NTIS/PS-75/377

Geothermal Energy

A Bibliography with Abstracts

Search period covered

1964 - April 1975

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15. Supplementary Notes Supersedes COM-74-10739			
16. Abstracts All aspects of geothermal energy are covered including development, prospecting, technology, and corrosion problems. (Contains 148 abstracts).			
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SAMPLE ENTRY

Title _____ Industry, Innovation and the Municipal Market
Corporate Author _____ Franklin Inst. Research Labs., Philadelphia, Pa. (142 925)

Report Date _____ Final rept.
Pages in Report _____ AUTHOR: Blair, John F. Jr.
C1872L3 FLD: 5C, 96*, 86K USGRDR 7324
15 Oct 73 103p*
REPT NO: FIRL-F-C3431
PROJECT: EDA-99-6-09281
MONITOR: EDA-73-046

Abstract or
Technical Report
Summary _____
ABSTRACT: The summary report is made on work done under the auspices of the Economic Development Administration and funded through The Experimental Technology Incentives Program (ETIP). It delineates the form and content of the policies and programs required to develop the municipal local government market into a force for technological innovation and economic development. In addition to this document, a series of eighteen background papers is on file that deals in considerable depth with the more important aspects of the study. This supplementary documentation is referenced in footnotes throughout the text of the summary volume.

Key Words _____
DESCRIPTORS: (*Industrial engineering, *Urban planning), (*Public administration, *Urban development), Procurement, Reviews, Optimization, Economic development, Industrial relations, Marketing, Productivity, Systems engineering, Local government, Policies, Recommendations, Pennsylvania

IDENTIFIERS: Technological development, Innovations, Philadelphia (Pennsylvania), EDA

Order Number _____ COM-73-11748/3 NTIS Prices: PC\$4.25/MF \$1.45

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51164
X The Economic Value of Remote Sensing of Earth Resources from Space: An
ERTS Overview and the Value of Continuity of Service. Volume 7:
Nonreplenishable Natural Resources: Minerals, Fossil Fuels and
Geothermal Energy Sources

ECON, Inc., Princeton, N.J.

AUTHOR: Lietzke, K. R.

C4325D2 PLD: 08G, 48C STAR1305

31 Oct 74 85p

REPT NO: NASA-CR-141264, REPT-74-2002-10-VOL-7

CONTRACT: NASW-2580

MONITOR: 18

450, 1424
ABSTRACT: The application of remotely-sensed information to the
mineral, fossil fuel, and geothermal energy extraction industry is
investigated. Public and private cost savings are documented in
geologic mapping activities. Benefits and capabilities accruing to the
ERS system are assessed. It is shown that remote sensing aids in
resource extraction, as well as the monitoring of several dynamic
phenomena, including disturbed lands, reclamation, erosion,
glaciation, and volcanic and seismic activity. (Author)

DESCRIPTORS: *Earth resources program, *Earth resources technology
satellites, *Economic analysis, *Geothermal resources, *Remote sensors
, Cost effectiveness, Earth resources, Mapping, Resources management,
Satellite observation

IDENTIFIERS: NTISNASA

N75-14212/5ST NTIS Prices: PC\$4.75/MP\$2.25

5/17d
X Technological Feasibility of Alternative Energy Sources

Army War Coll Carlisle Barracks Pa (403565)

9500849
Student essay

AUTHOR: Zweigle, Maurice L. G-21
C4282H3 FLD: 5C, 97G USGRDR7508

28 Oct 74 31p

MONITOR: 18

ABSTRACT: The US energy shortage is discussed. The technology of coal gasification or liquefaction, shale oil from oil shale, and geothermal energy recovery is presented in sufficient detail to show feasibility of these as energy source alternatives to petroleum crude. Technical trade publications data show that essentially all necessary process technology is known, although important improvements are possible, and have been proved at pilot plant scale. Conversion of coal to energy offers the best opportunity for rapid development as a broad, in-house US energy source. The other two should be developed as time and funds are available.

DESCRIPTORS: *Energy management, Resources

IDENTIFIERS: *Energy alternatives, *Energy sources, Coal gasification, Coal liquefaction, Geothermal energy, Oil shale, NTISDODA

AD/A-005 549/1ST NTIS Prices: PC\$3.75/MF\$2.25

X 54171
A Review of the Project Independence Report Submitted to Office of Energy Research and Development, National Science Foundation, January 10, 1975

Battelle Columbus Labs., Ohio.*National Science Foundation, Washington, D.C. Office of Energy Research and Development Policy. (407 080)

Final rept.

AUTHOR: Globe, Samuel, Craig, Richard A.

C4235H4 PLD: 10A, 05D, 97G* USGRDR7507

10 Jan 75 183p*

CONTRACT: NSF-C-914

MONITOR: 18

ABSTRACT: This report reviews and evaluates the Project Independence Report (PIR) issued in November 1974 by the Federal Energy Administration. The review includes comments on the PIR as a whole, and also provides detailed critiques of the various topics, strategies, and scenarios as they are discussed by the PIR, including energy and fuel supplies, conservation and demand management, environmental assessment, economic and social impacts, international assessment, and the analytical approach. Special attention is given to the policy implications of the PIR strategies.

DESCRIPTORS: *Energy policy, Government policies, Crude oil, Natural gas, Coal, Nuclear energy, Electricity, Shale oil, Manufactured gas, Solar heating, Solar air conditioning, Photovoltaic cells, Geothermal prospecting, Transportation, Residential buildings, Electric utilities, Commercial buildings, Steel plants, Refineries, Plastics industry, Food industry, Paper industry, Aluminum industry, Energy conservation, Energy management, Environmental impacts, Social effect, Cost analysis, International relations, Reviews

IDENTIFIERS: *Project Independence, NTISNSPRDA

PB-238 791/8-ST NTIS Prices: PC\$7.00/MF\$2.25

Def
Stimulation of Geothermal Aquifers

Stanford Univ., Calif.*National Science Foundation, Washington, D.C.
Research Applied to National Needs. (332 550)

Progress rept. no. 1

AUTHOR: Kruger, Paul, Ramey, Henry J. Jr

C4045L3 FLD: 08H, 08I, 18C, 97A, 48G USGRDR7504

Mar 73 97p

GRANT: NSF-GI-34925

MONITOR: NSF/RA/N-73-105

ABSTRACT: The three major objectives of this program are: (1) development of experimental and numerical data to evaluate the optimum performance of explosion-stimulated geothermal aquifers; (2) development of a geothermal steam reservoir model to evaluate the many thermophysical, hydrodynamic, and chemical parameters involved; and (3) development of a laboratory model of an explosion-produced chimney to obtain experimental data on the processes of in-place boiling, moving flash fronts, and two-phase flow in hot porous media, as well as chemical and radiochemical data for the fluids production.

DESCRIPTORS: *Geothermal prospecting, *Aquifers, Underground explosions, Nuclear explosions, Stimulation, Pressure vessels, Chimneys, Rubble, Water quality, Fission products, Nuclear explosion effects, Radioactive contaminants, Air pollution, Environmental impacts, Mathematical models, Computerized simulation

IDENTIFIERS: *Nuclear stimulation, NTISNSFRA

PB-238 054/1ST NTIS Prices: PC\$4.75/MF\$2.25

612 542 612 X
Geoscientific Aspects of Supplying Energy / Geowissenschaftliche Aspekte
Zur Energieversorgung

Technische Universitaet, Brunswick (West Germany). Inst. fuer
Geophysik und Meteorologie.

AUTHOR: Kertz, W.

C4004C3 FLD: 10A STAR1224

1974 23p

MONITOR: 18

Subm-Its gamma 26, 18 S., 1974. Conf-Presented at 34TH
Jahresversammlung der Deut. Geophysik. Ges., Berlin, 26 Mar. 1974.
Language in German.

ABSTRACT: Geoscientific aspects of energy sources consider future
energy demands on nuclear fission, controlled nuclear fusion, solar
energy, and geothermal energy. The danger of violating the entropy law
through heating of the atmosphere by spend energy is discussed.

DESCRIPTORS: *Atmospheric heating, *Demand (Economics), *Energy
sources, *Geophysics, Air pollution, Entropy, Geothermal resources,
Nuclear fission, Nuclear fusion, Solar energy

IDENTIFIERS: NTISNASA

N74-34820/2ST NTIS Prices: PC\$3.25/MF\$2.25

JMB
Report of the Interagency Working Group on Health and Environmental Effects of Energy Use

Interagency Working Group on Health and Environmental Effects of Energy Use, Washington, D.C.*Council on Environmental Quality, Washington, D.C.

Final rept.

C3995P1 FLD: 21D, 05A, 97G*, 68*, 57H USGRDR7503

Nov 74 714p*

MONITOR: 18

ABSTRACT: A multi-agency review of proposed energy generating technologies is presented. A list of health and environmental problems associated with each technology is given, with estimates of when each technology will be operational. Qualitative assessments are prepared for each technology identifying areas in which supplemental research needs are indicated. Research objectives and projects responsive to these needs are developed. Two program options are offered. Portions of this document are not fully legible.

DESCRIPTORS: *Energy, *Public health, *Pollution, Geothermal prospecting, Nuclear energy, Solar energy, Coal, Fuels, Natural gas, Oil recovery, Fuel oil, Shale oil, Hydroelectric power generation, Health, Environmental impacts, Air pollution, Water pollution, Ecology, Heat, Transport properties, Extraction, Utilization, Monitors, Government policies, Research projects, Research management, Financing, Objectives

IDENTIFIERS: 1Energy resources, Geothermal energy, Synthetic fuels, Ecosystems, NTISEXCEQ

PB-237 937/8ST NTIS Price: PC\$17.25/MF\$2.25

2248 Drilling at the Summit of Kilauea Volcano

Colorado School of Mines, Golden.*National Science Foundation,
Washington, D.C. Research Applied to National Needs. (088 250)

AUTHOR: Keller, George V.

C3872K2 FLD: 8G, 97A, 48F USGRDR7501

15 Mar 74 51p

MONITOR: NSF/RA/N-74-042

ABSTRACT: A borehole has been drilled to a depth of 1262 m beneath the summit of Kilauea Volcano on the island of Hawaii. The purposes were twofold: To obtain engineering information related to the possible occurrence of geothermal energy in a basaltic volcano, and to obtain scientific information about the internal nature and workings of Kilauea Volcano. Because the location of the borehole is within Hawaii Volcanoes National Park, the drilling could not have as its objective the production of steam. Accordingly, the drilling program was carried out in a manner intended to minimize the chance of a steam eruption, and to maximize the chances of gathering scientific information.

DESCRIPTORS: *Geothermal prospecting, *Kilauea Volcano, Basalt, Geothermy, Boreholes, Drilling, Earth crust, Steam flow, Heat transfer, Sources, Energy, Hawaii, National Parks

IDENTIFIERS: Hawaii Volcanoes National Park, NTISNSPRA

PB-237 111/OST NTIS Prices: PC\$4.25/MF\$2.25

5/1/73
California Energy Workshop: Developing a Plan of Action to Meet the Energy Crisis in California

9501420
California State Office of Science and Technology, Sacramento.*National Science Foundation, Washington, D.C. Office of Intergovernmental Science and Research Utilization.

AUTHOR: Jebins, Arthur B.

C3872E3 PLD: 10A, 97B USGRDR7501

Dec 73 52p

GRANT: NSF-GI-39241

MONITOR: NSF/RA/G-73/042

ABSTRACT: Supply, demand, and possible directions for an energy policy program to take are discussed. Report briefly covers offshore oil production, deep water ports, secondary and tertiary oil recovery, onshore oil and gas development, nuclear power, and geothermal power development. Also noted is the energy demand by utilities, transportation, industry and residential and commercial buildings.

DESCRIPTORS: *California, *Energy consumption, *Meetings, Oil recovery, Nuclear electric power generation, Geothermal prospecting, Government policies

IDENTIFIERS: Energy sources, Energy supplies, NTISNSFRA

PB-237 045/0ST— NTIS Prices: PC\$4.25/MF\$2.25

X
A Reconnaissance Space Sensing Investigation of Crustal Structure for a Strip from the Eastern Sierra Nevada to the Colorado Plateau

Argus Exploration Co., Los Angeles, Calif.*NASA Earth Resources Survey Program, Washington, D.C.

Final rept.

AUTHOR: Liggett, Mark A.

C3785D2 FLD: 08G, 93A USGRDR7426

Aug 74 478p

CONTRACT: NAS5-21809

MONITOR: NASA-CR-139434

Original contains color illustrations. Original contains imagery. Original photography may be purchased from the Eros Data Center, 10th and Dakota Ave., Sioux Falls, S.D. 57198.

ABSTRACT: The author has identified the following significant results. Studies were conducted in key field areas in the Sierra Nevada, the Basin Range Province and the Colorado Plateau to evaluate the origins and significance of geologic and structural anomalies expressed in ERTS-1 data. The investigation included development of image enhancement and analysis techniques and comparison of remote sensing data available over the test site. The ERTS-1 MSS imagery has proven to be an effective tool for studying the interrelationships between Cenozoic tectonic patterns and the distributions of Cenozoic plutonism and volcanism, seismic activity, geologic hazards, and known mineral, geothermal and ground water resources. Recommendations are made for applications of ERTS-1 data to natural and resource exploration and management.

Structural properties(Geology), Geological surveys, Nevada, California, Utah, Arizona, Colorado plateau(US), Sierra Nevada Mountains(CA), Earth resources program, Image enhancement, Volcanology, Tectonics, Minerals, Seismology, Geothermal resources, Ground water, Water resources, Resources management

IDENTIFIERS: NTISNASA

E74-10705 NTIS Prices: PC\$12.00/MF\$2.25

Day Method of Extracting Heat from Dry Geothermal Reservoirs

Atomic Energy Commission, Washington, D.C. (046 400)

Patent

AUTHOR: Potter, Robert M., Robinson, Eugene S., Smith, Morton C.

C3694A3 FLD: 13A, 8I, 90 USGRDR7425

Filed 27 Mar 72, patented 22 Jan 74 6p

REPT NO: PAT-APPL-238 435

MONITOR: 18

Government-owned invention available for licensing. Copy of patent available Commissioner of Patents, Washington, D.C. 20231 \$0.50.

ABSTRACT: The patent relates to hydraulic fracturing used to interconnect two or more holes which penetrate a previously dry geothermal reservoir, and to produce within the reservoir a sufficiently large heat-transfer surface so that heat can be extracted from the reservoir at a usefully high rate by a fluid entering it through one hole and leaving it through another. Introduction of a fluid into the reservoir to remove heat from it and establishment of natural (unpumped) convective circulation through the reservoir to accomplish continuous heat removal are important and novel features of the method.

DESCRIPTORS: *Geothermy, *Heating equipment, *Patents, Wells, Circulation, Well completion, Heat exchangers, Water flow, Fracturing, Drilling

IDENTIFIERS: PAT-CL-165-1, NTISGPAEC

PATENT-3 786 858 NTIS Prices: Not available NTIS

51,174
Application of Remote Sensing to State and Local Government (Arsig)

Arizona Univ., Tucson. Office of Arid Lands Studies.

Annual Report.

AUTHOR: Foster, K. E., Johnson, J. D.

C3635G4 FLD: 08B, 48 STAR1219

Apr 74 113p

REPT NO: NASA-CR-139315, AR-2

CONTRACT: NGL-03-002-313

MONITOR: 18

Misc-Original Contains Color Illustrations.

ABSTRACT: Progress of ARSIG projects is reported and the impact of the projects upon policy decision within Arizona is discussed.

DESCRIPTORS: *Arizona, *Remote sensors, *Technology utilization, Earth resources, Geothermal resources, Hydrology, Land management, Side-looking radar

IDENTIFIERS: NTISNASA

N74-29733/4SL¹ NTIS Prices: PC\$8.75/MF\$2.25

5175
2X
TKHMA
Geothermal Power Station

Army Foreign Science and Technology Center Charlottesville Va (C38300)

C3595E4 FLD: 10B USGRDR7424

29 Mar 74 7

REPT NO: PSTC-HT-23-1674-73

MONITOR: 18

Trans. of Tekhnika-Molodezhi (USSR) n1 p4-5 1973. TKHMA

TKHMA
ABSTRACT: The article mentions a geothermal power plant in Kamachatka using 200-300 degrees steam as the power source, at an efficiency of about 10%. It further mentions an extensive geothermal field in Kamchatka, with a water temperature of 80-90C, in which the exhaust steam heats freon, which runs a secondary generator. Creation of an artificial magma chamber with a 100 megaton thermonuclear device is proposed, to supply a geothermal power plant by means of heat pipes.

DESCRIPTORS: *Thermal power plants, *Geothermy, Turbines, Fluorohydrocarbons, Heat pipes, Translations, USSR

IDENTIFIERS: NTISDODA

AD-785 948/1SL NTIS Prices: PC\$3.25/MF\$2.25

SL 175
X
Energy: A Special Bibliography with Indexes, April 1974

64-29337
National Aeronautics and Space Administration, Washington, D.C.
C351512 FLD: 10A, 97G STAR1218
Apr 74 534p
REPT NO: NASA-SP-7042
MONITOR: 18

ABSTRACT: This literature survey of special energy and energy related documents lists 1708 reports, articles, and other documents introduced into the NASA scientific and technical information system between January 1, 1968, and December 31, 1973. Citations from International Aerospace Abstracts (IAA) and Scientific and Technical Aerospace Reports (STAR) are grouped according to the following subject categories: energy systems; solar energy; primary energy sources; secondary energy sources; energy conversion; energy transport, transmission, and distribution; and energy storage. The index section includes the subject, personal author, corporate source, contract, report, and accession indexes. (Author)

DESCRIPTORS: *Bibliographies, *Energy conversion, *Energy sources, *Energy technology, Energy policy, Geothermal resources, Solar energy, Windpower utilization

IDENTIFIERS: NTISNASA

N74-29337/4 NTIS Price: PC\$6.00

Diff
Special Techniques for Determining Chemical Properties of Geothermal Water

Geological Survey, Menlo Park, Calif. Water Resources Div.

