITIVE AREA, WASHINGTON
- G-83-D ENERGY CRISIS
Introduces new Oil and Gas Branch as effort made by USGS in energy field.
- G-84-D ENERGY RESOURCES MAP
Powder River Basin, Wyoming and Montana.
- G-85-D RESOURCE POTENTIAL IN THE OIL RICH MAHOGANY LEDGE
Comparison made with illustration to show the amount of recoverable oil from Rangely, Colorado field and all oil shale fields. Revised 6/78.
- G-86-D OIL SHALE MAP OF COLORADO
- G-87-D COAL FIELDS IN THE USA
Five US coal resources maps and references.
- G-88-D COAL FIELDS IN ALASKA
Charts, references and maps.
- G-89-D GEOLOGIC FEATURES WEST OF DENVER
Map showing point of geologic interest in the Morrison Quadrangle, Jefferson County, Colorado.
- G-90-D NUCLEAR FUELS
A supply problem illustrated by chart.
- G-91-D ENERGY
Chart depicts coal, oil, gas and uranium resources at present and projected needs thru the year 2,000. Revised 12/78.
- G-92-D ZIOLITES
- G-93-D DELINEATION OF NATURAL HAZARDS WITH GEOLOGY
- G-94-D IN SITU STRESS MEASUREMENTS
Photos of Borehole "Stress Meter" and field placement equipment and site at Rangely, Colorado.
- G-95-D AIR INJECTION TECHNIQUE
Study of fracture intensity around a tunnel in volcanic rocks.

GEOLOGY DIVISION: 4'x5' STANDARD POSTERS (Cont'd.)

- G-96-D SUPAI ROCK UNIT 1
- G-97-D SUPAI ROCK UNIT 2
- G-98-D GEOLOGY OF SUPAI FORMATION - GRAND CANYON
Photos of various map sites.
- G-99-D HAVASU CANYON
- G-100-D GEOLOGIC CONTROLS OF STRESS IN ROCKS
Three dimensional stress determinations in different geologic environments indicate that attitudes of faults, joints, foliation and bedding control principal stress orientations.
- G-101-D RESIDUAL STRESS EFFECTS
Methods for determination.
- G-102-D MULTI STRESS CELL
- G-103-D ORTHOPHOTOQUAD INDEX
Features two maps and the USA index.
- G-104-D TEACHERS PANEL
Describes functions of USGS and explains the use of popular publications of which several are demonstrated.
- G-105-D UNDERGROUND EXPLORATION
This display shows the core index, Schmidt hammer, and resistivity logs from exploratory drilling and compares these parameters with the geology mapped in the drift.
- G-106-D COAL
- G-107-D GEOLOGIC DIVISION
Describes goals of The Geologic Division of USGS and lists occupations available in the division.
- G-108-D OIL AND GAS DATA FROM THE UPPER PALEOZOIC ROCKS IN THE APPLACHIAN BASIN
Features four oil and gas data maps.
- G-109-D PETROLEUM EXPLORATION
The basic objective of on shore research is to provide initial reconnaissance of large areas at low cost per unit area.

GEOLOGY DIVISION: 4'x5' STANDARD POSTERS (Cont'd.)