Water-resources investigations (Final)

AUTHOR: Presser, T. S., Barnes, Ivan

C3502L1 FLD: 7D, 8D, 99A* USGRDR7422

Aug 74 16p*

REPT NO: USGS/WRI-22-74, USGS/WRD-74-028

MONITOR: 18

ABSTRACT: A reliable determination of the chemical composition of geothermal fluids may require special sampling and preservation techniques. A sample collected without pretreatment is usually adequate for the analysis of sodium, potassium, and chloride. Other constituents may require further treatment or even analysis in the field, depending on the data requirements. The collection and preservation methods described permit accurate results for 31 chemical variables, including major and minor chemical constituents.

DESCRIPTORS: *Brines, *Sampling, *Water analysis, Geothermy, Colorimetric analysis, Volumetric analysis, Potentiometric analysis

IDENTIFIERS: Atomic absorption spectroscopy, Ion selective electrodes, NTISDIUSGS

PB-235 148/4 NTIS Prices: PC\$3.00/MF\$2.25

2/24/74
Program Plan for Environmental Effects of Energy

Mitre Corp., McLean, Va.*National Science Foundation, Washington, D.C.
(402 364)

Final rept. 15 May-31 Jul 74

AUTHOR: Pikul, Robert P., Rabin, Robert

C3502J1 FLD: 13B, 10A, 97G*, 68* USGRDR7422

Jul 74 309p*

REPT NO: MTR-6726

MONITOR: 18

ABSTRACT: This document presents the National Science Foundation's initial Five Year Program Plan for the Environmental Effects of Energy. It consists of a basic program for five energy sources--coal, oil and gas, oil shale, geothermal and solar. It also identified preobligated projects, new environmental support studies and program planning and evaluation needs.

DESCRIPTORS: *Energy, *Pollution, Research management, Coal, Oils, Natural gas, Oil shale, Solar energy, Management planning, Objectives, Coal gasification, Liquefaction

IDENTIFIERS: Geothermal energy, Energy sources, NTISNSF

PB-235 115/3 NTIS Prices: PC\$7.25/MF\$2.25

Sub The Great Basin Investigation

MacKay School of Mines, Reno, Nev.*NASA Earth Resources Survey
Program, Washington, D.C. (214 070)

Monthly progress rept.

AUTHOR: Quade, Jack G.

C3425L1 FLD: 93C USGRDR7421

Jul 74 2p

CONTRACT: NAS9-13274

MONITOR: NASA-CR-139321

Great Basin(US), Multispectral photography, Structural
properties(Geology), EREP, Skylab program, Geological faults,
Geothermal resources

IDENTIFIERS: NTISNASA

E74-10701 NTIS Prices: PC\$4.00/MF\$2.25

NO ABSTRACT AVAILABLE

Diff Exploration of Multiphase Fluid Flow in a Saline Aquifer System
Affected by Geothermal Heating

Alabama Univ., University. Bureau of Engineering Research. (067 500)

Final rept.

AUTHOR: Henry, Harold R., Hilleke, Jeffrey B.

C3291L3 FLD: 13B, 8H, 68D, 48G USGRDR7419

Jul 72 123p

REPT NO: BER-150-118

CONTRACT: DI-14-08-0001-12681

MONITOR: 18

ABSTRACT: Interest is focused on deep saline aquifers as possible reservoirs for disposal of liquid wastes. The hydraulic pressure gradient, the geothermal gradient and the salt concentration gradient control the movement of water in such aquifers. Interaction of these gradients induces gravity convection currents which may cause the entrained waste to migrate in unanticipated directions. This investigation consisted of measurements on a hydraulic model of the Floridan Aquifer and theoretical analysis of the system based on solution of the governing differential equations. Distributions of temperature, salinity and flow patterns as determined from the laboratory model and mathematical analyses are similar to field data, thus indicating that such analyses can be effective in predicting conditions in the field.

DESCRIPTORS: *waste disposal, *Aquifers, *Injection wells, *Florida, Fluid flow, Salinity, Ground water, Water quality, Salt water intrusion, Mathematical models, Hydrogeology, Water pollution, Geothermy, Heating, Convection, Experimental data

IDENTIFIERS: *Liquid waste disposal, Underground waste disposal, NTISDIUSGS

PB-234 233/5 NTIS Prices: PC\$9.25/MP\$1.45

Jeff

Multidisciplinary Study of Wyoming Test Sites

Wyoming Univ., Laramie. Remote Sensing Lab.

Progress rept. no. 3, Oct 73-Mar 74

AUTHOR: Houston, Robert S., Marrs, Ronald W., Agard, S. S., Downing, K. G., Earle, J.

C3281K4 FLD: 8B, 93A USGRDR7419

Apr 74 37p

REPT NO: EREP-1-74a

CONTRACT: NAS9-13298

MONITOR: NASA-CR-138734

Original contains color imagery. Original photography may be purchased from the EROS Data Center, 10th and Dakota Ave., Sioux Falls, S. D. 57198.

ABSTRACT: The author has identified the following significant results. Investigation of a variety of applications of EREP photographic data demonstrated that EREP S-190 data offer a unique combination of synoptic coverage and image detail. The broad coverage is ideal for regional geologic mapping and tectonic analysis while the detail is adequate for mapping of crops, mines, urban areas, and other relatively small features. The investigative team at the University of Wyoming has applied the EREP S-190 data to: (1) analysis of photolinear elements of the Powder River Basin, southern Montana, and the Wind River Mountains; (2) drainage analysis of the Powder River Basin and Beartooth Mountains; (3) lithologic and geologic mapping in the Powder River Basin, Black Hills, Green River Basin, Bighorn Basin and Southern Bighorn Mountains; (4) location of possible mineralization in the Absaroka Range; and (5) land use mapping near Riverton and Gillette. All of these applications were successful to some degree. Image enhancement procedures were useful in some efforts requiring distinction of small objects or subtle contrasts.

Wyoming, Hydrology, Biology, Geology, Geothermal resources, Land use, EREP, Skylab program, Multispectral photography, Lithology, Structural properties (Geology)

IDENTIFIERS: NTISNASA

E74-10624 NTIS Prices: PC\$5.00/MF\$1.45

51176
A Field Evaluation of Caner's Broad-Band Geomagnetic Induction Instrumentation

British Columbia Univ Vancouver Dept of Geophysics and Astronomy (406663)

AUTHOR: Dragert, H.

C3264H1 FLD: 8N USGRDR7419

17 Sep 73 10p

MONITOR: DRB-Reprint-3986

Availability: Pub. in Jnl. of Geophysics, v40 p121-129 1974.

ABSTRACT: A Moderate-cost, dual-band system for field research in geomagnetic variation studies is discussed. The extended frequency range and wide dynamic range make the instrument particularly well suited to areas where short-period vertical field variations are strongly attenuated. Because of the increased sensitivity and expanded frequency range, immediate system applications included the study of long-period micropulsations as well as the location of upper-crustal conductivity anomalies such as geothermal areas with power source potential.

DESCRIPTORS: *Geomagnetism, *Magnetic induction, Depth finders, Induction systems, Pulsation, Geothermy, Heat, Canada

IDENTIFIERS: NTISDODSD

AD-782 594/6 NTIS Price: Not available NTIS

Sub
Assessment of Total Energy Systems for the Department of Defense.
Volume 2. Appendices

Stanford Research Inst Menlo Park Calif (332500)

Final rept.

AUTHOR: Goen, Richard L., Stout, Gordon, Beaulaurier, L. O., Schmidt,
Richard A., Ryan, John W.

C3193B2 FLD: 10A, 97C USGRDR7418

Nov 73 160p

REPT NO: SRI-EGU-2513-Vol-2

CONTRACT: DACA23-73-C-0014, ARPA Order-2408

MONITOR: 18

See also Volume 1, AD-781 816.

ABSTRACT: The purpose of the study is to assess the potential applicability of various types of total energy systems to military installations. The appendix volume of the final report contains (1) engineering performance characteristics and costs of fossil fuel system elements, (2) energy consumption data for military bases and derivation of the energy load profiles used in the study, (3) description of the fuel consumption model and summaries of the fuel consumption and total system costs for the various cases, (4) characteristics and costs of geothermal systems, and (5) description of solar energy systems. (Author)

DESCRIPTORS: *Energy, Military facilities, Fuels, Nuclear energy, Nuclear power plants, Geothermy, Fuel consumption, Diesel engines, Electric generators, Solar energy, Gas turbines, Steam turbines, Solid wastes, Costs, Computer programs

IDENTIFIERS: *Total energy systems, Fossil fuels, NTISDODA

AD-781 817/2 NTIS Prices: PC\$5.00/MP\$1.45

Sup
Assessment of Total Energy Systems for the Department of Defense -
Volume 1

Stanford Research Inst Menlo Park Calif (332500)

Final rept.

AUTHOR: Goen, Richard L.

C3193B1 FLD: 10A, 97C* USGRDR7418

Nov 73 122p*

REPT NO: SRI-EGU-2513-Vol-1

CONTRACT: DACA23-73-C-0014, ARPA Order-2408

MONITOR: 18

See also Volume 2, AD-781 817.

ABSTRACT: The purpose of the study is to assess the potential applicability of various types of total energy systems to military installations. The types of energy systems considered include diesel, gas turbine, steam turbine, geothermal, solar, nuclear, and solid wastes. Fuel savings are given for each type of system, and their costs are compared with the costs of conventional systems. The two most promising systems are (1) solar energy applied to heating and cooling, and (2) nuclear power. (Author)

DESCRIPTORS: *Energy, Military facilities, Fuels, Solar energy, Nuclear energy, Nuclear power plants, Geothermy, Diesel engines, Electric generators, Gas turbines, Steam turbines, Solid wastes, Costs, Fuel consumption

IDENTIFIERS: *Total energy systems, Fossil fuels, NTISDODA

AD-781 816/4 NTIS Prices: PC\$4.50/MF\$1.45

Sh Flashing Flow in Hot Water Geothermal Wells: Computer Program

Geological Survey, Menlo Park, Calif. (152 400)

AUTHOR: Nathenson, Manuel

C3142L1 FLD: 8H, 9B, 48F, 97A USGRDR7417

May 74 34p

REPT NO: USGS-GD-74-021

MONITOR: 18

ABSTRACT: A PL/1 computer program for calculating the production characteristics of hot water geothermal wells which flash to steam-water mixtures in the cased portion of the hole is presented. The flashing flow is assumed to be isenthalpic and, for purposes of calculating pressure drop, a finely dispersed mixture of equal average velocity. The flow in the aquifer is treated using steady radial Darcy flow. The thermodynamic properties of saturated water and steam are obtained using interpolation and a stored set of steam tables.

DESCRIPTORS: *Water wells, *Geothermy, *Computer programs, PL/1 programming language, Water flow, Steam flow, Two phase flow, Programming manuals

IDENTIFIERS: Geothermal energy, IBM 360/65 computers, NTISUSGS

PB-233 123/9 NTIS Prices: PC\$4.75/MF\$1.45

2X 51,177
VTE Evaporators for Geothermal Brines

Badger (W. L.) Associates, Inc., Ann Arbor, Mich. (049 820)

Research and development progress rept.

AUTHOR: Standiford, F. C.

C3143K4 FLD: 7A, 99B USGRDR7417

Jun 72 191p

CONTRACT: DI-14-30-2955

MONITOR: Int-OSW-RDPR-74-975

ABSTRACT: Conceptual designs and costs for VTE (Vertical Tube Evaporation) evaporators to desalt hot geothermal brines are discussed. Basic unit capacity was 4 MGD and brine feed temperature 400F. Variables investigated included physical arrangement, upflow versus downflow heat transfer, feed brine temperature, product recovery ratio, and means of heat rejection. A five-effect downflow VTE rejecting heat to water used for reservoir recharge gave the lowest product cost (11.24 cents/1,000 gallons, exclusive of labor) at 90 percent load factor and 12 percent total charges on capital investment.

DESCRIPTORS: •Evaporators, *Desalting, Fouling, Brines, Geothermy, Cost estimates, Design, Heat transfer, Temperature, Plant layout, Distillation equipment, Engineering drawings, Capitalized costs, Operating costs, Process charting

IDENTIFIERS: *Vertical tube evaporation, NTISDISW

PB-233 185/8 NTIS Prices: PC\$12.75/MF\$1.45

Suppe
Laboratory Program of Study Flashing and Scaling Characteristics of Geothermal Brines

Dow Chemical Co., Midland, Mich. (116 750)

Research and development progress rept.

AUTHOR: Wilson, J. S., Warren, G. R.

C3141H2 PLD: 7A, 99B USGRDR7417

Jun 73 94p

CONTRACT: DI-14-30-2936

MONITOR: Int-OSW-RDPR-74-696

75,07407
246
219 6000
415
ABSTRACT: The purpose of this project was to identify and study problems associated with the production of desalted water in a dual-purpose geothermal flash plant. The investigation was carried out by controlled flashing of a brine, prepared to simulate the geothermal brine expected to be found in the Imperial Valley of California. Anticipated problem areas were boric acid and hydrogen sulfide carry-over into the product water, solids in the waste stream, scaling in the flash equipment and corrosion. One unexpected problem, low pH of the product water, was encountered. Scaling did not occur but may be a problem in a continuous plant. Corrosion of 316 stainless steel, nickel, and monel did occur but no rates were determined. (Modified author abstract)

DESCRIPTORS: *Desalting, *Brines, *Flashing, Geothermy, Hydrogen sulfide, Boric acids, Scale(Corrosion), Precipitation(Chemistry), Scaling, Flocculating, Silicon dioxide, Suspended sediments, Calcium carbonates, pH, Water treatment, Distillation equipment

IDENTIFIERS: Multistage flash distillation, NTISOSW

PB-233 051/2 NTIS Prices: PC\$7.75/MF\$1.45

5/1/78
X
Deformation Moduli of Water-Bearing Formations at Elevated Temperatures

California Univ., Berkeley. Water Resources Center.

Technical completion rept.

AUTHOR: Somerton, Wilbur H.

104-20000
C301213 FLD: 8G, 48P USGRDR7415

Jan 74 73p

REPT NO: Contrib-146, UCAL-WRC-W-348

PROJECT: OWRR-A-042-CAL

MONITOR: OWRR-A-042-CAL(2)

ABSTRACT: Measurements of sonic velocities, bulk and matrix compressibilities and thermal conductivities have been made on a group of outcrop sandstones and a group of siltstone cores obtained from wells drilled in the Imperial Valley, California. Results of these measurements, which were made at temperatures as high as 200C and pressures to 16,000 psi, are presented and discussed relative to their application in high temperature underground reservoir studies. (Modified author abstract)

DESCRIPTORS: *Rock properties, *High temperature tests, Acoustic velocity, Compressive properties, Thermal conductivity, Sandstones, Siltstones, Geothermy, Imperial Valley, California

IDENTIFIERS: NTISOWRR

PB-232 152/97 NTIS Prices: PC\$3.75/MF\$1.45

Drp

A Rational Energy Policy

Atlantic Research Corp., Alexandria, Va. (045 550)

AUTHOR: Raphael, Coleman

C2943A1 FLD: 10A, 97G* USGRDR7414

Apr 74 64p*

REPT NO: ARC-p1-1

MONITOR: 18

ABSTRACT: The report analyzes the overall energy problem, defining the 'crisis', its causes, and the alternative solutions which are available. Conclusions drawn throughout the report are then brought together to form a rational and cohesive recommended program.

DESCRIPTORS: *Energy, *Reviews, Supply(Economics), Demand(Economics), Electric power generation, Solar energy, Geothermy, Nuclear energy, Conservation, Environments, Planning, Government policies, Energy storage

IDENTIFIERS: Geothermal energy, NTISATRECO

PB-231 913/5 NTIS Prices: PC\$3.25/MF\$1.45

Skylab
Remote Sensing Geophysics from Skylab

Geological Survey, Denver, Colo. (152 350)

Monthly rept.

AUTHOR: Watson, Kenneth

C2941B4   PLD: 93C   USGRDR7414

Jan 74   3p

CONTRACT: NASA Order T-6555-B

MONITOR: NASA-CR-136883

Geophysics, Geothermal resources, Rocks, Southern California, Nevada,
EREP, Skylab program, Computer programming, Thermal emission

IDENTIFIERS: NTISNASA

E74-10480   NTIS prices: PC\$4.00/MF\$1.45

NO ABSTRACT AVAILABLE

gms Satellite Geological and Geophysical Remote Sensing of Iceland

Geological Survey, Reston, Va.

Progress rept. 1 Sep 73-28 Feb 74

AUTHOR: Williams, Richard S. Jr

C2935L2 FLD: 08G, 93A USGRDR7414

1 Mar 74 49p

CONTRACT: NASA Order S-70243-AG

MONITOR: NASA-CR-136868

ABSTRACT: The author has identified the following significant results. ERTS-1 imagery provides sufficient resolution to discern two effects of geothermal activity at the Namafjall geothermal area: snowmelt anomalies and delineation of altered ground. The fallout pattern of tephra from Hekla's 1970 volcanic eruption can be mapped where sufficient depth of deposition destroyed the vegetation. Lava flows from the volcanic eruptions at Askja and Hekla can be delineated. Low sun-angle imagery of snow-covered terrain has permitted the mapping of new structural and volcanic features beneath the icecaps. Coastline changes on the islands of Surtsey and Heimaey can be mapped. Variations of sediment plumes from glacial rivers on the south coast give a qualitative indication of seasonal changes in melting rates of glaciers. ERTS-1 imagery has been shown to be especially amenable to portrayal of changing glaciological phenomena: surging glaciers, collapse features in icecaps caused by subglacial volcanic and geothermal activity and resulting jokulhlaups, and variations in size of glacier-margin lakes. A fifth vegetation class has now been added: lichen-covered bedrock. The high latitude permits more precise analysis of landforms, vegetation distribution, occurrence of snow cover, glaciers, and geologic structure.