- G-110-D A STUDY OF GLOBAL SAND SEAS
Photos and maps used to illustrate project.
- G-111-D ANALYSIS OF A DUNE FIELD
ERTS imagery and aerial photos are supported by ground-truth in a study of the rate of growth and movement of selected dunes at White Sands National Monument, NM.
- G-112-D NEW GEOLOGIC MAP OF THE U.S.
Features 1974 map of two sections.
- G-113-D LANDSCAPES
- G-114-D ANALYSIS OF A CLASTIC RESERVOIR
Log, map, chart and photos substantiate depth as the dominant factor controlling porosity distribution.
- G-115-D CLASSIFICATION OF EOLIAN DUNES SUPPORTED BY GROUND-TRUTH
Photos, illustrations and cross sections depict geometric shapes and number of slipfaces as bases of eolian dune classification. No. 1 of 2.
- G-116-D OTHER BASIC DUNE TYPES
Photos, illustrations and cross section showing additional types of dunes. No. 2 of 2.
- G-117-D AN AUTOMATED PLATE-READER FOR EMISSION SPECTROSCOPY
Description and photos of equipment.
- G-118-D ESTIMATED RANGE OF CRUDE OIL AND GAS
- G-119-D THE ALASKAN MINERAL RESOURCE ASSESSMENT PROGRAM
Shown by maps and diagrams.
- G-120-D WHAT DO YOU KNOW ABOUT LITHIUM RESOURCES?
Photos, chart and map describe the two kinds of deposits, brine and pegmatite.
- G-121-D WILL THERE BE ENOUGH LITHIUM FOR THE NEW ENERGY-RELATED USES?
Illustrations show how lithium powered electrical energy is more efficient.
- G-122-D REALISTIC INTERPRETATIONS OF MAGNETIC ANOMALIES IN ALLUVIAL VALLEYS
The role of drill-hole data shown by comparison of data interpretation charts made with and without drill-hole data.

GEOLOGY DIVISION: 4'x5' STANDARD POSTERS (Cont'd.)

- G-123-D SEISMIC MEASUREMENTS IN TUNNELS - NEVADA TEST SITE
Protrayed by charts and photos.
- G-124-D THE BOREHOLE GRAVITY METER AS A DENSITY TOOL
Photos of equipment and charts.
- G-125-D U.S.G.S. HYDRAULIC FRACTURING SYSTEM
Features photos of equipment.
- G-126-D GEOPHYSICAL LOG EVALUATION OF SITES FOR UNDERGROUND NUCLEAR
TESTS
Seismigraphs and photos depict evaluations of Nevada
Test Site.
- G-127-D ELECTRICAL RESISTIVITY SOUNDINGS
Map, logs and photos describe verticle electric soundings
of Nevada Test Site.
- G-128-D GEOPHYSICAL LOGGING OF HORIZONTAL DRILL HOLES
Shown by photos and illustrated charts.
- G-129-D LANDSLIDES OF COLORADO
No. 1 of 4.
- G-130-D LANDSLIDES OF COLORADO
No. 2 of 4.
- G-131-D LANDSLIDES OF COLORADO
No. 3 of 4.
- G-132-D LANDSLIDES OF COLORADO
No. 4 of 4.
- G-133-D SURFACE-STRAIN MEASUREMENTS
- G-134-D HELIUM SNIFFER
- G-135-D MICROWAVES
- G-136-D SLIDE DEPOSIT OF COLORADO
- G-137-D COMPUTER COMPOSITE MAPS
No. 1 of 2.

GEOLOGY DIVISION: 4'x5' STANDARD POSTERS (Cont'd.)

- G-138-D COMPUTER COMPOSITE MAPS
 No. 2 of 2.
- G-139-D SAMPLING PROCEDURES USING THE HELIUM SNIFFER
- G-140-D GEOCHEMICAL TECHNIQUES TEAM
 Branch of Uranium and Thorium Resources; maps and graphs.
- G-141-D URANIUM BASIN ANALYSIS IN THE SOUTH TEXAS COASTAL PLAIN
 Photos and cross section illustrations of strata.
- G-142-D FRONT RANGE URBAN CORRIDOR PORGRAM - GEOLOGIC AND HYDROLOGIC
 STUDIES FOR BETTER LAND USE
 Photos, map, chart and illustration depict purpose and
 program elements.
- G-143-D FRONT RANGE URBAN CORRIDOR PROGRAM - SOME EXAMPLES
 Maps, Front Range Urban Corridor, Colorado.
- G-144-D LANDSLIDE DEPOSITS OF COLORADO
- G-145-D THEORY OF ORIGIN OF URANIUM - A CASE STUDY - SHIRLEY BASIN,
 WYOMING
 Photos and illustration describe three phases of operation.
- G-146-D MAPPING STATUS OF COLORADO
 October, 1974 mapping indexes.
- G-147-D LITHIUM RESOURCES AND REQUIREMENTS BY THE YEAR 2,000
 A Symposium Signature panel for USGS Lithium Exploration Group.
- G-148-D NEW COUNTY MAPS
 Maps from Colorado, Wyoming and Kansas made after 1972.
- G-149-D MINORITY POSTER A
- G-150-D MINORITY POSTER B
- G-151-D HELIUM SNIFFER - RECENT RESULTS OF HELIUM SURVEYS
 Contour maps of Harley Dome, Utah and Imperial Valley, Calif.
- G-152-D HELIUM SNIFFER
 Illustration and photo used to show how a new exploration
 tool detects helium in specific cases.
- G-153-D GEOTHERMAL MAPS