Geophysics, Geology, Geothermal resources, Iceland, Volcanology, Polar regions, Glaciology, Earth resources program, Vegetation, Geomorphology, Snow cover

IDENTIFIERS: NTISNASA

E74-10467 NTIS Prices: PC\$5.50/MF\$1.45

Sup Gravity Data for 525 Stations in Long Valley and Vicinity, California
Geological Survey, Menlo Park, Calif. (152 400)

Preliminary rept. 1958-1970

AUTHOR: Oliver, H. W., Robbins, S. L., Pakiser, L. C., Kane, M. F.

C2883F2 FLD: 8E, 48F USGRDR7413

May 73 21p

REPT NO: USGS-GD-74-011

MONITOR: 18

ABSTRACT: Gravity data from three independent surveys totalling 525 stations in Long Valley, California and vicinity have been normalized to a common datum and similarly reduced. The area of the surveys is determined by parallels 37 degrees 30 min N and 38 degrees N and meridians 118 degrees 30 min W and 119 degrees 15 min W. (Author)

DESCRIPTORS: *Gravity, *California, corrections, Statistical data, Tables(Data), Geothermal prospecting

IDENTIFIERS: Long Valley(California), USGS

PB-231 695/8 NTIS Prices: PC\$4.25/MF\$1.45

~~57738~~
57738
654 95-02
Chemical Processing in Geothermal Nuclear Chimney

Atomic Energy Commission, Washington, D.C. (046 400)

Patent

AUTHOR: Kirkorian, Oscar H.

C2941J4 FLD: 7A, 18C, 90B USGRDR7414

Filed 17 May 71, patented 9 Oct 73 12p

REPT NO: PAT-APPL-144 168

MONITOR: 18

Government-owned invention available for licensing. Copy of patent available Commissioner of Patents, Washington, D.C. 20231 \$0.50.

ABSTRACT: The invention relates to the use of nuclear detonation cavities and chimneys provided in a subterranean geothermal formation as a reaction vessel for conducting chemical process reactions. The nuclear chimney reaction vessel will generally include a rubble zone therein comprised of formation or other material in proximity to the nuclear explosive which is vaporized and melted and which is intermixed, at least partially, with fragments of the formation which cave therein. Facilities appropriate for producing reagents or otherwise for preparing reaction mixtures as well as for processing the reaction product are provided at the surface and are coupled to said input and output conduits. Reactions suitable for practice herein are those which are facilitated by the temperature, pressure, long contact times, and other conditions existent or provided in the chimney. (auth)

DESCRIPTORS: *Patents, *Chemical reactors, *Geologic structures, *Geothermy, Chimneys, Nuclear explosions, Catalysis, Underground explosions, Caves, Subsurface structures, Rubble, Temperature

IDENTIFIERS: PAT-CL-423-362, NTISGPAEC

PATENT-3 764 660 NTIS Prices: Not available NTIS

✓ *30.24311*
Plowshare Technology Assessment, Prospectives for Nuclear-Stimulated
Geothermal power in the Western U.S

54, 74
Western Interstate Nuclear Board, Lakewood, Colo.

AUTHOR: Sandquist, Gary M.

NSF 65-21
C272314 FLD: 18C, 8I, 77D, 97A*, 48A USGRDR7411

Feb 73 115p*

GRANT: NSF-GT-21

MONITOR: NSF-RA-G-73-014

See also PB-231 012.

ABSTRACT: The feasibility of using nuclear explosives to stimulate the
output of geothermal sites is examined for the Western U.S. Actual
explosives applications appear limited to marginal geothermal sites
where explosive yield of 100 KT or less is adequate. (auth)

DESCRIPTORS: *Nuclear explosions, *Geothermal prospecting, Stimulation
, Environmental surveys, Government, Liabilities, Insurance, Radiation
hazards, Risk

IDENTIFIERS: *Plowshare operation, *Geothermal energy, *Nuclear
stimulation, NSFRA

PB-231 011/8 NTIS Prices: PC\$4.50/MF\$1.45

5/1/79
Satellite Geological and Geophysical Remote Sensing of Iceland

Geological Survey, Reston, Va.

Progress rept. 1 Sep-31 Oct 73

AUTHOR: William, Richard S. Jr

C2703D3   PLD: 08G, 93A   USGRDR7411

1 Nov 73   8p

MONITOR: NASA-CR-137170

9500728
ABSTRACT: The author has identified the following significant results. Rhyolitic rocks in the Torfajokull geothermal area and geothermally altered ground in the Torfajokull and Reykjanes geothermal areas can also be delineated. The fallout pattern of tephra from the 1970 eruption from the volcano Hekla can be mapped where sufficient depth of deposition destroyed the vegetation. Standard NDPF 70mm negatives (3rd generation) were used to print enlargements of the volcanic islands of Surtsey and Heimaey. Sufficient resolution is maintained to directly update maps to the 1:100,000 scale. Low-sun angle imagery (10 deg) of Iceland has been particularly valuable in mapping new structural and volcanic features hidden beneath glacial ice in Iceland's neovolcanic zone. ERTS-1 imagery has shown the marked differences in volcanic landforms in Iceland from a regional viewpoint. The regional distribution of crater rows, moberg ridges, table (moberg) mountains, calderas, central volcanoes, and shield volcanoes shows striking differences in volcanic geomorphology in different parts of Iceland's neovolcanic zone.

Geophysics, Iceland, Geothermal resources, Geomorphology, Earth resources program, Volcanology, Structural properties (Geology), Glaciology

IDENTIFIERS: NASA

E74-10385   NTIS Prices: PC\$4.00/MF\$1.45

4/15/73
Dep 954,29114
An Assessment of New Options in Energy Research and Development

Office of Science and Technology, Washington, D.C. Energy Advisory Panel.

C2633J4   PLD: 10A, 5A, 97G*, 97A, 97B   USGRDR7410

Nov 73   297p*

REPT NO: AET-9

MONITOR: 18

ABSTRACT: In response to a request in the President's energy message of June 1971, a study was carried out of options for national energy research and development. A framework was developed to intercompare the benefits of disparate R and D activities and, within that framework eleven technological areas were evaluated: resource extraction, solar energy, geothermal energy, coal utilization, advanced cycles for power generation, alternate breeder reactors, fusion, hydrogen and other synthetic fuels, electrical transmission, transportation and urban and residential energy use. R and D programs were recommended in each of these areas.

DESCRIPTORS: *Energy, *Research management, Assessments, Sources, Government policies, Fossil fuels, Solar energy, Coal, Electric power generation, Breeder reactors, Hydrogen, Electric power transmission, Utilization

IDENTIFIERS: Technology, Assessment, Geothermal energy, NSF

PB-229 725/7   NTIS Prices: PC\$6.75/MF\$1.45

Duff
Ultra-Deep Drilling for Geothermals

Tetra Tech Inc Arlington va (388403)

Final rept.

AUTHOR: Patterson, Samuel O., Sables, Bruno E., Kooharian, Anthony
C2425F4 FLD: 8I, 10B, 97A*, 48A USGRDR7408

Dec 73 144p*

REPT NO: TETRAT-A-74-339-005

CONTRACT: NOD-9925, DARPA Order-2419

MONITOR: 18

ABSTRACT: Geothermal energy offers significant promise as a source of clean, widely available power. The first stage of its availability involves near surface sources; the second, abnormal thermal gradients; and the third stage, deep wells. This report assesses the potential and limitations of rotary drilling for deep geothermal systems. The assessment found that hot, dry rock geothermal energy produced from wells in the 35-40,000-ft range offers good potential to provide clean energy, a self-contained or independent energy source, no resupply for special problem maintenance systems, and the promise of economic competitiveness up to 100 Mw. (Author)

DESCRIPTORS: *Geothermy, *Reviews, *Drilling, Feasibility studies, Electric power production

IDENTIFIERS: *Geothermal energy, Rotary drilling, SD

AD-774 108/5 NTIS Prices: PC\$4.75/MF\$1.45

SR
Technology Assessment and Forecast. Early Warning Report of the Office
of Technology Assessment and Forecast

Patent Office, Washington, D.C. Office of Technology Assessment and
Forecast.

C2372E3   PLD: 5A, 70E*, 86Y   USGRDR7407

Dec 73   277p*

MONITOR: 18

ABSTRACT: This publication represents the first of a regular series of reports designed to serve as indicators of areas of technology that may warrant further investigation and study. Reports are contained about those technological areas found to be exhibiting, or expected to develop, significant activity. Patent quantity data are presented on optics; photography; electronics; stock materials; metallurgy and metal working; coating; bonding and molding; high polymer chemistry; chemical compositions; textile manufacturing; vehicles; radioactive materials; radioactive compounds; nuclear batteries; nuclear fission reactor systems and components; thermonuclear fission reaction systems; solar energy; geothermics; and tidal and wave energy.

DESCRIPTORS: *Patents, Statistics, Forecasting, Photography, Optics, Metallurgy, Electronics, Coatings, Bonding, Moldings, Polymers, Textile industry, Motor vehicles, Nuclear energy, Solar energy, Tidal energy, Water waves

IDENTIFIERS: *Technology assessment, Geothermal energy, SECC

COM-74-10150/2   NTIS Prices: PC\$6.75/MF\$1.45

JP
Feasibility Study for Development of Hot-Water Geothermal Systems

California Univ Riverside Inst of Geophysics and Planetary Physics (406495)

Final technical rept.

AUTHOR: Combs, James B.

C2112L2 FLD: 10B, 97* USGRDR7404

Mar 73 123p*

REPT NO: IGPP-UCR-73-18

GRANT: AF-AFOSR-2393-72

MONITOR: AFOSR-TR-73-2070

ABSTRACT: The investigation has been directed toward a feasibility study for the development of hot-water geothermal systems for potential Department of Defense use as an energy source. The research effort has included the gathering of both scientific and engineering data. The world-wide occurrence of both known and probable sites of hot-water (water-dominated) geothermal systems particularly in relation to United States Department of Defense installations are reviewed and discussed. Included are the geological settings and the types of detection techniques that are necessary to delineate geothermal systems.

DESCRIPTORS: *Geothermy, *California, *Energy, Feasibility studies, Resources, Geophysical prospecting, Reviews

IDENTIFIERS: *Geothermal energy, Point Mugu, Twentynine Palms, China Lake, AF

AD-771 016/3 NTIS Prices: PC\$4.25/MF\$1.45

Sup Assessment of Geothermal Energy Resources

Federal Council for Science and Technology, Washington, D.C. Committee on Energy Research and Development Goals.

AUTHOR: Peck, Dallas L.

C1984K4 FLD: 10B, 8G, 97A* USGRDR7401

26 Jun 72 97p*

MONITOR: 18

ABSTRACT: An extensive assessment of the state of the art of geothermal energy is presented and recommendations made for research and development on the federal level. Included are summaries of current research by various government agencies and private industry.

DESCRIPTORS: (*Geothermal prospecting, *Electric power generation), Reviews, Utilization, Natural resources, Geology, Research projects, Recommendations

IDENTIFIERS: *Geothermal energy, Technology assessment, OEP

PB-224 882/1 NTIS Prices: PC\$3.75/MF\$1.45

411
X
Geothermal Leasing Program. Volume IV. Appendix I. Comments on Draft Impact Statement and Proposed Regulations

Department of the Interior, Washington, D.C. (109 950)

Final environmental impact statement.

C1881D3 PLD: 13B, 10B, 68H, 97A USGRDR7324

24 Oct 73 728p

MONITOR: ELR-73-1681-F-4

Supersedes report Nos. PB-203 102-D, and PB-208 954. See also EIS-CA-73-1681-F-3.

Paper copy available from GPO \$5.65 as stock no. SN-2400-00788.

415
1/3 350p
ABSTRACT: This volume contains comments received from Federal, State, local and individual interests on the leasing and operating regulations and the Draft Environmental Impact Statement for the Geothermal Leasing program and the supplement to the draft statement.

DESCRIPTORS: (*Environmental impact statements, *Geothermal prospecting), (*California, Geothermal prospecting), Imperial Valley, Clear Lake, Mono Lake, public opinion, Leasing, Regulations

IDENTIFIERS: *Geothermal energy, EIS

EIS-CA-73-1681-F-4 NTIS Prices: PC-GPO/MF\$1.45-NTIS

51181
Geothermal Leasing Program. Volume III. Appendices A Through H.
Proposed Geothermal. Leasing and Operating Regulations

Department of the Interior, Washington, D.C. (109 950)

Final environmental impact statement.

C1881D2 PLD: 13B, 10B, 68H, 97A USGRDR7324

24 Oct 73 701p

MONITOR: ELR-73-1681-F-3

Supersedes report Nos. PB-203 102-D, and PB-208 954. See also
EIS-CA-73-1681-F-4.

Paper copy available from GPO \$5.60 as stock no. SN-2400-00791.

ABSTRACT: The report discusses the following topics: July 23, 1973, proposed leasing regulations; July 23, 1973, proposed operating regulations; comments on July 23, 1973, proposed regulations; November 29, 1972, proposed leasing regulations; November 29, 1972, proposed operating regulations; comments on November 29, 1972, proposed regulations; July 23, 1971, proposed leasing and operating regulations; May 3, 1972, proposed unit plan regulations; summary of comments and departmental responses; vapor dominated hydrothermal systems; classification of public lands.

DESCRIPTORS: (*Environmental impact statements, *Geothermal prospecting), (*California, Geothermal prospecting), Imperial Valley, Clear Lake, Mono Lake, Regulations, Public land, Classifications, Geology

IDENTIFIERS: *Geothermal energy, EIS

EIS-CA-73-1681-F-3 NTIS Prices: PC-GPO/MP\$1.45-NTIS

11/15/82
Geothermal Leasing Program. Volume II. Leasing of Geothermal Resources
in Three California Areas

Department of the Interior, Washington, D.C. (109950)

Final environmental impact statement.

C1881D1 FLD: 13B, 10B, 86H, 97A USGRDR7324

24 Oct 73 547p

MONITOR: ELR-73-1681-F-2

Supersedes report Nos. PB-203 102-D, and PB-208 954. See also
EIS-CA-73-1681-F-3.

Paper copy available from FPR \$5.85 as stock no. SN-2400-00790.

2/3 3560
ABSTRACT: This volume of the Geothermal Leasing Program final impact statement contains the individual environmental statements for the leasing of federally owned geothermal resources for development in three specific areas: (a) Clear Lake-Geyers; (b) Mono Lake-Long Valley; and (c) Imperial Valley, all in California. It also includes a summary of the written comments received and departmental responses relative to the Draft Environmental Impact Statement issued in 1971; comments and responses on the Draft Environmental Impact Statement; consultation and coordination in the development of the proposal and in the preparation of the Draft Environmental Statement; and coordination in the review of the Draft Environmental Statement.

DESCRIPTORS: (*Environmental impact statements, *Geothermal prospecting), (*California, Geothermal prospecting), Imperial Valley, Clear Lake, Mono Lake, Environmental surveys, Electric power generation, Leasing, Exploration, Land use

IDENTIFIERS: *Geothermal energy, EIS

EIS-CA-73-1681-F-2 NTIS Prices: PC-GPO/MF\$1.45-NTIS

21183
X
2/3 3500
Geothermal Leasing Program. Volume I. Promulgation of Leasing and Operating Regulations

Department of the Interior, Washington, D.C. (109 950)

Final environmental impact statement.

C1881C4 FLD: 13B, 10B, 68H, 97A USGRDR7324

24 Oct 73 519p

MONITOR: ELR-73-1681-F-1

Supersedes report Nos. PB-203 102-D, and PB-208 954 . See also EIS-CA-73-1681-F-2.

Paper copy available from GPO \$4.20 as stock no. SN-2400-00789.

ABSTRACT: Volume I of this statement primarily relates to the promulgation of leasing and operating regulations for implementation of the geothermal leasing program as authorized by the Geothermal Steam Act of 1970. The proposal is described in Chapter I. The national energy situation, geothermal energy resources and their potentials, description of resource development and production phases and a broad description of the environmental setting of the western states are included in Chapter II. The promulgation of leasing and operating regulations, the environmental impacts of the proposed action, mitigating measures, adverse impacts which cannot be avoided, the relationships between local short-term uses of man's environment and maintenance and enhancement of long-term productivity, and irreversible and irretrievable commitments of resources are discussed in detail in Chapter III. Chapter IV includes discussions of alternatives for timing of actions, environmental provisions of regulations, leasing options, Federal and private exploration and development and electrical energy sources.

DESCRIPTORS: (*Environmental impact statements, *Geothermal prospecting), (*California, Geothermal prospecting), Imperial Valley, Clear Lake, Mono Lake, Environmental surveys, Regulations, Substitutes, Leasing, Fuel consumption, Exploration, Electric power generation, Land use

IDENTIFIERS: *Geothermal energy, EIS

EIS-CA-73-1681-F-1 NTIS Prices: PC-GPO/MF\$1.45-NTIS

~~X~~ Corrosion Resistance of Metals in Hot Brines: A Literature Review

Bureau of Mines, Washington, D.C. (068 450)

Information circular, 1971-72

AUTHOR: Banning, Lloyd H., Oden, Laurance L.

C1732B4 FLD: 11F, 71G* USGRDR7322

Aug 73 45p

REPT NO: BuMines-IC-8601

MONITOR: 18

Prepared in cooperation with Albany Metallurgy Research Center, Oregon. Library of Congress Catalog Card No. 128.27:8601.

Paper copy also available from GPO as Stock No. 2404-01435 \$0.70.

ABSTRACT: Electrical energy generated from dry geothermal steam and steam flashed from hot pressurized geothermal water will increase in importance in the next few decades. Geothermal fluids, which contain appreciable quantities of dissolved salts and gases, are generally corrosive to materials of construction. Since data on corrosion of materials in geothermal brines is limited, the literature was surveyed through February 1972 to obtain a compilation of information on corrosion resistance of aluminum and its alloys, copper and copper-base alloys, carbon steel and cast iron, stainless steels, chromium-iron alloys, nickel- and cobalt-base alloys, and titanium in heated sea water as well as in geothermal brines. The report has 47 references. (Modified author abstract)

DESCRIPTORS: (*Corrosion, *Brines), (*Steam, Corrosion), (*Reviews, Corrosion), Metals, Alloys, Geothermy

IDENTIFIERS: BM

PB-223 715/4 NTIS Prices: PC\$2.70/MF\$1.45

SPB Sources of Data for Evaluation of Selected Geothermal Areas in Northern and Central Nevada

Geological Survey, Menlo Park, Calif. Water Resources Div.

Water resources investigations

AUTHOR: Olmsted, P. H., Glancy, P. A., Harrill, J. R., Rush, P. E.,
Vandenburg, A. S.

C1582J2 FLD: 8G, 8I, 10A, 97A, 64F USGRDR7320

Aug 73 84p

REPT NO: USGS/WRI-44-73, USGS/WRD-73-017

MONITOR: 18

ABSTRACT: This report lists sources of published and unpublished data for areas in northern and central Nevada selected on the basis of geologic, geophysical, geochemical, and heat-flow evidence as being the most promising for the development of geothermal resources. Each geothermal area consists of one or more hydrographic areas and contains one or more major hydrothermal discharge outlets. The data categories are those required to define the geothermal reservoir parameters (boundaries, effective porosity, intrinsic permeability, specific storage, chemical and mineralogical composition of rocks), fluid and temperature parameters, and sources and rates of input and output of heat and fluid. The cited references are listed alphabetically by author at the end of the report.

DESCRIPTORS: (*Geothermal prospecting, *Nevada), Bibliographies, Data, Sources, Hydrogeology, Geology, Geophysical prospecting, Geochemical prospecting

IDENTIFIERS: USGS

PB-222 948/2 NTIS Prices: PC\$6.25/HP\$1.45

Sub
Development of Geothermal Reservoirs from Over-Pressured Areas Beneath the Gulf Coastal Plain of Texas. A Feasibility Study of Power Production from Overpressured Reservoirs

Southern Methodist Univ Dallas Tex Dallas Geophysical Lab (407712)

Final rept.

AUTHOR: Herrin, Eugene

C1615G2 FLD: 8G, 10B, 64F, 97A USGRDR7321

Mar 73 148p

CONTRACT: ARPA Order-2184

MONITOR: AFOSR-TR-73-1344

ABSTRACT: It is the purpose of the present study to determine the feasibility of locating a pilot project in the Texas Gulf Coast area for the purpose of tapping the overpressured aquifers and transforming the thermal and mechanical energy into electrical power. Three areas in south Texas were given particular attention for their feasibility of being the site of the pilot project. These are the Sebastian area in northwest Cameron County, the Port Mansfield area in eastern Willacy County, and the Corpus Christi area.

DESCRIPTORS: (*Lithosphere, Thermal properties), (*Electric power production, Feasibility studies), Texas, Site selection, Geological survey, Ecology, Computer programs, Texas, Mexico Gulf

IDENTIFIERS: *Geothermy, Texas Gulf Coast, AF

AD-766 855/1 NTIS Prices: PC\$9.50/MF\$1.45

SR
Energy Resources: A Report to the Committee on Natural Resources of
the National Academy of Sciences-National Research Council

National Academy of Sciences-National Research Council, Washington,
D.C. (240 150)

AUTHOR: Hubbert, M. King

C1565G2 FLD: 10A, 10B USGRDR7320

Dec 62 153p

REPT NO: NAS-NRC-Pub-1000-D

MONITOR: 18

Library of Congress catalog card no. 63-60011.

ABSTRACT: This is one of seven special reports supporting a research study of natural resources conducted by the National Academy of Sciences at the request of the President of the United States in 1962. This report deals with: evolution of man's ability to control energy; energy from fossil fuels; continuous sources of power; nuclear energy; and concludes with recommendations.

DESCRIPTORS: (*Energy, *Reviews), Evolution(Development), History, Fossil fuels, Coal, Crude oil, Natural gas, Reserves, Solar energy, Tidal energy, Fuel consumption, Forecasting, Recommendations, Nuclear energy

IDENTIFIERS: Geothermal energy, NAS

PB-222 401/2 NTIS Prices: PC\$9.75/MF\$1.45

DL
Geothermal Energy

Alaska Univ., Anchorage.

Final rept.

AUTHOR: Hickel, Walter J.

C1565B1 FLD: 8G, 8I, 10A, 97A*, 64I, 64F USGRDR7320

Sep 72 93p*

GRANT: NSF-GI-34313

MONITOR: NSF-RA/N-73-003

Report of the Geothermal Resources Research Conference, Battelle
Seattle Research Center, Seattle, Wash., 18-20 Sep 72.

ABSTRACT: ;Contents: Importance to the Nation of Geothermal Resources;
Budget Recommendations; Overview of Geothermal Resources; Resource
Exploration; Resource Assessment; Reservoir Development and
Production; Utilization Technology and Economics; Environmental
Effects; Institutional Considerations; Summary of Research Needs.

DESCRIPTORS: (*Geothermal prospecting, Research program administration
, Natural resources, Budgeting, Reservoir engineering, Reserves,
Production management, Utilization, Environmental surveys, Electric
power generation, Meetings, Economic factors

IDENTIFIERS: *Geothermal energy, NSF

PB-222 326/1 NTIS Prices: PC\$3.00/MF\$1.45

SWP Satellite Geological and Geophysical Remote Sensing of Iceland

Geological Survey, Washington, D.C. (152 450)

Special rept. no. 1

AUTHOR: William, Richard S. Jr, Palmason, Guomundur

C1561C2 PLD: 93B USGRDR7320

1 Aug 73 5p

MONITOR: NASA-CR-133491

Iceland, Geology, Geophysics, Geothermal resources, Earth resources
program, Heat transmission, Thermal radiation

IDENTIFIERS: NASA

E73-10874 NTIS Prices: PC\$3.00/MF\$1.45

NO ABSTRACT AVAILABLE

✓ 51,185
Recent Soviet Investigations in Geothermy

Informatics Inc Rockville Md (387113)

Rept. no. 1

AUTHOR: Rowell, Eleanor M., Hibben, Stuart G.

A5365B2 PLD: 8G, 64P USGRDR7223

May 72 90p

CONTRACT: F44620-72-C-0053, ARPA Order-1622

MONITOR: AFOSR-TR-72-1959

ABSTRACT: The report presents the results obtained in an attempt to provide information on recent Soviet research on geothermy. Emphasis is on the identification and description of high-intensity heat flow areas in the USSR that have or might become potential sites for geothermal power or space heating developments. In general, the information provided consists of background data (geographical, geological and chemical) covering recently investigated areas. (Author)

DESCRIPTORS: (*Geophysical prospecting, USSR), Heat flux, Anomalies, Steam, Temperature, Geochemistry, Hydrology, Reviews

IDENTIFIERS: *Geothermy

AD-750 128 NTIS Prices: PC\$3.00/MF\$0.95

Progress Report on Electrical Resistivity Studies, Coso Geothermal Area, Inyo County, California

Naval Weapons Center China Lake Calif (403019)

Technical publication

AUTHOR: Furgeson, Robert B.

C1444L4 FLD: 8G, 64F USGRDR7319

Jun 73 70p

REPT NO: NWC-Tp-5497

MONITOR: 18

ABSTRACT: The report describes work conducted during the first phase of an electrical geophysical survey of the Coso Geothermal Area. The objective of the survey was to outline areas of anomalously conductive ground which may be associated with geothermal activity and to assist in locating drilling sites to test the geothermal potential.

DESCRIPTORS: (*California, *Geophysical prospecting), Telluric currents, Resistance(Electrical), Geology, Volcanoes, Faults(Geology), Mapping

IDENTIFIERS: *Coso Hot Springs, Resistivity exploration, Telluric current exploration, *Geothermal prospecting, N

AD-764 522/9 NTIS Prices: PC\$3.50/MF\$1.45

Handwritten initials
Deep-Seated Heat from the Earth

Joint Publications Research Service, Arlington, Va.

AUTHOR: Dvorov, I. M.

C1412E4 FLD: 10B, 8G, 97A*, 64F USGRDR7318

12 Jul 73 150p*

MONITOR: 18

Trans. of mono. Glubinnoe Teplo Zemli, Moscow, 1972 p9-104, 141-205.

ABSTRACT: This Russian translation contains a discussion of such basic scientific trends as regional distribution and conditions of the formation of a geothermal field in a zone accessible to direct measurements; development and improvement of the equipment and procedures in geothermal observations; a study of the deep-seated thermal processes; and the social-economic use of the heat of the Earth.

DESCRIPTORS: (*Geothermy, *USSR), (*Electric power generation, Geothermy), Water, Natural resources, Reviews, Distribution(Property), Geochemistry, Geothermal prospecting, Brines, Trace elements, Heating, Translations

IDENTIFIERS: *Geothermal energy, JPRS

JPRS-59496 NTIS Prices: PC\$3.00/MF\$1.45

JMP
Application of Geophysical Methods in the Investigation of Mineral and Thermal Waters (Primena Geofizickih Metoda pri Istrazivanju Mineralnih i Termomineralnih Voda)

Bureau of Reclamation, Washington, D.C. (068 950)

AUTHOR: Milanovic, Bozidar

C1355B3 FLD: 8G, 64F USGRDR7317

1973 9p

MONITOR: 18

Trans. of mono. Problemi Hidrogeologije i Inzenjerske Geologije Jugoslavije, Zbornik Radova i Jugoslovenskog Simpozijuma o Hidrogeologiji in Inzenjerskoj Geologiji, Belgrade, 1971 p147-150. Sponsored in part by National Science Foundation, Washington, D.C. Special Foreign Currency Science Information Program.

ABSTRACT: In the investigation of mineral and thermal waters geophysical methods are applied for solution of structural-geological problems, evaluation of the hydrogeological properties of rocks and the mineralization of subterranean waters, and the discovery of temperature anomalies on the surface which indicate the subterranean flow paths of thermal waters. These data help to elucidate the geological structure of the terrain and its hydrogeology and enable choice of the most favorable locations for boring.

DESCRIPTORS: (*Geophysical prospecting, *Hydrogeology), Resistivity exploration, Electrical prospecting, Seismic reflection method, Ground water, Geothermal prospecting, Structural geology, Geological faults, Translations, Yugoslavia

IDENTIFIERS: Hydrothermal fluids, SFC SI

TT-72-56033 NTIS Prices: PC\$3.00/MF\$1.45

5/1/86
Inventory of Thermal Features of the Firestone River Geyser Basins and
Other Selected Areas of Yellowstone National Park

Geological Survey, Menlo Park, Calif. (152 400)

Final rept.

AUTHOR: Marler, George D.

C1274A2 FLD: 8G, 8H, 64F, 64H USGRDR7316

15 Jun 73 652p

REPT NO: USGS-GD-73-018

MONITOR: 18

Prepared in cooperation with National Park Service., Calif.

275/1000
ABSTRACT: The inventory consists of descriptions of most major and many minor thermal features of the Firehole River Geyser Basins of Yellowstone, with special attention given to features known to have changed in activity since first observed. Effects of the Hebgen Lake Earthquake of 1959 were specifically noted; many springs erupted as geysers, some geysers ceased erupting and most geysers changed their patterns of activity; only a very few seemed unaffected. Brief descriptions of the Shoshone and Heart Lake springs and geysers are also included. The author used all known published descriptions of identifiable features, first observed in 1869, but he has relied mainly on personal observations recorded over more than 40 years of intermittent duty with the National Park Service in Yellowstone.

DESCRIPTORS: (*Geysers, Geothermy), (*Yellowstone National park, Geysers), Inventories, River basins, Earth crust, Identifying, Earthquakes, Sources, Temperature measurements, Heat

IDENTIFIERS: Hot springs, Firestone River Geyser Basins, *Hydrothermal activity, USGS

PB-221 289/2 NTIS Prices: PC\$9.00/MF\$0.95

DM
Mixture, A Computer Program for the Calculation of Hot Water Temperature and Mixing Fractions of Large Volume Warm Springs of Mixed Water Origin

Geological Survey, Menlo Park, Calif. (152 400)

Final rept.

AUTHOR: Truesdell, A. H., Fournier, R. O., Thompson, J. M.

C1121H2 FLD: 8D, 9B, 64C USGRDR7314

Mar 73 12p

REPT NO: USGS-GD-73-014

MONITOR: 18

ABSTRACT: Some warm (80 deg C) springs originate from the subsurface mixture of hot and cold water. This computer program calculates the fraction and temperature of the hot water component from the temperature and silica contents of the warm spring and of normal cold springs of the area.

DESCRIPTORS: (*Geothermy, Computer programs), Springs(Water), Silicon dioxide, Temperature, PL/1(Programming language), Mixing

IDENTIFIERS: IBM 360/65 computers, USGS

PB-220 732/2 NTIS Prices: PC\$3.00/MF\$0.95

ENTHALP
ENTHALP, A Computer Program for the Calculation of Aquifer Chemistry
in Hot-Water Geothermal Systems

Geological Survey, Menlo Park, Calif. (152 400)

Final rept.

AUTHOR: Truesdell, Alfred H.

C102112 FLD: 8D, 64C USGRDR7313

Mar 73 76p*

REPT NO: USGS-GD-73-006

MONITOR: 18

ABSTRACT: The program calculates the temperature and chemical conditions in a geothermal aquifer supplying a producing bore. The input includes the enthalpy of the total fluid and the chemical analyses of water and steam separated and collected at known pressures. Alternately, if a single water phase exists in the aquifer, the complete analyses (including gases) of a sample collected by a downhole sampler are sufficient without a measured value of the total enthalpy. The fundamental assumptions are that the fluid is produced from a single aquifer and is homogeneous in enthalpy and chemical composition. The calculation, necessarily involving moderately large amounts of auxiliary information and frequent iteration, is well suited to computer methods. (Author)

DESCRIPTORS: (*water chemistry, *Computer programs), (*Aquifers, Water analysis), (*Geothermy, Water chemistry), Geothermal prospecting, Temperature measurement, Ion exchanging, Solubility, Silicon dioxide, Chemical composition, PH, Pressure, Geochemistry

IDENTIFIERS: *ENTHALP computer program, Geothermal reservoirs, USGS

PB-219 376/1 NTIS Prices: PC\$4.50/MF\$0.95

Exploration and Exploitation of Geothermal Resources in Arid and Semiarid Lands. A Literature Review and Selected Bibliography

Arizona Univ., Tucson. Office of Arid Lands Studies.

Information paper.

C0781H3   PLD: 8G, 64F, 97A*   USGRDR7311
1973   125p*

REPT NO: Arid Lands Resource-IP-2

CONTRACT: DI-14-31-0001-3729

PROJECT: OWRR-W-144

MONITOR: OWRR-W-144(2)

ABSTRACT: Contemporary techniques for exploration of geothermal resources are outlined, with particular emphasis on the western U.S. as typical of problems encountered in arid and semiarid lands. These include field reconnaissance, infrared aerial reconnaissance, photogeologic mapping, drilling, geochemical analyses of groundwater, application of fluid dynamics to natural steam systems, electrical prospecting, seismic, gravity, and magnetic surveys. Environmental impacts, including noise, odors, subsidence, and legal problems involving developmental regulations, are reviewed. The advantages of cheap power, multiple use including greenhouse agricultural production and dilution of present saline irrigation water sources, power for cooling and heating are discussed. A 102-item computerized bibliography, most with full abstracts, is included, plus author index, and a detailed computerized keyword index constructed from terminology applied to each citation from the Water Resources Scientific Center's Water Resources Thesaurus, 2nd ed. (Author Modified Abstract)

DESCRIPTORS: (*Geothermal prospecting, Arid land), Natural resources, Exploration, Semiarid land, Exploitation, Steam, Drilling, Thermal conductivity, Steam electric power generation, Injection wells, Heat transfer, Geysers, Benefit cost analysis, Infrared reconnaissance, Bibliographies, Reviews, Abstracts

IDENTIFIERS: OWRR

PB-218 830/8   NTIS Prices: PC\$5.45/MF\$0.95

Quf
Geothermal Energy

Alaska Univ., College. (016 950)

Final rept.

AUTHOR: Hickel, Walter J.

C0644G3 FLD: 8G, 8I, 10A, 64F, 64I, 67B, 97A* USGRDR7309

Nov 72 93p*

REPT NO: UA-NSF-GE-72

GRANT: NSF-GA-34313

MONITOR: 18

Report of the Geothermal Resources Research Conference, Battelle
Seattle Research Center, Seattle, Wash., 18-20 Sep 72.

ABSTRACT: Topics included in the report are: (1) Resource
exploration, (2) Resources assessment, (3) Reservoir development and
production, (4) Utilization technology, (5) Environmental effects, and
(6) Institutional consideration.

DESCRIPTORS: (*Geothermal prospection, Research program administration
, Natural resources, Budgeting, Reservoir engineering, Reserves,
Production management, Utilization, Environmental surveys, Electric
power generation, Energy, Meetings

IDENTIFIERS: *Geothermal energy, NSF

PB-216 423/4 NTIS Prices: PC\$4.85/MF\$0.95

571107
X Terrestrial Remote Sensing: Applications of Thermal Infrared Scanners
to the Geological Sciences (IV)

Air Force Cambridge Research Labs L G Hanscom Field Mass (011800)

AUTHOR: Williams, Richard S. Jr

C0531G4 FLD: 8G, 17E, 64B USGRDR7308

10 Jan 73 19p

REPT NO: APCRL-TR-73-0016

PROJECT: AF-7639

TASK: 763901

MONITOR: 18

Availability: Pub. in ISA Transducer Compendium, Part 3, Instrument
Society of America, Pittsburgh, Pa., p219-236 1972.