GEOLOGY DIVISION: 4'x5' STANDARD POSTERS (Cont'd.)

- G-154-D R.M. COAL SYMPOSIUM
- G-155-D DENVER BASIN
- G-156-D RATON BASIN
- G-157-D LINEMENTS AND EARTHQUAKES
Landsat image and skylab photos. Explanation of the terms and pictures of skylab.
- G-158-D LANDSAT MINERAL EXPLORATION - IRAN
Shows ariel photos of South Central Iran taken from the satellite; also, a geologic map.
- G-159-D LANDSAT IMAGE PROCESSING
Explains Stretch, Stretch-ratio, and Filter processes.
- G-160-D REMOTE SENSING APPLICATIONS FOR MINERAL EXPLORATION
How Landsat Data is used in linement analysis and mapping.
- G-161-D DISCRIMINATION OF ROCK TYPES IN NEVADA
Aerial maps of the Goldfield, Nevada Study Area.
- G-162-D LANDSAT
Posters showing a picture of the satellite and its operation and functions.
- G-163-D LANDSAT U.S. MOSAIC
U.S. map with an area projection scale underneath.
- G-164-D HOW MUCH ARSENIC, MERCURY, SELENIUM, OR URANIUM IS IN THE COAL IN YOUR AREA?
Collection, chemical analysis and evaluation of 1975 coal samples from Wyoming, Iowa and Pennsylvania. No. 1 of 2.
- G-165-D COAL GEOCHEMISTRY
No. 2 of 2.
- G-166-D ENVIRONMENTAL GEOLOGIC MAPS, VICINITY OF SALT LAKE CITY, UTAH, USA
Illustration of how maps are used and interpreted by geologists. Consists of two panels.
- G-167-D LANDSLIDE MAP UNITED STATES

GEOLOGY DIVISION: 4'x5' STANDARD POSTERS (Cont'd.)

- G-168-D LANDSLIDE DEPOSITS, COLORADO
 1976 Map.
- G-169-D BUREAU OF LAND MANAGEMENT
 Visual screen enclosure for a movie screen. Special
 project.
- G-170-D ARKANSAS
 1976 Geologic Map.
- G-171-D ALTERED VOLCANIC ASH LAYERS (TONSTEIN) IN COALS OF THE
 ROCKY MOUNTAIN REGION
 Two sister panels that show location of tonstein samples,
 origin of tonstein and determination of tonstein ages.
- G-172-D PRESENT AND PAST, MINING LAND SURFACE
 Taken from parts of Gillette, Wyoming, west and east.
- G-173-D BIG THOMPSON FLOOD
 No. 1 of 2. Photos of July 31 - August 1, 1976 flood damage.
- G-174-D BIG THOMPSON FLOOD
 No. 2 of 2. Photos of before and after July 31-August 1, 1976
 flood in Colorado. Precipitation, Discharge and Flood chart.
- G-175-D TETON DAM
- G-176-D COLORADO GEOLOGY MAPS
- G-177-D ENERGY RESOURCES
- G-178-D SPECTROSCOPY OF MINERALS AND ROCKS
 Explanation of the spectral difference among naturally
 occurring materials by the electronic and vibrational
 processes. Wave length measurement logs and illustrations.
- G-179-D IMAGE ANALYSIS IN GEOLOGY
 Uses of the image-analyzing computer explained with
 photos and visual aids.
- G-180-D ORIGIN OF SCHWARTZWALDER URANIUM DEPOSIT-UNIQUE? DIME-A-DOZEN?
 SOMEWHERE BETWEEN?
 Diagrams used to substantiate the meteoric hydrothermal
 origin hypothesis.
- G-181-D LITHIUM I
 USGS Lithium Group presents Lithium Resources and require-
 ments by the year 2,000.

GEOLOGY DIVISION: 4'x5' STANDARD POSTERS (Cont'd.)

- G-182-D LITHIUM II
Will there be enough Lithium for the new energy-related uses?
- G-183-D URANIUM
Illustrations and photos depict roll-type deposits, their form and origin.
- G-184-D DEPOSITIONAL ENVIRONMENTS: THEIR RELATIONSHIPS TO URANIUM MINERALIZATION
Shown with graphs, charts and photos.
- G-185-D URANIUM & THORIUM I
Illustration of these minerals and their uses. No. 1 of 2.
- G-186-D URANIUM & THORIUM II
No. 2 of 2.
- G-187-D HOW TO PLAN AN AERIAL GAMMA RAY SURVEY
Uses charts and text to explain.
- G-188-D SURFACE GEOPHYSICS IN URANIUM EXPLORATION
Photos of geophysicists using outdoor equipment and maps.
- G-189-D NATIONAL CENTER FOR EARTHQUAKE RESEARCH - MENLO PARK, CALIFORNIA
Photos of equipment used to measure rock stress. No. 1 of 4.
- G-190-D PETROPHYSICS LABORATORY - DENVER, COLORADO - A
No. 2 of 4.
- G-191-D PETROPHYSICS LABORATORY - ELECTRIC PROPERTIES SAMPLE HOLDERS
No. 3 of 4.
- G-192-D PETROPHYSICS LABORATORY - DENVER, COLORADO - B
- G-193-D P-WAVE & S-WAVE
Illustration shows how true path of each wave affects statues.
- G-194-D EARTHQUAKE - CALIFORNIA - 1906
Two photos illustrate earth surface movement with road and fence displacement.
- G-195-D ISOSEISMAL MAP
August, 1975 Northern California Earthquake.
- G-196-D DIGITAL DATA HANDLING PROCEDURES
Current and planned procedures shown with charts.
- G-197-D FAULT MOVEMENT IN GUATEMALA FOLLOWING THE 1976 EARTHQUAKE
Shown by charts and photos.

GEOLOGY DIVISION: 4'x5' STANDARD POSTERS (Cont'd.)

- G-198-D THE INTERIOR OF THE EARTH
Illustration cross sections of the earth showing the paths of earthquake waves.
- G-199-D EVIDENCE OF PREHISTORIC EARTHQUAKE IN THE NEW MADRID AREA
A geomorphic investigation in the vicinity of Tiptonville and Reelfoot Lake, Tennessee. Shown with photos and maps.
- G-200-D INTERPRETATION OF DEFORMATIONAL STRUCTURES CONTROLLED LAMINA IN DUNES
Illustrates the cohesive characteristics of sand relative to moisture content from dry to saturated.
- G-201-D COLD CLIMATE EOLIAN DUNES - SNOW MELT DEFORMATION
Photos, maps and illustration of North Park, Colorado used to depict snow melt deformation and drift potential comparison of stratification deformation in cold climate sand dunes. No. 1 of 2.
- G-202-D COLD CLIMATE EOLIAN DUNES - DISSIPATION STRUCTURES
Photos, Illustrations and chart used to compare frozen and unfrozen sand structures by textural analysis. No. 2 of 2.
- G-203-D SAND BLOWS
Mississippi Embayment orthophoto map depicts sand blows produced by 1811-12 earthquake.
- G-204-D OIL & GAS MAP
- G-205-D COLORADO ENERGY MAP
- G-206a-D MEASURING GROWTH OF SAND DUNES
Graph, chart and illustration of Great Sand Dunes, Colorado and Namib Desert, South West Africa.
- G-206b-D QUANTITATIVE STUDY OF WIND SEDIMENTATION
Photos, illustration and samples used to describe the use of the USGS wind sedimentation tunnel in study of dune formation.
- G-207-D GEOTHERMAL MAP
- G-208-D GULF OF MEXICO RESOURCE APPRAISAL STUDIES
Charts and text assess undiscovered oil and gas resources in Western Gulf of Mexico.