611/1000
ABSTRACT: Airborne thermal infrared scanning radiometers are being increasingly applied to the study of geologic phenomena by geologists. Successful aerial thermographic surveys require the combined knowledge of a geologist, an electronics engineer and a pilot/navigator. Characteristics of the environment (terrestrial surface and atmosphere), limitations of airborne scanning radiometers and stability of aircraft place constraints on the usefulness of the thermograph for geologic investigations. Field observations are mandatory for the accurate correlation of tonal variations on a thermograph with the geologic phenomena under study. Presently known geologic applications of aerial thermography include geothermal areas, volcanoes, and several hydrogeologic phenomena, including groundwater discharge into surface waters, surface current flow, and outfall and surface movements of pollution which has a thermal component. (Author Modified Abstract)

DESCRIPTORS: (*Infrared scanning, Geology), (*Aerial reconnaissance, Infrared scanning), Volcanoes, Water pollution, Radiometers, Photogeology, Surface temperatures, Structural geology, Infrared windows

IDENTIFIERS: *Remote sensing, *Geothermometry, Constraints, Trends, Thermal pollution

AD-756 353 NTIS Price: Reprint

Druf
Proposed Deep Geothermal Test Well Geothermal Resource Investigations,
Imperial Valley, California

Bureau of Reclamation, Boulder City, Nev. Region 3.

Supplement to the Final environmental impact statement.

C0404F3   PLD: 13B, 68H   USGRDR7306

Feb 73   10p

MONITOR: FES-72-9

Supersedes report dated 28 Apr 72, PB-206 161-P.

ABSTRACT: The environmental statement is supplement to the final statement No. FES 72-9. Work proposed under the supplement includes the drilling of 8 slim temperature recording holes to maximum depths of 6,000 feet and 30 additional temperature recording holes to depths varying between 100 and 1,500 feet. These holes are to be drilled in the vicinity of the deep geothermal test well on Federal lands in the East Mesa area of Imperial Valley, California. Exact locations have not been determined. Temperatures will be recorded over a period of time to determine the extent of the Mesa geothermal anomaly. Approximately 23-1/2 acres of desert land will be cleared and leveled for the 38 test hole sites. In addition, 25 miles of temporary access road will be constructed.

DESCRIPTORS: (*Environmental surveys, *Geothermal prospecting), (*California, Environmental surveys), Drilling, Water supply, Electric power generation, Desalting, Land use, Subsurface investigations

IDENTIFIERS: *Environmental impact statements, Imperial Valley

EIS-CA-73-0188-F   NTIS Prices: PC\$3.00/MF\$0.95

JAP Soviet Geothermal Electric Power Engineering - Report 2

Informatics Inc Rockville Md (387113)

AUTHOR: Stevovich, V. A.

C0384E1 FLD: 10B, 8I, 13A, 67B, 64I, 69A, 97A USGRDR7306

Dec 72 84p

CONTRACT: F44620-72-C-0053, ARPA Order-1622-3

MONITOR: AFOSR-TR-73-0034

ABSTRACT: The report provides information on Soviet geothermal research and engineering associated with the design, construction, and maintenance of geothermal power plants and related facilities. Besides a general outline of geothermal characteristics, emphasis in this report is on Soviet geothermal research and development, including engineering data on existing power plants, as well as those under construction and in the planning stages. Other actual and potential applications of geothermal water such as for space heating, hot-water supply, mining and construction in permafrost regions, refrigeration, air conditioning, agriculture, medical and health applications, etc., are discussed. (Author)

DESCRIPTORS: (*Electric power production, *Mining engineering), Geophysical prospecting, Power plants(Establishments), Heating plants, Rankine cycle, Steam, Water, Natural resources, Industrial research, Refrigeration systems, USSR

IDENTIFIERS: *Geothermy, *Geothermal power plants, *Geothermal reservoirs, *Geothermal resources, Hot water heating

AD-754 947 NTIS Prices: PC\$3.00/MF\$0.95

QUR Heat of the Ground (Teplo Zemli)

Army Foreign Science and Technology Center Charlottesville Va (038300)

AUTHOR: Dvorov, I.

C0372I1 FLD: 8G, 64F USGRDR7306

24 Aug 72 13p

REPT NO: FSTC-HT-23-437-73

MONITOR: 18

Trans. of Nauka i Zhizn (USSR) n5 p58-64 1971.

ABSTRACT: The report reviews geothermal sources of heat for possible geothermal energy development.

DESCRIPTORS: (*Geophysics, Thermal analysis), Sources, Power plants (Establishments), Energy, Drilling, Volcanoes, USSR

IDENTIFIERS: Translations, *Geothermy, Earth crust, Geysers

AD-754 626 NTIS Prices: PC\$3.00/MF\$0.95

IMP
Recovery of Geothermal Energy by Means of Underground Nuclear Detonations

Atomic Energy Commission, Washington, D.C. (046 400)

Patent

AUTHOR: Dixon, Rod P.

C0115F2 FLD: 10B, 5B, 90, 67G USGRDR7302

Filed 19 Jun 70, patented 8 Feb 72 3p

REPT NO: PAT-APPL-47 699

MONITOR: 18

Government-owned invention available for licensing. Copy of patent available Commissioner of Patents, Washington, D.C. 20231 \$0.50.

ABSTRACT: Geothermal steam is generated by setting off an underground nuclear detonation above a naturally hot stratum of igneous rock and thereafter introducing water into the formation above the hot stratum which has been made permeable by the nuclear detonation. (Author)

DESCRIPTORS: (*Energy conversion heat sources, *Patents), (*Nuclear explosions, Energy conversion heat sources), Underground explosions, Igneous rocks, Thermal utilization, Steam electric power generation, Water supply

IDENTIFIERS: Pat-C1-165-1, *Geothermal energy

PATENT 3 640 336 NTIS Prices: Not available NTIS

12/18
Feasibility of Electrochemical Machining Facility at Lll. A Committee Report

California Univ., Livermore Lawrence Livermore Lab. (9500007)

AUTHOR: Randall, W. L.

A6851C4 PLD: 13H, 94G NSA3105

Oct 74 5p

CONTRACT: W-7405-eng-48

MONITOR: 18

ABSTRACT: For abstract, see NSA 31 05, number 13588.

Cost, Electrochemical machining, Geothermal energy, Machine parts, Production

IDENTIFIERS: NTISAEC

UCID-16618 NTIS Prices: PC\$4.00/MF\$2.25

ABSTRACT:

This report discusses possibility of electrochemical machining in production of turbine blades or brickets for geothermal applications.

Methodical Approach to Temperature and Pressure Measurements for in Situ Energy-Recovery Processes

California Univ., Livermore Lawrence Livermore Lab. (9500007)

AUTHOR: Cornell, R. H.

A6825J1 PLD: 081, 97F NSA3104

14 Nov 74 7p

CONTRACT: W-7405-eng-48

MONITOR: 18

ABSTRACT: For abstract, see NSA 31 04, number 10415.

DESCRIPTORS: (*Boreholes, *Pressure measurement), Coal gasification, Energy, Environmental effects, Geothermal energy, In-situ processing, Measuring instruments, Oil shales, Planning, Recovery, Shale oil, Temperature measurement

IDENTIFIERS: NTISAEC

UCID-16631 NTIS Prices: PC\$4.00/MF\$2.25

ABSTRACT:

Continuous monitoring of temperature and pressure is critical to in situ energy-recovery processes. Because of the harsh environments to which the instruments will be subjected and the difficulty of emplacing them, a methodical approach to an instrumentation plan is discussed.

Sub
General Chemistry Division Quarterly Report, April--June 1974

California Univ., Livermore Lawrence Livermore Lab. (9500007)

AUTHOR: Harrar, J. E.

A6793F3 FLD: 7D, 99 NSA3102

1974 52p

CONTRACT: W-7405-eng-48

MONITOR: 18

ABSTRACT: For abstract, see NSA 31 02, number 02746.

DESCRIPTORS: (*Imperial valley, *Geothermal fields), (*Brines, *Chemical analysis), (*Ammonia, *Monitoring), Chemical composition, Electron microprobe analysis, Multi-element analysis, Ammonium compounds, Carbon 13, Chlorides, Detonations, Explosives, Gases, Gravimetry, Isotope dilution, Oxygen 18, Degassing, Surface coating, Chromatography, Gels, California, Microwave radiation, Spectrometers, Vapors

IDENTIFIERS: NTISAE C

UCID-15644-74-2 NTIS Prices: PC\$5.75/MF\$2.25

ABSTRACT:

Research progress is reported on: simulation modeling of a mixed oxide fuel rod fabrication plant, pilot laboratory automation, analytical support of the LLL geothermal project, development of a microwave spectrometer, determination of uranium and tritium, solution dispensing system, optical pumping of neodymium laser glass, laser isotope separation, vaporization of UCl_3 , cesium vapor source, studies of URe_2 , electron microprobe analysis, explosive composites, analysis of gas from detonations, ion selective electrodes, outgassing of high explosives, and analysis of explosives.

Sup
Prospect for Geothermal Power

Los Alamos Scientific Lab., N.Mex. (3820000)
AUTHOR: Smith, M. C.
A6783L4 FLD: 10A, 97A NSA3102
1974 9p
REPT NO: CONF-740709-2
CONTRACT: W-7405-eng-36
MONITOR: 18

ABSTRACT: For abstract, see NSA 31 02, number 05401.

DESCRIPTORS: (*Geothermal energy, *Forecasting), Dry-steam systems, Geopressured systems, Hot-dry-rock systems, Natural steam, Thermal waters

IDENTIFIERS: NTISAEC

LA-UR-74-1111 NTIS Prices: PC\$4.00/MP\$2.25

ABSTRACT:

The relatively small fraction of the earth's crust which is now accessible to man by drilling from the surface contains a supply of thermal energy potentially capable of satisfying the world's total energy needs. At present, however, only that small fraction of this vast resource is considered useful which exists near the earth's surface in the convenient forms of natural stream or superheated water of relatively low salinity. Research and development are now in progress by both industry and government to learn to use economically the energy contained in the more saline superheated waters, the lower temperature but less highly mineralized natural waters, the combination of heat and temperature and dissolved natural gas contained in geopressured water, and the abundant heat contained in dry hot rock. There is every reason to suppose that the problems associated with utilization of these energy sources will eventually be overcome.

JSB
Recommended Research Program in Geothermal Chemistry

Oak Ridge National Lab., Tenn.; USAEC Division of Physical Research,
Washington, D.C. (4832000 9500122)

AUTHOR: Lyon, R. N., Kolstad, G. A.

A6771B1 FLD: 08G, 48F NSA3101

Oct 74 48p

MONITOR: 18

ABSTRACT: For abstract, see NSA 31 01, number 02587.

DESCRIPTORS: (*Geothermal resources, Geochemistry), (*Geochemistry,
*Research programs), Chemical reaction kinetics, Chemical reactions,
Hydrothermal systems, Metals, Minerals, Physical properties, Rocks,
Thermodynamic properties

IDENTIFIERS: NTISAEC

WASH-1344 NTIS Prices: PC\$5.45/MF\$2.25

ABSTRACT:

The research program is aimed at obtaining fundamental chemical data for geothermal processes. The program covers five general areas; thermodynamic and physical properties of geothermal solutions, minerals, and metals; kinetics of chemical reactions and deposition; collection, evaluation, and dissemination of physical and chemical data; natural systems and rock-water interactions; and theoretical modeling of geothermal systems.

Sub

Prediction of Osmotic and Activity Coefficients for Electrolyte Mixtures at Elevated Temperatures

Oak Ridge National Lab., Tenn. (4832000)

AUTHOR: Lietzke, M. H., Stoughton, R. W.

A6763F2 PLD: 07D, 99F NSA3101

Sep 74 17p

CONTRACT: W-7405-eng-26

MONITOR: 18

ABSTRACT: For abstract, see NSA 31 01, number 02676.

DESCRIPTORS: (*Electrolytes, *Thermodynamic properties), (*Seawater, Thermodynamic properties), (*Hydrochloric acid, Thermodynamic properties), (*Sodium chlorides, Thermodynamic properties), Aqueous solutions, Geothermal energy, Magnesium chlorides, Mathematical models, Osmosis

IDENTIFIERS: NTISAEC

ORNL-4999 NTIS Prices: PC\$4.00/MF\$2.25

ABSTRACT:

In fields such as geothermal energy and desalination it is necessary to have thermodynamic information on aqueous mixed electrolyte solutions over wide ranges of temperature. Direct measurements, particularly above 100 C, are difficult experimentally and very time consuming. Hence, it is desirable to develop methods for predicting properties such as osmotic and activity coefficients for electrolyte mixtures at elevated temperatures. It is demonstrated that simple expressions developed for predicting such quantities for electrolyte mixtures at 25 C function equally well at elevated temperatures.

Q Materials Screening Program for the L11 Geothermal Project

California Univ., Livermore Lawrence Livermore Lab. (9500007)

AUTHOR: Lorensen, L. E.

A6733C4 FLD: 10A, 97A NSA3011

9 Jan 74 11p

REPT NO: CONF-740222-2

MONITOR: 18

ABSTRACT: For abstract, see NSA 30 11, number 31327.

DESCRIPTORS: (*Geothermal resources, *Brines), Corrosion resistance, Erosion, Geothermal energy, Hot-water systems, Hydrothermal systems, Materials testing, Nozzles, Pipes, Polymers, Turbine blades

IDENTIFIERS: NTISAEC

UCRL-75353 NTIS Prices: PC\$4.00/MF\$2.25

ABSTRACT:

In order to assist in the development of the Lawrence Livermore Laboratory's "Total Flow Concept" for the utilization of hot geothermal brine, a materials selection and screening program has been started. Polymers and composites resistant to the high temperatures, hot brine, and erosive conditions present in a flowing well are being sought. Ultimately fabrication into pipes, turbine nozzles, and turbine blades will be required. Test specimens and test equipment are being obtained. The program outline is presented and a few limited test results reported.

320

30731320
Energy and Cryoengineering

Los Alamos Scientific Lab., N.Mex. (3820000)

AUTHOR: Hammel, E. F.

A6723G2 PLD: 10A, 97A NSA3011

20p

REPT NO: CONF-740509-8

MONITOR: 18

ABSTRACT: For abstract, see NSA 30 11, number 31324.

DESCRIPTORS: (*Energy sources, *Planning), Bolometers, Breeder reactors, Coal gasification, Cost, Cryogenics, Cryopumps, Efficiency, Energy, Energy conversion, Energy demand, Energy policy, Energy source conservation, Energy storage, Energy transmission, Environmental effects, Exploration, Forecasting, Fusion reactions, Geophysics, Geothermal energy, Growth, Houses, Htgr type reactors, Investment, Laser isotope separation, Legal aspects, Liquefaction, Low temperature, Magnetometers, Offshore sites, Oil stimulation, Pollution, Power transmission, Regulatory guides, Research programs, Solar energy, Stack disposal, Superconductivity, Synthetic fuels, Tidal power, Waste heat, Water moderated reactors, Wind power

IDENTIFIERS: NTISAEC

LA-UR-74-741 NTIS Prices: PC\$4.00/MF\$2.25

ABSTRACT:

Cryoengineering technologies relating to energy sources include instrumentation, handling of LNG, and fusion reactions. Cryogenic magnetometers utilizing SQUIDS are now available, sensitive gravimeters are being developed, and bolometers may be deployed in satellites for detecting geothermal anomalies. Two major approaches are discussed in which a plasma is confined magnetically and the recent technology of inertial confinement.

inf
Geothermal Well Technology and Potential Applications of Subterrene
Devices: A Status Review

Los Alamos Scientific Lab., N.Mex. (3820000)

AUTHOR: Altseimer, J. H.

A6713E3 PLD: 10A, 97A NSA3010

Jul 74 34p

CONTRACT: W-7405-eng-36

MONITOR: 18

ABSTRACT: For abstract, see NSA 30 10, number 26704.

DESCRIPTORS: (*Geothermal wells, *Drilling), (*Subterrene penetrators,
*Uses), (*Geothermal energy, Rock drilling), (*Rock drilling,
Subterrene penetrators), Reviews

IDENTIFIERS: NTISAEC

LA-5689-MS NTIS Prices: PC\$4.00/MF\$2.25

ABSTRACT:

The past, present, and some future aspects of the geothermal energy
(GTE) industry have been reviewed with special attention given to geothermal
well-drilling problems.

gub
Idaho Geothermal R and D project Report for Period December 16, 1973
to March 15, 1974

Aerojet Nuclear Co., Idaho Falls, Idaho. (0047300)
AUTHOR: Kunze, J. F., Miller, L. G.
A6711D3 PLD: 10A, 97A NSA3010
18 Mar 74 41p
CONTRACT: AT(10-1)-1375
MONITOR: 18

ABSTRACT: For abstract, see NSA 30 10, number 28826.

DESCRIPTORS: (*Geothermal energy, *Research programs), (*Idaho,
Geothermal energy), Combined cycles, Geology, Geophysics, Geothermal
power plants, Steam turbines

IDENTIFIERS: NTISAEC

ANCR-1155 NTIS Prices: PC\$4.00/MP\$2.25

ABSTRACT:

This report covers the first three months of activity. A brief summary
is given in Section 2, with more detailed discussions in subsequent sections.

Sub
Low Temperature Demonstration Geothermal Power Plant in the Raft River Valley

Aerojet Nuclear Co., Idaho Falls, Idaho. (0047300)

AUTHOR: Kunze, J. F., Miller, L. G., Neill, D. T., Nichols, C. R.

A6711D2 FLD: 10A, 97C, 97A NSA3010

Apr 74 52p

CONTRACT: AT(10-1)-1375

MONITOR: 18

ABSTRACT: For abstract, see NSA 30 10, number 28867.