GEOLOGY DIVISION: 4'x5' STANDARD POSTERS (Cont'd.)

- G-209-D RESOURCE APPRAISAL STUDIES
G-210-D OF THE PERMIAN BASIN
Sister panels. Maps and charts show how much oil and gas remains to be found on G-209-D and how much oil and gas has already been found through 1974 in the Permian Basin (G-210-D).
- G-211-D COAL EXPLORATORY PLAN
Map of Coal Fields in the U.S.
- G-212-D ENERGY LANDS PROGRAM
Map of Coal Fields in the U.S. and photos of mines.
- G-213-D GEOLOGY DIVISION - COAL EXPLORATORY DRILL PROGRAM
Agencies and divisions utilization of a single drill-core.
- G-214-D PROGRAM ELEMENTS - SUPPORT ELEMENTS
For the Coal Exploratory Drill Program.
- G-215a-D COAL RESOURCE ASSESSMENT - SAN JUAN BASIN, NEW MEXICO
Uses photos and charts to show the increase in quality of data when drill data is added to outcrop data.
- G-216-D THERMOLUMINESCENCE
Uses as a potential uranium prospecting tool.
- G-217-D GEOMATHEMATICS
Features the types of geological data used in the application of mathematics to geologic problems.
- G-218-D FRONT RANGE URBAN CORRIDOR, COLORADO
Three maps. Correlates to G-142-D, G-143-D and G-219-D.
- G-219-D FRONT RANGE URBAN CORRIDOR, COLORADO
Correlates to G-142-D, G-143-D and G-218-D.
- G-220-D HELIUM SNIFFER: INSTRUMENT AND SAMPLING
Updated to show more sophisticated equipment. 7/78
No. 1 of 2.
- G-221-D HELIUM SNIFFER: RECENT INVESTIGATIONS
Prepared 7/78 to display recent data. No. 2 of 2.
- G-222-D REMOTE SENSING AND NUCLEAR WASTE DISPOSAL IN CRYSTALLINE ROCKS
Depicted by three Landsat photos and photos and text from a coastal Maine study.

GENERAL INTEREST: STANDARD 4'x5' POSTERS

- GI-1-D UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY
Signature Panel of divisional functions. 1964
- GI-2-D UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY
Signature Panel of Divisional Functions.
- GI-3-D STATUS OF MAPPING IN COLORADO
Advance materials, topographic and geologic maps available.
January, 1967.
- GI-5-D U.S. DEPARTMENT OF THE INTERIOR - GEOLOGICAL SURVEY
USGS cut out letters and photos depicting geologists
at work.
- GI-8-D USGS MAPS
Maps in circular display.
- GI-9-D USGS PUBLICATIONS
Technical and nontechnical publications displayed in
circular form.
- GI-10-D U.S. GEOLOGICAL SURVEY
Signature Panel.

PUBLICATIONS DIVISION: STANDARD 4'x5' POSTERS

- P-1-D PUBLICATIONS
Signature panel showing branch functions, featuring steps in map preparation.
- P-2-D PHILMONT COUNTRY
P-3-D A pair of posters featuring pages and maps from Professional Papers 505. (1964)
- P-4-D RECENT PUBLICATIONS
P-5-D A pair of posters with maps, bulletins and professional papers. (1965)
- P-6-D MAP DISTRIBUTION
No. 1 of P-7-D showing types of maps available and statistics on map sales. (1967)
- P-7-D WESTERN DISTRIBUTION DEPOT, DENVER, COLORADO
No. 2 of P-6-D describes warehousing of maps.
- P-8-D PUBLICATIONS OF USGS
- P-9-D PUBLICATIONS
Primary functions shown with circulars, professional papers, technical illustrations, bulletins and maps.

RECRUITING (CAREERS) STANDARD 4'x5' POSTERS

- R-1-D CAREERS FOR WOMEN
Opportunities and types of careers for women
in government depicted with photos and paintings
of ethnic faces. (Revised 11/78)
- R-2-D U. S. GEOLOGICAL SURVEY EMPLOYS
Recruiting poster listing professions available
in the USGS.
- R-3-D U. S. GEOLOGICAL SURVEY - employs:
Signature recruiting poster featuring ethnic profiles
with professions of USGS.
- R-4-D SIGNATURE PANEL
Features photos of employees of different ethnic
cultures involved in various professions of the USGS.
- R-5-D EEO-CHINESE AMERICAN
Recruiting poster with photos of three Chinese-American
employees of USGS occupied in technical work.

TOPOGRAPHIC DIVISION: STANDARD 4'x5' POSTERS

- T-1-D TOPOGRAPHIC MAPPING
Signature panel highlighting Topographic Division activities and featuring 7 1/2 & 15 Min. Scales. (1963)
- T-3-D MAP USES
Then and today - intended uses of maps in 1885 and typical uses at present, 1963.
- T-4-D RESEARCH FOR BETTER MAPS FOR MORE EFFICIENT METHODS
Several improvements and developments in mapping method. (1963)
- T-5-D AVAILABLE GEOLOGICAL SURVEY MAPS
Features 7 1/2 min. & 15 min. quads and contour and shaded relief examples and map distribution address.
- T-6-D STATUS AND AVAILABILITY OF MAPS
(1964)
- T-9-D MAPPING IN TEXAS
- T-10-D MAP REVISION
Four quads and two photos showing processes to resurvey and revise maps. (1966)
- T-11-D NATIONAL TOPOGRAPHIC MAP SERIES
Examples of 15 types of maps currently being published by Topographic Division. (1966)
- T-12-D THE PRODUCT
Mapping features emphasized on Spokane and Vicinity map. August 1966.
- T-13-D TOPOGRAPHIC MAPPING - STATUS AND PROGRESS OF OPERATIONS
Features United States and Colorado maps. (1966)
- T-14-D MODERN METHODS - TOPOGRAPHIC MAPPING
- T-15-D SECOND ORDER HORIZONTAL CONTROL BY PRECISE THEODOLITE
Shows photos and schematic of theodolite instrument.
- T-16-D GEODETIC CONTROL
Maps, photographs, sketches, and text used to describe basic horizontal and vertical control.
- T-17-D ADVANCE FIELD COMPILATION - "PHASE 371"
Demonstrates the advantages of using vertical control and field compilation operations simultaneously in topographic mapping.

TOPOGRAPHIC DIVISION: STANDARD 4'x5' POSTERS (Cont.)

- T-18-D PHOTOGRAMMETRY
 Uses photos and text to describe up-to-date use of
 stereoplotters and computers in analytical aerotri-
 angulation for preparation of map compilation. 11/68
- T-19-D TOPOGRAPHIC MAP COVERAGE
 Shaded relief map and 1:63,360 - scale maps of the
 Alaska North Slope.
- T-20-D ORTHOPHOTOMAPPING
 Comparison between conventional and orthophoto maps of
 Salt Lake City area and Dallas, Texas.
- T-21-D MAP REVISION
 Examples of standard revision and interim revision,
 using Austin East, Texas and Oak Cliff, Texas quads.
- T-22-D NEW MAPS OF ALASKA'S PRUDHOE BAY
 Features Beechey Point A-3 NE, Alaska and Beechey
 Point B-3 SE, Alaska quads.
- T-23-D TOPOGRAPHIC MAPPING
 Status of topographic mapping in the U.S., Puerto Rico
 and the Virgin Islands as of December 30, 1970.
- T-24-D COLORADO SHADED RELIEF MAP
 Scale 1:500,000 map.
- T-25-D COLORADO TOPOGRAPHIC MAPS
 Index and 4 maps.
- T-26-D STATUS OF TOPOGRAPHIC MAPPING IN NEW MEXICO
 Index, 3 maps and pamphlet on aerial photographic
 reproduction.
- T-27-D TOPOGRAPHIC DIVISION
 Signature panel.
- T-28-D STATUS OF MAPPING IN UTAH
 United States Index, June 30, 1971, Utah Index, May, 1971,
 and Index to Advanced Materials, January, 1972.
- T-30-D COUNTY MAPS
- T-41-D SLOPE MAP - DECKER, MONTANA

TOPOGRAPHIC DIVISION: STANDARD 4'x5' POSTERS (Cont.)