DESCRIPTORS: (*Geothermal power plants, *Design), Economics, Environmental effects, Geology, Idaho, Injection wells, Operation, Pilot plants, Thermal waters

IDENTIFIERS: NTISAE C

ANCR-1138 NTIS Prices: PC\$5.45/MF\$2.25

ABSTRACT:

The Raft River Project will study the techniques (by actual testing) of utilizing water at temperatures well below what is now considered the commercially viable range. Geochemical indicators show reservoir temperatures of less than 150 C. Environmental conditions will be a major consideration in this project, and will include the re-injection of all waste geothermal fluids without contaminating the abundant near-surface aquifer.

sub
Geothermal Energy: A New Application of Rock Mechanics

Los Alamos Scientific Lab., N.Mex. (3820000)

AUTHOR: Roegiers, J. C., Brown, D. W.

A6693D3 FLD: 8G NSA3009

1974 15p

REPT NO: CONF-740909-2

MONITOR: 18

ABSTRACT: For abstract, see NSA 30 09, number 26104.

DESCRIPTORS: (*Hot-dry-rock systems, *Fractures), Geochemistry, Granites, Hydraulics, Minerals

IDENTIFIERS: NTISAEC

LA-UR-74-821 NTIS Prices: PC\$4.00/MF\$2.25

ABSTRACT:

The extraction of thermal energy from the numerous regions of the earth's crust containing hot--but essentially dry--rock at moderate depths, may offer a solution to the developing world energy crisis. A deep exploratory hole has already been drilled into basement crystalline rock in north-central New Mexico, and tested at various horizons. These experiments have demonstrated, at least in this one specific region, that a large vertical fracture system can be created in granitic rocks using conventional-hydraulic-fracturing techniques. An open pressurized fracture system has been maintained in these crystalline rocks for many hours with only negligible fluid leak off. This concept, however, must be tested and will be investigated in a subsequent field experiment.

Shp
Rock Melting Subterrenes: Their Role in future Excavation Technology

Los Alamos Scientific Lab., N.Mex. (3820000)

AUTHOR: Rowley, J. C., Hanold, R. J., Bankston, C. A., Neudecker, J. W.

A6625D4 FLD: 13B, 50B NSA3006

1974 20p

REPT NO: CONF-740631-1

MONITOR: 18

ABSTRACT: For abstract, see NSA 30 06, number 18151.

DESCRIPTORS: (*Subterrene penetrators, *Design), Economics, Excavation, Exploration, Geologic deposits, Geology, Geothermal energy, Melting, Pipelines, Power transmission, Rocks, Soils

IDENTIFIERS: NTISAEC

LA-UR-74-740 NTIS Prices: PC\$4.00/MF\$2.25

NO ABSTRACT AVAILABLE

Los Alamos Scientific Lab., N.Mex. (3820000)

AUTHOR: Kerr, A. K.

A6573B1 PLD: 5B NSA3003

Mar 74 261p

CONTRACT: W-7405-eng-36

MONITOR: 18

ABSTRACT: For abstract, see NSA 30 03, number 08943.

DESCRIPTORS: (*Space, *Bibliographies), (*Chemical analysis, Bibliographies), (*Astrophysics, Bibliographies), (*Biology, Bibliographies), Chemistry, Computers, Criticality, Cryogenics, Crystallography, Geothermal power plants, Lasers, Mathematics, Metallurgy, Nuclear physics, Plasma, Reactors, Safeguards

IDENTIFIERS: NTISAEC

LA-5600-MS NTIS Prices: PC\$7.60/MF\$2.25

ABSTRACT:

Subjects covered are aerospace science, chemical analysis, astrophysics, atomic and molecular physics, biology and medicine, chemical dynamics, chemistry, cryogenics, crystallography, plasma physics, earth sciences, engineering, EPR, ESR, NMR, explosives, fission physics, health and safety, hydrodynamics and radiation transport, instruments, lasers, mathematics, computers, metallurgy, ceramics, neutronics, nuclear physics, safeguards, reactor technology, and solid state physics.

Jim Experimental Resistivity Electrode Emplacement for the Hawaii
Geothermal Project

Sandia Labs., Albuquerque, N.Mex. (Usa). (5659000)

AUTHOR: Brandvold, G. E.

A6524E4 FLD: 10A, 97A NSA2912

Apr 74 8p

CONTRACT: AT(29-1)-789

MONITOR: 18

ABSTRACT: For abstract, see NSA 29 12, number 31478.

DESCRIPTORS: (*Geothermal energy, *Hawaii), Design, Electric
conductivity, Electrodes, Energy sources, Geologic deposits, Magnetic
probes, Temperature measurement, Viscosity

IDENTIFIERS: NTISAEC

SLA-74-194 NTIS Prices: PC\$4.00/MF\$1.45

ABSTRACT:

Sandia Laboratories' expertise in Earth-penetrating projectiles has been applied to problems of geothermal resource research. Field trials of an experimental terradynamics electrode for resistivity surveys have been carried out in cooperation with the Hawaii Institute of Geophysics, and the design of an instrumented magma penetrometer begun.

Jwp
Instrumentation for Granite Test No. 1

Los Alamos Scientific Lab., N.Mex. (Usa). (3820000)
AUTHOR: Dennis, B. R., Potter, R. M.
A6515H4 FLD: 10A, 97A NSA2912
1974 23p
REPT NO: CONF-740504-2
MONITOR: 18

ABSTRACT: For abstract, see NSA 29 12, number 31465.

DESCRIPTORS: (*Geothermal energy, *Measuring instruments), Design,
Energy sources, Fractures, Granites, Hydraulics, New Mexico, Pressure
measurement, Rocks, Volcanoes

IDENTIFIERS: NTISAEC

LA-UR-74-503 NTIS Prices: PC\$4.25/MP\$1.45

ABSTRACT:

Initial measurements to evaluate the feasibility of extracting energy
from hot-dry rock in Precambrian basement (granite) employing hydraulic-
fracturing techniques were explored in the LASL Granite Test Hole No. 1.

JMB
Microbiology of Thermally Polluted Environments. Technical Progress
Report, August 1, 1973--July 31, 1974

Wisconsin Univ., Madison (USA). Dept. Of Bacteriology. (9500252)

AUTHOR: Brock, T. D.

A6511J1 PLD: 6M, 57K, 68D NSA2912

1 Apr 74 63p

CONTRACT: AT(11-1)-2161

MONITOR: 18

ABSTRACT: For abstract, see NSA 29 12, number 29412.

DESCRIPTORS: (*Microorganisms, *Growth), (*Thermal pollution,
*Biological effects), (*Aquatic ecosystems, *Geothermal energy), (
*Environment, Thermal pollution), Animals, Bacteria, Ecology, Plants,
Temperature dependence, Thermal effluents, Water, Water pollution

IDENTIFIERS: NTISAEC

COO-2161-19 NTIS Prices: PC\$6.25/MF\$1.45

ABSTRACT:

Thermal pollution is discussed with regard to sources of manmade thermal water; thermal consequences of thermal pollution; and thermal effects on water quality. Natural habitats receiving thermal additions are discussed with regard to geothermal habitats and geothermal modification of normal aquatic ecosystems. Ecological observations on geothermal habitats include upper temperature limits for various taxonomic groups and consequences of species restriction by temperature.

Def
Nuclear Technology Division Annual Progress Report for Period Ending
June 30, 1973

Aerojet Nuclear CO., Idaho Falls, Idaho (USA). (0047300)
A6504D2 FLD: 18E, 77H NSA2912
Dec 73 410p
CONTRACT: AT(10-1)-1375
MONITOR: 18

ABSTRACT: For abstract, see NSA 29 12, number 31245.

DESCRIPTORS: (*Nuclear properties, *Research programs), (*Reactors,
*Planning), Design, Geothermal energy, Geothermal power plants,
Leading abstract

IDENTIFIERS: NTISAEC

ANCR-1129 NTIS Prices: PC\$10.60/MF\$1.45

ABSTRACT:

Abstracts or expansions of abstracts of published papers appear, as well as results of work in progress. Separate abstracts were prepared for the sections on reactor development and for articles on nonnuclear energy sources.

J. L. Artificial Geothermal Reservoirs in Hot Volcanic Rock

Los Alamos Scientific Lab., N.Mex. (Usa). (3820000)

AUTHOR: Aamodt, R. L.

A649413 FLD: 10A, 97A NSA2911

1974 13p

REPT NO: CONF-740209-1

MONITOR: 18

ABSTRACT: For abstract, see NSA 29 11, number 28792.

Boreholes, Energy sources, Fractures, Geothermal energy, Hawaii, Heat exchangers, Heating, Hydraulics, New Mexico, Rocks, Transients, Variations, Volcanoes, Water reservoirs

IDENTIFIERS: NTISAEC

LA-UR-73-1695 NTIS Prices: PC\$3.00/MP\$1.45

ABSTRACT:

Some recent results from the Los Alamos program in which hydraulic fracturing is used for the recovery of geothermal energy are discussed. The location is about 4 kilometers west and south of the ring fault of the enormous Jemez Caldera in the northcentral part of New Mexico.

Geothermal Energy Program. Subpanel Report VIII Used in Preparing the
AEC Chairman's Report to the President

Usaec, Washington, D.C. (6549500)
A6484B2 PLD: 10A, 97G, 97A NSA2910
13 Nov 73 192p
MONITOR: 18

ABSTRACT: For abstract, see NSA 29 10, number 26389.

DESCRIPTORS: (*Geothermal energy, *Research programs), Brines, Budgets
, Electric power, Environment, Exploration, Geologic deposits, Heat,
Legal aspects, Pilot plants, Rocks

IDENTIFIERS: NTISAEC

WASH-1281-8 NTIS Prices: PC\$12.75/MF\$1.45

ABSTRACT:

Only one resource type is presently being used to produce power in the U. S. --dry steam generating 400 MWe at The Geysers near Santa Rosa, California. Six other types--brines at high temperature and low salinity, high temperature and high salinity, low temperature and low salinity, and in geopressured reservoirs, plus dry hot rock at shallow depth and in deep, normal-gradient formations--are potentially available for economic energy recovery.

Inf

U.S. Energy Flow Charts for 1950, 1960, 1970, 1980, 1985, and 1990

California Univ., Livermore (Usa). Lawrence Livermore Lab. (9500007)
AUTHOR: Austin, A. L., Winter, S. D.
A6483B4 FLD: 10A, 97A, 97G NSA2910
16 Nov 73 18p
CONTRACT: W-7405-Eng-48
MONITOR: 18

ABSTRACT: For abstract, see NSA 29 10, number 26380.

DESCRIPTORS: (*Energy sources, *Abundance), (*Energy, *Flowsheets),
Coal, Electric power, Energy conversion, Geothermal energy,
Hydroelectric power, Industry, Natural gas, Nuclear fuels, Petroleum,
Synthetic fuels, Trade, Transport, Usa

IDENTIFIERS: NTISAEC

UCRL-51487 NTIS Prices: PC\$4.00/MF\$1.45

ABSTRACT:

Energy flow charts for the U. S. , showing the origin and disposition of energy for the years 1950, 1960, 1970, 1980, 1985, and 1990, are presented along with a discussion of their development and the implications of the data they represent.

See 0748 11/62
~~X~~ **Fy 1974 program Plan for Geothermal Project**

204 7-200
~~X~~ **Aerojet Nuclear CO., Idaho Falls, Idaho (Usa). (0047300)**
A6463A3 FLD: 10A, 97A NSA2910
5 Feb 74 76p
CONTRACT: AT(10-1)-1375
MONITOR: 18

ABSTRACT: For abstract, see NSA 29 10, number 26370.

DESCRIPTORS: (*Geothermal energy, *Research programs), (*Idaho, Geothermal energy), Design, Economic policy, Electric power, Geology, Site selection

IDENTIFIERS: NTISAEC

ANCR-1139 NTIS Prices: PC\$5.45/MF\$1.45

ABSTRACT:

The Program Plan specifies the basic plan for the utilization of FY-74 funds allocated by the AEC Division of Applied Technology and contributions from other participants for the development of geothermal energy in southern Idaho.

Ind

Inventory of Current Energy Research and Development. Iii. Indices

Oak Ridge National Lab., Tenn. (Usa). (4832000)

AUTHOR: Caton, G. M., Chilton, J. M., Huffstetler, J. K., Kline, B. W., Michelson, D. C.

A6455A2 FLD: 10A, 97G NSA2909

Dec 73 405p

CONTRACT: W-7405-eng-26

MONITOR: 18

ABSTRACT: For abstract, see NSA 29 09, number 23754.

DESCRIPTORS: (*Energy sources, *Bibliographies), (*Electric power, Bibliographies), (*Energy consumption, Bibliographies), (*Biological radiation effects, Bibliographies), Biological wastes, Budgets, Ecology, Economics, Environment, Fossil fuels, Geothermal energy, Hydroelectric power, Indexes, Personnel, Research programs, Tidal power, Wind

IDENTIFIERS: AEC

ORNL-EIS-73-63 (Vol.3) NTIS Prices: PC\$22.25/HP\$1.45

ABSTRACT:

This volume, Vol. III, contains the indices to Vols. 1 and 2, namely: Research Facility Index; Sponsor Index; Investigator Index; Location Index; and Permuted Title Index.

IMP
Inventory of Current Energy Research and Development

Oak Ridge National Lab., Tenn. (Usa). (4832000)

AUTHOR: Caton, G. M., Chilton, J. M., Huffstetler, J. K., Kline, B. W., Michelson, D. C.

A6454L4 FLD: 10A, 97G NSA2909

Dec 73 632p

CONTRACT: W-7405-eng-26

MONITOR: 18

ABSTRACT: For abstract, see NSA 29 09, number 23752.

DESCRIPTORS: (*Biological wastes, *Bibliographies), (*Electric power, Bibliographies), Budgets, Economics, Energy sources, Fossil fuels, Geothermal energy, Hydroelectric power, Indexes, Nuclear fuels, Personnel, Research programs, Tidal power, Wind

IDENTIFIERS: AEC

ORNL-EIS-73-63 (Vol.1) NTIS Prices: PC\$33.75/MF\$1.45

ABSTRACT:

The document is a result of a survey of current research on energy problems and presents an overview of the research and development being done on most aspects of energy sources, electric power, energy uses and health and ecological effects. Vol. 1, contains descriptions of 1078 projects on energy sources and the first 1513 projects on electric power.

SWP Preliminary Investigation Desalting of Geothermal Brines in the
Imperial Valley of California

Oak Ridge National Lab., Tenn. (USA). (4832000)

AUTHOR: Spiewak, I., Hise, E. C., Reed, S. A., Thompson, S. A.

A6433E4 PLD: 10A, 97A NSA2908

4 Mar 70 46p

CONTRACT: W-7405-eng-26

MONITOR: 18

ABSTRACT: For abstract, see NSA 29 08, number 20412.

DESCRIPTORS: (*Geothermal energy, *Exploration), (*Desalination,
*Brines), California, Cooling towers, Corrosion, Cost, Evaporation,
Impurities, Mockup, Planning, Seawater, Waste heat

IDENTIFIERS: AEC

ORNL-TM-3021 NTIS Prices: PC\$4.50/MF\$1.45

ABSTRACT:

The Imperial Valley Project is an applied research program to provide geologic, hydrologic, engineering, and economic information necessary for development of the geothermal resources of the delta of the lower Colorado River. It is suggested that a desalting pilot plant be associated with the project to develop an economic desalting process if 2 to 3% geothermal brine is produced.

8 mg

Potential for the Production of Power from Geothermal Resources

Los Alamos Scientific Lab., N.Mex. (Usa). (3820000)

AUTHOR: Smith, M. C.

A6342I1 PLD: 10A, 97A NSA2904

1973 18p

CONTRACT: W-7405-eng-36

MONITOR: 18

ABSTRACT: For abstract, see NSA 29 04, number 09613.

DESCRIPTORS: (*Geothermal energy, *Energy sources), Economics, Geology, Pollution, Production

IDENTIFIERS: AEC

LA-UR-73-926 NTIS Prices: PC\$3.00/MF\$1.45

ABSTRACT:

A program to investigate and develop hot, dry rock was undertaken by the Atomic Energy Commission at Los Alamos Scientific Laboratory, and initial results from that program are described. It appears that the equipment and techniques required to make this vast energy reservoir useful already exist, and that a convincing demonstration of its usefulness is possible.

Aug
Geothermal Energy

Los Alamos Scientific Lab., N.Mex. (Usa). (3820000)

AUTHOR: Smith, M. C.

A6342H1 FLD: 10A, 97A NSA2904

1973 9p

CONTRACT: W-7405-eng-36

MONITOR: 18

ABSTRACT: For abstract, see NSA 29 04, number 09615.

DESCRIPTORS: (*Environment, *Pollution), (*Geothermal energy, *Planning), Economics, Heating, Lasl, Power plants, Research programs, Rock drilling, Rocks

IDENTIFIERS: AEC

LA-UR-73-1316 NTIS Prices: PC\$3.00/MP\$1.45

ABSTRACT:

Dry hot rock in the Earth's crust represents the largest and most broadly distributed reservoir of usable energy accessible to man. The engineering equipment and methods required to extract and use this energy appear to exist and are now being investigated actively at LASL.

dup
Potential for Hot-Dry-Rock Geothermal Energy in the Western United States

Los Alamos Scientific Lab., N.Mex. (Usa). (3820000)

AUTHOR: Brown, D. W.

A6342G3 PLD: 10A, 97A NSA2904

25 Jul 73 22p

CONTRACT: W-7405-eng-36

MONITOR: 18

ABSTRACT: For abstract, see NSA 29 04, number 09614.