- T-42-D SLOPE MAP - EVERGREEN, COLORADO
- T-44-D MAPPING STATUS OF THE STATE OF OKLAHOMA
Oklahoma Index and Illustration of surveyor.
- T-45-D PHASED AMPPING
Provides timely interim products shown by orthophoto
map, published map, contour separate and advance print.
- T-46-D URBAN MAPPING ACTIVITIES
- T-47-D NEW USGS PRODUCTS
Five types of maps.
- T-48-D TOPOGRAPHIC DIVISON
Explains divisional functions, purpose and lists
available occupations.
- T-49A-D COLORADO COUNTY MAPPING PROGRAM - A
Index to County Map Sheets and Index to County Map
Progress. Part 1 of 2.
- T-49B-D COLORADO COUNTY MAPPING PROGRAM - B
Index to County Map Priorities and Index to Published
Maps at 1:24,000 and 1:62,500 scales. Part 2 of 2.

WATER RESOURCES DIVISION: STANDARD 4'x5' POSTERS

- W-1-D GROUND WATER STUDIES IN COLORADO
Results of various types of ground water investigations in nine areas in the state; photos, charts and maps.
- W-2-D WATER RESOURCES
Signature panel describing activities of the Division Branches by photos and sketches and text.
- W-3-D WHY OUR CONCERN ABOUT WATER?
Water statistics. Revised 1967. A pair to W-4-D.
- W-4-D THERE IS NOT LESS WATER
Illustrates the importance of conscientious water use. A pair to W-3-D.
- W-5-D ATOMIC ABSORPTION SPECTROSCOPY FOR DETECTING METALLIC POLLUTANTS IN WATER
Describes principle, instruments, applications and sample preparation by use of diagram, photos, chart and tables.
- W-6-D EARTH'S WATER CYCLE
Water statistics in Cu. Mi. and painting illustrates hydrological cycle. (Revised 1978)
- W-7-D ELECTRIC ANALOG MODEL OF WATER RESOURCES OF ARKANSAS RIVER VALLEY, COLORADO
Part 1 of W-8-D. A 15 year History of water use from Pueblo to the Kansas Line.
- W-8-D ANALOG MODEL CONSTRUCTION - THEORY - APPLICATION
Part 2 of W-7-D. Statistics from May to October, 1964 and predictions.
- W-9-D CURRENT WATER RESOURCES PROJECT AREAS IN COLORADO
Map and 8 colored photos.
- W-10-D U. S. GEOLOGICAL SURVEY HYDROLOGIC ATLAS #294
Describing the Fairbanks Flood, 1967.
- W-11-D U. S. GEOLOGICAL SURVEY NUCLEAR SCIENCE BUILDING
Federal Center, Denver, Colorado. Describes purpose and illustrates locations with floor plan.
- W-12-D U.S.G.S. RESEARCH REACTOR
Uses pictures and diagrams to illustrate instrument.

WATER RESOURCES DIVISION: 4'x5' STANDARD POSTERS (Cont.)