DESCRIPTORS: (*Geothermal energy, *Usa), Cracks, Energy, Geology, Heating, High temperature, Lasl, Planning, Regional analysis, Research programs, Rock drilling, Rocks

IDENTIFIERS: AEC

LA-UR-73-1075 NTIS Prices: PC\$3.25/MP\$1.45

ABSTRACT:

The U. S. Geological Survey has identified 1.8 million acres (2800 square miles) of western lands as "having a significant potential for geothermal development." A recent survey reveals that about 7% of the 13-state area comprising the Western Heat Flow Province--about 95,000 square miles--is underlain, at a depth of 5 km (16,400 ft), by hot rock at temperature levels above 290 C. In the Los Alamos concept, a man-made geothermal reservoir would be formed by first drilling into suitable hot rock, and then creating a very large surface area for heat transfer using conventional hydraulic fracturing techniques developed by the oil industry.

48 MB
Instrumentation Systems Development for in Situ Processing

Sandia Labs., Albuquerque, N.Mex. (USA). (5659000)

AUTHOR: Northrop, D. A.

A6324C3 PLD: 21D, 97F NSA2903

Sep 73 43p

CONTRACT: AT(29-1)-789

MONITOR: 18

ABSTRACT: For abstract, see NSA 29 03, number 07354.

DESCRIPTORS: (*Coal, *Gasification), (*Oil shales, *Energy conversion),
, (*Underground explosions, Measuring instruments), (*Measuring
instruments, *Energy sources), Computers, Data processing, Environment
, Fabrication, Geothermal energy, Mathematical models, Monitoring,
Optimization, Planning

IDENTIFIERS: AEC

SLA-73-919 NTIS Prices: PC\$4.25/MP\$1.45

ABSTRACT:

The need for new sources of energy has resulted in the development for in situ processing and process control instrumentation by Sandia Laboratories. Optimization of processing techniques for coal, oil shales, geothermal beds, magma taps, etc. require instrumentation for measuring and controlling the associated processes. Instrumentation, data processing, and modeling techniques are described.

Ship

Comparison of Elementary Geothermal-Brine Power-Production Processes

California Univ., Berkeley (Usa). Lawrence Berkeley Lab. (1112800)

AUTHOR: Green, M. A., Laird, A. D. K.

A6321G1 PLD: 10B, 97C NSA2903

2 Aug 73 34p

REPT NO: CONF-730846-1

CONTRACT: W-7405-eng-48

MONITOR: 18

ABSTRACT: For abstract, see NSA 29 03, number 07349.

DESCRIPTORS: (*Geothermal energy, *Brines), Comparative evaluations, Economics, Energy sources, High temperature, Medium temperature, Power, Production

IDENTIFIERS: AEC

LBL-2102 NTIS Prices: PC\$3.75/MF\$1.45

ABSTRACT:

A comparison of three simple geothermal power-production systems shows that the flashed steam and the compound systems are favored for use with high-temperature brines. The binary system becomes economically competitive only when used on low-temperature brines. Geothermal power appears to be economically attractive even when low-temperature brines are used.

gms
Regional Geology and Geophysics of the Jemez Mountains

Los Alamos Scientific Lab., N.Mex. (Usa). (3820000)

AUTHOR: West, F. G.

A6294I3 FLD: 8G, 48F NSA2901

Aug 73 7p

CONTRACT: W-7405-eng-36

MONITOR: 18

ABSTRACT: For abstract, see NSA 29 01, number 00421.

DESCRIPTORS: (*Jemez mountains, *Geophysics), (*Mountains, Geophysics)
, Geology, Geothermal energy, Usa

IDENTIFIERS: AEC

LA-5362-MS NTIS Prices: PC\$4.00/MF\$1.45

ABSTRACT:

The western margin of the Rocky Mountain tectonic belt is the initial site for the Los Alamos Geothermal Project. Geophysical studies indicate that the region is one of relatively high-terrestrial heat flow, low-crustal density, low-crustal seismic velocities, low-crustal magnetoelectric impedance, and thin crust.

gmp
Process for the Simultaneous Utilization of Geothermic and Hydrodynamic Energy

AUTHOR: Tavip, J. E.

A6262I2 PLD: 10B, 97C NSA2902

7p

MONITOR: 18

Translation of Dispositivo para el aprovechamiento simultaneo de la energia geotermica y la hidrodinamica.

ABSTRACT: For abstract, see NSA 29 02, number 04670.

DESCRIPTORS: (*Geothermal energy, *Electric power), (*Hydroelectric power, Electric power), Drill cores, Energy consumption, Energy sources, Evaporation, Fluid mechanics, High temperature, Patents, Steam, Turbines, Water

IDENTIFIERS: AEC

AEC-tr-7475 NTIS Prices: PC\$3.00/MF\$1.45

ABSTRACT:

Hydrodynamic energy is produced by water falling through a pipe inserted deeply into the Earth's crust at a point where the high temperature will produce steam and is returned to the Earth surface through another pipe as steam. The waterfall created by this perforation is utilized by turbines suitable for the production of electric energy while the steam produced spurts from the surface of the Earth and can be used as a source of energy with multiple applications.

Handwritten initials
Seismic Program of the Los Alamos Scientific Laboratory

Los Alamos Scientific Lab., N. Mex. (4808500)

AUTHOR: Purtymun, W. D., Jordan, H. S.

A5251C4 FLD: 8K, 48F NSA2811

Sep 73 14p

CONTRACT: W-7405-eng-36

MONITOR: 18

ABSTRACT: For abstract, see NSA 28 11, number 27336.

DESCRIPTORS: (*Geothermal energy, *Seismology), (*Underground explosions, Seismology), (*Los alamos scientific lab, Seismology), (*Ground motion, Seismology), Environment, Nuclear explosions

IDENTIFIERS: AEC

LA-5386-MS NTIS prices: PC\$4.00/MF\$1.45

ABSTRACT:

There are four areas of interest: Environmental studies, seismic studies in connection with the geothermal program, underground explosive test event studies, and strong motion studies.

Slip
Alternative Energy Sources: A Research Challenge

Sydney Univ. (Australia). (7878000)
AUTHOR: George, D. W.
A6231H4 PLD: 10B, 97A NSA2811
1973 21p
MONITOR: 18
U.S. Sales Only.

ABSTRACT: For abstract, see NSA 28 11, number 29382.

DESCRIPTORS: (*Energy sources, *Australia), (*Tidal power, *Research programs), (*Wind, Research programs), (*Geothermal energy, Research programs), Economics, Energy consumption, Energy conversion, Energy source conservation, Environment, Fossil fuels, Fuel cells, Hydroelectric power, Magnetohydrodynamics, Natural gas, Solar energy

IDENTIFIERS: AEC

CONF-730560-1 NTIS Prices: PC\$3.25/MF\$1.45

ABSTRACT:

Methods of obtaining energy such as controlled thermonuclear fusion, direct solar conversion, or deep geothermal resources of energy are considered alternative energy sources in a global sense.

200

Some Interfaces in Resource Utilization

Los Alamos Scientific Lab., N. Mex. (4808500)

AUTHOR: Reinig, L. P.

A6152A2 PLD: 10B, 97 NSA2807

16p

REPT NO: CONF-730440-1

CONTRACT: W-7405-eng-36

MONITOR: 18

ABSTRACT: For abstract, see NSA 28 07, number 17647.

DESCRIPTORS: (*New mexico, *Electric power), (*Geothermal energy, New mexico), (*Brines, *Desalination), Economics, Energy sources, Environment, Fossil fuels, Human populations, Legal aspects, Nuclear power

IDENTIFIERS: AEC

LA-UR-73-570 NTIS Prices: PC\$3.00/MF\$1.45

ABSTRACT:

Los Alamos Scientific Laboratory is engaged in programs to explore the ways of extracting useful power from the heat of the Earth's crust; demonstrates the feasibility of superconducting transmission lines; and the development of a rock-melting penetrator, or subterrene, expected to be capable of creating long tunnels in rock. The tunnels, lined with the glass-like melted rock created by passage of the subterrene, might form excellent conduits for underground transmission lines, as well as serving in the exploitation of geothermal energy.

Lang
Sio sub 2 Scale Formation in Simulated Geothermal Brine

Oak Ridge National Lab., Tenn. (6171000)

AUTHOR: Harley, P. H.

A6113C1 FLD: 7A, 59B, 71L NSA2806

Jun 73 21p

CONTRACT: W-7405-eng-26

MONITOR: 18

ABSTRACT: For abstract, see NSA 28 06, number 15153.

DESCRIPTORS: (*Water, *Production), (*Brines, *Evaporation), (*Silicon oxides, *Scaling), Calcium, Ground water, Heat transfer, High temperature, Low temperature, Magnesium, Trace amounts

IDENTIFIERS: AEC

ORNL-TM-4137 NTIS Prices: PC\$3.25/MF\$1.45

ABSTRACT:

An experimental single-tube, upflow vertical tube evaporator (VTE) was operated in the temperature range 290 to 355 F to determine the effect on heat transfer of SiO₂ dissolved in a simulated geothermal brine.

QMB
Petrography of Some Rock Types of the Precambrian Basement Near the
Los Alamos Scientific Laboratory Geothermal Test Site, Jemez
Mountains, New Mexico

Los Alamos Scientific Lab., N. Mex. (4808500)

AUTHOR: Perkins, P. C.

A6101K1 FLD: 8G, 64F NSA2805

Jun 73 12p

CONTRACT: W-7405-eng-36

MONITOR: 18

ABSTRACT: For abstract, see NSA 28 05, number 10895.

DESCRIPTORS: (*Geothermal energy, *Site selection), (*Rocks,
*Petrology), Granites

IDENTIFIERS: AEC

LA-5129 NTIS Prices: PC\$3.00/MF\$1.45

ABSTRACT:

This study describes 25 samples from 152 ft of drill core taken from
Granite Test Hole One, and 12 examples of Precambrian rocks of the region
not far distant from the proposed geothermal test site.

Day
Explosive Stimulation of a Geothermal Steam Reservoir

California Univ., Livermore. Lawrence Livermore Lab.

AUTHOR: Sherwood, A. .

A582412 FLD: 8G, 64C NSA2707

Nov 72 14p

CONTRACT: W-7405-ENG-48

MONITOR: 18

ABSTRACT: For abstract, see NSA 27 07, number 14695.

DESCRIPTORS: *Explosions, *Steam,

IDENTIFIERS: AEC

UCRL-51303 NTIS Prices: PC\$3.00/MF\$0.95

ABSTRACT:

A mineral deposition model is proposed to explain the production decline from geothermal wells producing dry (superheated) steam. The model is based on isothermal mineral deposition caused by a pressure gradient near the well. Using reasonable parameter values, the model approximates the production behavior of a typical well at The Geysers field in California.

Quf Corrosion and Scaling by Steam in Nuclear Geothermal Power Plants

California Univ., Livermore. Lawrence Livermore Lab.

AUTHOR: Krikorian, Oscar H.

A5671B3 PLD: 18E, 77H NSA2624

26 Jul 72 32p

REPT NO: CONF-720607-27

MONITOR: 18

From 18. Annual American Nuclear Society Conference- Las Vegas, Nv.
(18 Jun 1972).

ABSTRACT: For abstract, see NSA 26 24, number 58680.

DESCRIPTORS: *Nuclear explosions/ underground, *Steam,

UCRL-73939(REV.2) NTIS Prices: PC\$3.00/MF\$0.95

ABSTRACT:

The quality of geothermal steam produced by nuclear explosions is examined in respect to mineral content, radioactivity, and noncondensable gas content. The effects of these components on the corrosive and sealing properties of the steam are discussed.

Sup
Energy Fuel Mineral Resources of the Public Lands. Volume VI: Legal Study of Coal Resources on Public Lands; Geothermal Resources on Public Lands

Utah Univ., Salt Lake City. Coll. of Law.

Interim rept.

A1472L3 FLD: 8I, 5A, 64I, 56P, 52I, 56G USGRDR7104

Dec 70 630p*

CONTRACT: PLLRC-68-C-11

MONITOR: PLLRC-31-6

Republished with revisions. See also Volume 1, PB-196 320.

ABSTRACT: The two reports included in the volume review and evaluate the legal aspects of coal and geothermal resources, respectively, on public lands. They include suggestions of policy alternatives without regard to the adoption of a statutory overall energy fuels policy. (PLLRC abstract)

DESCRIPTORS: (*Public land, Legislation), (*Coal deposits, Management), (*Springs(Water), Government policies), Organizations, Conservation, State government, Control systems, Geophysical prospecting, Fossil-fuel deposits, Leasing, Royalties, Pollution, Substitutes, Mining, Steam

IDENTIFIERS: *Mineral resources, *Geothermal resources, Mineral springs, *Energy fuel mineral resources

PB-196 325 NTIS Prices: PC\$9.00 MF\$0.95

X
CHARACTERISTICS OF THE GEOPHYSICAL FIELDS IN THE TERRITORY OF THE USSR
(Kharakteristika Geofizicheskikh Polei Territorii SSSR)

51739 Aeronautical Chart and Information Center St Louis Mo Linguistic
Section (400194)

AUTHOR: Soloveva, N. M.

A0592B2 FLD: 8G, 64F, 64G USGRDR7017

Jan 70 56p

MONITOR: ACIC-TC-1605

Trans. of mono. Geologicheskoe Stroenie SSSR, Moscow, 1968 v2 p15-52,
by Henry Tomas.

ABSTRACT: At present, on account of its irregular exploration, it is not possible to give a full description of the anomalous field on the territory of the Soviet Union; therefore the geological conclusions are in many cases only preliminary. The geothermal field is closely associated with other geophysical fields, with the characteristics of tectonic development in different sections of the earth's crust, etc. All this calls for detailed studies of the thermal conditions in the interior part of the earth, within the range accessible to direct geothermal measurements. Since drill holes are not proportionally distributed, knowledge of the geothermal conditions on the territory of the Soviet Union remains spotty. (Author)

DESCRIPTORS: (*Geophysical prospecting, USSR), Thermal properties, Rock(Geology), Gravity, Structural geology, Mountains, Anomalies, Petrology, Thickness, Magnetic anomaly detection

IDENTIFIERS: Translations, *Geothermal prospecting

AD-708 433 CPSTI Prices: HC\$3.00 MF\$0.65

X 51, 189
REPORT OF EXPLORATION PROGRESS CENTRAL NEVADA, PERIOD JANUARY 1,
1968-APRIL 1, 1969

Geological Survey, Denver, Colo. (152 350)

7092P4 FLD: 8G, 911 NSA2323

Apr 69 35p

REPT NO: Central Nevada-30

CONTRACT: AT(29-2)-474

DESCRIPTORS: (*Rock(Geology), Nevada), Stratigraphy, Thermal analysis,
Drilling

IDENTIFIERS: *Geothermometry, Exploratory wells

USGS-474-18 CFSTI Prices: HC\$6.00 MP\$0.95

ABSTRACT:

Geological explorations in Central Nevada were continued during January 1968 to April 1969. The results are presented as tabulated data which identify the location and depth of each drill hole, the type of rock found in each drill hole, and the depth location of each distinct rock stratum in each hole.

Dmp
Proceedings of the Geothermal Power Development Conference, University
of California, Berkeley, June 18, 1974

California Univ., Berkeley Lawrence Berkeley Lab. (1112800)
A6784K3 PLD: 10A, 97A NSA3102
1974 127p
REPT NO: CONF-740654-
CONTRACT: W-7405-eng-48
MONITOR: 18

ABSTRACT: For abstract, see NSA 31 02, number 05402.

DESCRIPTORS: (*Geothermal energy, *Research programs), (*Usa,
Geothermal energy), planning, Us aec

IDENTIFIERS: NTISAEC

LBL-309921 NTIS Prices: PC\$5.45/MF\$2.25

ABSTRACT:

The conduct of AEC's research and development activities in geothermal
energy is presented.

Jug

Evaporative Heat Transfer in Vertical Tubes at Geothermal Brine
Conditions: A Preliminary Investigation

Oak Ridge National Lab., Tenn. (USA). (4832000)

AUTHOR: Harley, P. H., Eissenberg, D. M.

A6433P1 FLD: 10A, 97A NSA2908

Jun 73 37p

CONTRACT: W-7405-eng-26

MONITOR: 18

ABSTRACT: For abstract, see NSA 29 08, number 20413.

DESCRIPTORS: (*Geothermal energy, *Heat transfer), (*Heat exchangers,
Geothermal energy), (*Brines, *Desalination), Distillation,
Evaporation, Flash heating, High temperature, Medium temperature,
Mockup, Performance testing, Steam, Tubes

IDENTIFIERS: AEC

ORNL-TM-4135 NTIS Prices: PC\$4.00/MF\$1.45

ABSTRACT:

Overall heat-transfer coefficients were obtained in a single-tube loop for
a smooth tube and two fluted tubes proposed for use in a geothermal brine up-
flow VTE pilot plant.

Sub
Some Elements of the Northern Gulf of Mexico Basin Geopressure Energy Resource

California Univ., Livermore. Lawrence Livermore Lab. (1685900)

AUTHOR: Myers, B., Nelson, R., Howard, J., Austin, R.

A6261K3 FLD: 8G, 97A, 48F NSA2811

7 Jun 73 27p

REPT NO: CONF-730659-1

MONITOR: 18

ABSTRACT: For abstract, see NSA 28 11, number 29386.

DESCRIPTORS: (*Geothermal energy, *Economics), Electric power, Energy conversion, Energy sources, Environment, Ground water, Gulf of Mexico, Heating, Louisiana, Natural gas, Stored energy, Texas

IDENTIFIERS: AEC

UCRL-74807 NTIS Prices: PC\$3.50/MF\$1.45

ABSTRACT:

It has been shown that there may be a very substantial energy resource in the Gulf of Mexico Basin in two forms, geopressured water and contained natural gas.

Dmg

Preliminary Investigation Desalting of Geothermal Brines in the Imperial Valley of California

Oak Ridge National Lab., Tenn. (usa). (4832000)

AUTHOR: Spiewak, I., Hise, E. C., Reed, S. A., Thompson, S. A.

A6433E4 FLD: 10A, 97A NSA2908

4 Mar 70 46p

CONTRACT: W-7405-eng-26

MONITOR: 18

ABSTRACT: For abstract, see NSA 29 08, number 20412.