- W-13-D THE REACTOR CORE
Illustration of instrument core.
- W-14-D PRINCIPLE AND APPLICATIONS OF THE RESEARCH REACTOR
Explains neutron activation analysis. W-11-D, W-12-D, W-13-D and this poster are correlative.
- W-15-D GEOHYDROLOGY OF CENTRAL NEVADA
Maps and cross-sections of Nevada Test Sites.
- W-16-D CURRENT WATER RESOURCES INVESTIGATIONS IN SOUTH DAKOTA
Field work in progress and completed in cooperation with local, state and federal agencies. Part 1 of 4.
- W-17-D WATER RESOURCES DATA COLLECTION IN SOUTH DAKOTA
Pictures and map used to depict data collection of ground water, surface water, water quality and general hydrology. Part 2 of 4.
- W-18-D HYDROLOGIC DATA NETWORK IN SOUTH DAKOTA
Map of Data Sites. Part 3 of 4.
- W-19-D SOUTH DAKOTA WATER RESOURCES REPORTS
1968 and prior publications. Part 4 of 4.
- W-20-D WATER RESOURCES PROJECT AREAS IN NORTHWEST KANSAS
Cooperative effort with Kansas State Agencies featuring map and photos of different county projects.
- W-21-D ARE WE RUNNING OUT OF WATER?
Painting used to illustrate distribution of earth's water. Revised 1978.
- W-22-D POLLUTION FROM STORM RUNOFF
Two illustrations depict litter and salt runoff from city streets.
- W-23-D FLOODS HAPPEN!
Data collected in Montana to be used to decrease future flood damages. Map, charts, professional paper and photos.
- W-24-D WATER RESOURCES INVESTIGATIONS IN MONTANA
Photos of ground water, surface water and water quality activities, relief map showing project locations and index of completed ground water projects.

WATER RESOURCES DIVISION: 4'x5' STANDARD POSTERS (Cont.)

- W-25-D U.S. GEOLOGICAL SURVEY WATER RESOURCES REPORTS
1969 and prior reports prepared by the
Montana WRD offices.
- W-26-D THERE IS NOT LESS WATER
Painting and chart depict water use as the determining
factor in an impending water crises in the U.S.
- W-27-D WATER RESOURCES INVESTIGATIONS
Uses charts to illustrate type and distribution
by states of water resource investigations and
source of funds and cost in 1972 in Rocky Mtn. Region.
- W-28-D WATER STORED TODAY FOR USE TOMORROW
Illustrates water stored in surface reservoirs and
underground storage.
- W-28-D WATER FOR THE SOUTHERN HIGH PLAINS OF NEW MEXICO AND TEXAS
Charts, photo and illustration used to show that rainfall
is not replacing water use.
- W-29-D HYDROGEOLOGY CONTROLS RECHARGE
Text and illustrations stress importance of research
in acceptable water recharge.
- W-30-D THE GOAL
Two illustrations featuring economic advantage of
basin spreading recharge over well injection recharge.
- W-31-D FIELD TESTS CHECK HYPOTHESES
Photos and charts depict artificial recharge field test
results on new techniques used to develop best method
for each hydrological and geologic environment.
- W-32-D LABORATORY INVESTIGATION
Studies and microanalysis give a clearer understanding
of sediment deposition and the chemical reactions that
take place in wells.
- W-33-D CHEMISTRY AND BIOLOGY EFFECT RECHARGE
Bacterial clogging can prevent recharge and chemical
changes can reduce permeability shown in photos, charts
and illustrations.
- W-34-D A DESIGN FOR MAXIMUM WATER UTILIZATION
New developments in artificial recharge of water in
Playa lakes in the Ogallala Formation.

WATER RESOURCES DIVISION: 4'x5' STANDARD POSTERS (Cont.)

- W-35-D WRD SIGNATURE
- W-36-D U.S. GEOLOGICAL SURVEY WATER RESOURCES INVESTIGATIONS OF
COLORADO
Features map, Cooperator Published Reports and Geological
Survey Reports.
- W-37-D COAL AND OIL SHALE HYDROLOGY
- W-38-D DROUGHT IN COLORADO
- W-39-D CURRENT WATER RESOURCES PROJECTS IN COLORADO
- W-40-D WATER RESOURCES DATA
- W-41-D WATER-LEVEL DATA FOR NEBRASKA
Samples of data collected by cooperative efforts of
Federal, State and local agencies.
- W-42-D CURRENT U.S. GEOLOGICAL SURVEY HYDROLOGIC STUDIES IN
NEBRASKA
Features satellite image of Nebraska.