DESCRIPTORS: (*Geothermal energy, *Exploration), (*Desalination, *Brines), California, Cooling towers, Corrosion, Cost, Evaporation, Impurities, Mockup, Planning, Seawater, Waste heat

IDENTIFIERS: AEC

ORNL-TM-3021 NTIS Prices: PC\$4.50/MF\$1.45

ABSTRACT:

The project is an applied research program to provide geologic, hydrologic, engineering, and economic information necessary for development of the geothermal resources of the delta of the lower Colorado River. It is suggested that a desalting pilot plant be associated with the project to develop an economic desalting process if 2 to 3% geothermal brine is produced.

DDP
POTENTIAL APPLICATIONS OF NUCLEAR EXPLOSIVES TO THE RECOVERY OF
GEOTHERMAL ENERGY

Geological Survey, Denver, Colo. (152 350)

Progress rept. for fiscal year 1966

AUTHOR: Waldron, Howard H.

6971A3 FLD: 8G, 18C, 911, 927 NSA2321

Jun 69 17p

REPT NO: Geothermal energy-2

CONTRACT: AT(04-3)-289

DESCRIPTORS: (*Nuclear explosions, *Nuclear industrial applications),
(*Rock (Geology), Thermal analysis), Heat flux, Energy conversion,
Electric power production, Underground explosions, California, Nevada,
Oregon

IDENTIFIERS: *Geothermal prospecting, Plowshare operation

USGS-289-2 CFSTI Prices: HC\$3.00 MF\$0.95

ABSTRACT:

Studies included some library research and consultations, a brief reconnaissance of the potential of several thermal areas in Oregon, Nevada, and California, and a brief geologic reconnaissance of the Coso Thermal Area in southern California.

Imp

POTENTIAL APPLICATIONS OF NUCLEAR EXPLOSIVES TO THE RECOVERY OF
GEOTHERMAL ENERGY

Geological Survey, Denver, Colo. (152 350)

Progress rept. for fiscal year 1965

AUTHOR: Waldron, Howard H.

6971A2 FLD: 8G, 18C, 911, 927 NSA2321

Jun 69 18p

REPT NO: Geothermal energy-1

CONTRACT: AT(04-3)-289

DESCRIPTORS: (*Nuclear explosions, *Nuclear industrial applications),
(*Rock(Geology), Thermal analysis), Heat flux, Energy conversion,
Electric power production, Underground explosions

IDENTIFIERS: *Geothermal prospecting, Plowshare operation

USGS-289-1 CFSTI Prices: HC\$3.00 MF\$0.95

ABSTRACT: The initial phase of study and the utilization of nuclear explosives for stimulating and beneficiating the recovery of geothermal energy have been directed toward fundamentals that may control or influence the occurrence and character of geothermal areas. Some characteristics of heat flow and of geothermal districts are summarized; the occurrence and distribution in the United States of the more than 1,300 thermal spring localities, indicative of geothermal districts, are reviewed. Future work will include broad regional studies in the Western United States, and detailed studies of one or more selected geothermal districts.
(Author)

247
POTENTIAL APPLICATIONS OF NUCLEAR EXPLOSIVES TO THE RECOVERY OF
GEOTHERMAL ENERGY

Geological Survey, Denver, Colo. (152 350)

Progress rept. for fiscal year 1966

AUTHOR: Waldron, Howard H.

6971A3 FLD: 8G, 18C, 911, 927 NSA2321

Jun 69 17p

REPT NO: Geothermal energy-2

CONTRACT: AT(04-3)-289

DESCRIPTORS: (*Nuclear explosions, *Nuclear industrial applications),
(*Rock(Geology), Thermal analysis), Heat flux, Energy conversion,
Electric power production, Underground explosions, California, Nevada,
Oregon

IDENTIFIERS: *Geothermal prospecting, Plowshare operation

USGS-289-2 CFSTI Prices: HC\$3.00 MF\$0.95

ABSTRACT: Studies during fiscal year 1966 included some library research and consultations, a brief reconnaissance of the potential of several thermal areas in Oregon, Nevada, and California, and a brief geologic reconnaissance of the Coso Thermal Area in southern California. It was concluded that too little is known at the present time about geothermal heat and energy to permit an adequate evaluation of the feasibility of utilizing nuclear explosives for the recovery of geothermal energy. Research and investigations currently in progress, however, should greatly advance knowledge on geothermal heat and energy within the next few years.
(Author)

Sub
TEMPERATURE DATA FROM EXPLORATORY BOREHOLES AT THE SUPPLEMENTAL TEST SITE, CENTRAL NEVADA

Geological Survey, Menlo Park, Calif. (152 400)

Interim rept.

AUTHOR: Munroe, Robert J., Moses, T. H. Jr
6805J4 FLD: 8G, 18C, 911, 927 NSA2319

Jan 69 15p

CONTRACT: AT(29-2)-474

PORTIONS OF THIS DOCUMENT ARE NOT FULLY LEGIBLE. SEE INTRODUCTION TO THIS JOURNAL.

DESCRIPTORS: (*Nuclear explosions, Underground explosions), (*Rock (Geology), Thermal analysis), Thermal radiation, Drilling, Well logging, Nevada

IDENTIFIERS: *Geothermometry, Plowshare operation, *Downhole thermal surveys, *Cores

USGS-474-3 CPSTI Prices: HC\$3.00 MF\$0.95

ABSTRACT:

Precise temperature measurements were made in exploratory boreholes at the Supplemental Test Site, Central Nevada. With thermal properties measurements made on the core and additional temperature measurements in progress these data will be used to estimate geothermal flux from the area.

5/1/70
X Proposed Installation and Operation of a Skid-Mounted Desalting Unit
and Injection Well, Imperial Valley, California

Office of Saline Water, Washington, D.C. (265 500)

48/5000
Draft environmental impact statement.
A4241B3 FLD: 13B, 68 USGRDR7211
25 Apr 72 35p
MONITOR: DES-72-52

ABSTRACT: Construction is proposed of a desalting test facility at a geothermal test well located in Imperial Valley, California. No long-term adverse environmental effects would result from this test installation. Short-term impact would include release of brine to settling ponds, and release of small amounts of gases such as carbon dioxide and hydrogen sulfide to the atmosphere. Following completion of testing, the site would be restored to its original condition.

48/5000
DESCRIPTORS: (*Environmental surveys, Test facilities), (*California, Environmental surveys), (*Desalting, Environmental surveys), Exploratory wells, Geothermometry, Brines, Waste disposal, Air pollution

IDENTIFIERS: *Environmental impact statements, *Imperial Valley(California), Geothermal brine behavior

PB-208 662-D NTIS Prices: PC\$3.00

X 51, 141
AERIAL INFRARED IMAGES OF THE GEYSERS GEOTHERMAL STEAM FIELD AND
VICINITY, SONOMA COUNTY, CALIFORNIA

Geological Survey, Washington, D. C. Water Resources Div.

AUTHOR: Moxham, R. M.

6445H2 PLD: 8G, 911 STAR0715

May 68 15p

REPT NO: NASA-CN-101454, NASA-110

GRANT: NASA ORDER T-65754-G

Spacecraft Center Date- May 1968 Coll- 15 P Refs

DESCRIPTORS: *Aerial photography, *Geysers, *Infrared photography,
California, Infrared instruments

N69-28453 CPSTI Prices: HC\$3.00 MF\$0.95

ABSTRACT:

The imagery obtained by using an airborne 8 to 14 micron scanning in-
frared radiometer is presented.

51192
AERIAL INFRARED SURVEYS AT THE GEYSERS GEOTHERMAL STEAM FIELD,
CALIFORNIA

Geological Survey, Washington, D. C.

AUTHOR: Moxham, R. M.

5343L1 PLD: 8G STAR0623

1968 84p

REPT NO: NASA-CR-97274, NASA-123

CONTRACT: NASA ORDER R-09-020-011

DESCRIPTORS: *Aerial photography, *California, *Geysers, *Infrared
photography, Photointerpretation, Thermal emission

N68-37353 CFSTI Price: PC\$6.00

ABSTRACT:

The aerial infrared surveys indicate that the principal high temperature zones at The Geysers are in part limited (at the surface) on the southwest by structural lineaments; their northeast extent tends to be more diffuse. An arcuate radiance pattern suggesting slightly elevated surface temperatures, extends beyond the northwest present limit of steam production at the Sulphur Banks.

51,143
X
GEOTHERMAL STUDIES - YELLOWSTONE NATIONAL PARK (TEST SITE 11), WYOMING

Geological Survey, Menlo Park, Calif.

AUTHOR: Fournier, P. O., Muffler, L. J., Truesdell, A. H., White, D. E.

4813J4   PLD: 8G   STAR0614

May 68   15p

REPT NO: NASA-CR-94781, NASA-109

CONTRACT: NASA ORDER R-09-020-015

295-1600
DESCRIPTORS: *Drilling, *Geology, *Heat transmission, Calorimeters, Data correlation, Earth core, Graphs (charts), Radiometers, Snow, Surface temperature, Temperature measurement

N68-25251   CFSTI Prices: PC\$3.00 MF\$0.95

ABSTRACT:

Investigations include the correlation of subsurface temperatures determined by diamond drilling, surface temperature measurements, and remote sensor data.

X 51,144
ISOTOPIC COMPOSITION AND ORIGIN OF THE RED SEA AND SALTON SEA
GEOTHERMAL BRINES

Scripps Institution Of Oceanography La Jolla Calif (319100)

AUTHOR: Craig, H.

3114I1 FLD: 8G, 8H USGRDR6708

22 Aug 66 7p

CONTRACT: Nonr-2216(23)

PROJECT: NR-083-005

MONITOR: 18

Availability: Published in Science v154 n3756 p1544-8 Dec 23 1966.

568 40000
ABSTRACT: Deuterium and oxygen-18 measurements show that the Red Sea and Salton Sea brines are the results of a single process, the leaching of sediments by surface water circulating downward to a geothermal reservoir. The Salton Sea brine is derived from local precipitation but the Red Sea brine originates 1000 kilometers south of its basin, on the shallow sill which controls the circulation of the Red Sea. On this sill sea water penetrates a thick evaporite sequence to a depth of 2000 meters, and driven by its increased density relative to sea water, flows northward to emerge in the brine-filled deeps. (Author)

DESCRIPTORS: (*Isotopes, *Sea water), Red sea, Sedimentary rock, Salinity, Atmospheric precipitation, Density, Temperature

AD-647 524

5/1/95
PERMAFROST AND THE GEOTHERMAL REGIMES

Geological Survey, Washington, D. C. (152 450)

AUTHOR: Lachenbruch, A. H., Greene, G. W., Marshall, B. V.

291312 FLD: 8L, 8 TAB6704

1966 16p

PROJECT: NR-307-275, NR-307-107

MONITOR: 18

Research supported in part by AEC, Office of Naval Research, Cambridge Research Labs., and Bureau of Yards and Docks.

ABSTRACT: Analysis of temperatures to a depth of 1200 ft beneath Ogotoruk Valley reveals that present earth temperatures at depth are strongly influenced by an extinct climate and by an ancient shoreline position. An active climatic change that has been in progress throughout the past century has increased the mean annual ground-surface temperature on the order of 2C. If the present climate persists, the inland permafrost thickness eventually will be reduced from about 1170 to about 850 ft. Earth-temperature anomalies near the shoreline indicate a rapid encroachment of the Chukchi Sea several thousand years ago and imply that permafrost extends under the margin of the sea to a maximum distance of about 100 yards at a depth of 200 or 300 ft. Preliminary results indicate that local heat flow from the interior of the earth is close to the world-wide average. (Author)

DESCRIPTORS: (*Permafrost, *Alaska), Temperature, Earth(Planet), Climatology

AD-644 259 CPSTI Prices: PC\$3.00 MF\$0.95

SWB UNDERSEA GEOTHERMAL DEPOSITS, THEIR SELECTION AND POTENTIAL USE

Naval Ordnance Test Station China Lake Calif (251100)

Research rept.

AUTHOR: Austin, C. F.

2425E4 FLD: 8I, 10A, 20M USGRDR6618

Jul 66 2p

REPT NO: NOTS-TP-4122

TASK: r360-FR106/216-1/RO11-01-01

ABSTRACT: Geothermal deposits beneath the ocean floor appear to be the principal indigenous energy source available to installations in the deep-sea environment and are the only apparent alternative indigenous power source to fossil fuels in the continental shelf and slope environment. This study presents a review of geothermal deposits from four points of view: (1) locating potential geothermal deposits at or near which undersea installations might be established; (2) waste disposal considerations; (3) the estimation of deposit structure, chemistry, and size prior to development; and (4) the use of geothermal deposits in the undersea environment including their relative merits as opposed to fossil fuels and reactors. (Author)

DESCRIPTORS: (*Marine geophysics, *Steam power plants), Marine geology, Thermodynamics, Steam, Geochemistry, Energy conversion, Power supplies

IDENTIFIERS: Geothermal deposits

AD-636 496 CFSTI Prices: PC\$3.00 MF\$0.95

Sub

GEOHERMAL STEAM: ORIGIN, CHARACTERISTICS, OCCURRENCE, AND EXPLOITATION

Cornell Univ Ithaca N Y (000000)

Final rept.

AUTHOR: Kiersch, George A.

1754K3 USGRDR

14 Nov 64 2p

CONTRACT: AF19 628 293

PROJECT: 8623

TASK: 862303

MONITOR: AFCRL-64-898

ABSTRACT: This project has investigated the following principal features of geothermal steam resources: (1) sources of heat; (2) sources of water; (3) importance of seismic activity, so commonly associated with volcanism, to the location and potential of geothermal resources; (4) manner in which geothermal energy is transferred from the deep-seated heat source to the near-surface reservoir site; (5) major geologic conditions governing the localization of geothermal energy and development of a largescale reservoir; (6) exploration methods and techniques for locating and delineating areas of geothermal potential; (7) possible uses, both military and civilian, for geothermal energy; and (8) some areas throughout the world with potential for geothermal resources that have not been explored.

DESCRIPTORS: (*STEAM, LITHOSPHERE), (*THERMODYNAMICS, GEOPHYSICS), (*LITHOSPHERE, THERMAL PROPERTIES), (*GEOCHEMISTRY, STEAM), VOLCANOES, SEISMOLOGY, STRUCTURAL GEOLOGY, HYDROLOGY, GEOPHYSICAL PROSPECTING, ELECTRIC POWER PRODUCTION, ECONOMIC GEOLOGY, POWER SUPPLIES

AD-611 808 CFSTI Price: PC\$3.00

2nd
Foreign and Domestic Discussions on Natural Geothermal Power and
Potential Use of Plowshare to Stimulate These Natural Systems

Battelle-Northwest, Richland, Wash. Pacific Northwest Lab.

AUTHOR: Burnham, J. B., Stewart, D. H.

A3953A4 PLD: 8G, 64P NSA2604

6 Jul 71 19p

ABSTRACT: For abstract, see NSA 26 04, number 06790.

DESCRIPTORS: *Australia, *California, *Energy, *Hawaii, *Iceland,
*Italy, *New zealand, *Plowshare project,

BNWL-B-110 NTIS Prices: PC\$3.00 MF\$0.95

ABSTRACT:

A survey of the major geothermal areas of the world was conducted during May 1971. Visits were made to California, Australia, Hawaii, Iceland, Italy, and New Zealand to obtain first hand information from geothermal plant geologists, drillers, and plant operators and to discuss a proposed USAEC Plowshare Geothermal Stimulation research program.

JMD
Proposed Deep Geothermal Test Well, Geothermal Resource
Investigations, Imperial Valley, California

Bureau of Reclamation, Boulder City, Nev. Region 3.

Draft environmental impact statement.

A3714B3 FLD: 13B, 68 USGRDR7206

31 Jan 72 19p

MONITOR: DES-72-18

ABSTRACT: A deep geothermal test well is proposed to be drilled to a depth between 4,000 and 8,000 feet at Imperial Valley, California. It represents a first attempt to recover steam and brine for development of desalted water and electric power. The well would have a slight impact on the underground strata due to the comparatively small amounts of fluid withdrawn for testing. Drilling would require that approximately 10 acres of now barren desert be cleared for drilling operations.

DESCRIPTORS: (*Environmental surveys, *Geothermal prospecting), (*California, Environmental surveys), Electric power generation, Steam flow, Desalting, Land use, Subsurface investigations

IDENTIFIERS: *Environmental impact statements, *Imperial Valley (California)

PB-206 161-D NTIS Prices: PC\$3.00

JMP
Plowshare Geothermal Steam Chemistry, Introductory Studies

Battelle Pacific Northwest Labs., Richland, Wash.

AUTHOR: Charlot, L. A., Morgan, W. C., Warner, I. M.

A3654C4 PLD: 18C, 77D NSA2601

Jul 71 50p

CONTRACT: AT(45-1)-1830

ABSTRACT: For abstract, see NSA 26 01, number 00217.

DESCRIPTORS: *Plowshare project, *Radioisotopes, *Silicon oxides,
*Steam,

BNWL-1614 NTIS Prices: PC\$3.00 MF\$0.95

ABSTRACT:

The purpose of the study was a determination of the kinds and concentrations of radioactive and nonradioactive contaminants likely to be brought to the surface by the geothermal steam. An apparatus was constructed for the purpose of contacting with hot water granite samples cored from the region of the Piledriver underground nuclear explosion. Both steam and water phase samples were analyzed for material (elements) leached from the rock.

Dup

Status of Plowshare Geothermal Power

Battelle Pacific Northwest Labs., Richland, Wash.

AUTHOR: Stewart, D. H.

A3654B4 FLD: 18C, 77D NSA2601

18 Oct 71 6p

REPT NO: CONF-711017-1

CONTRACT: AT(45-1)-1830

From Meeting On Current Status Of Industrial Applications Of Nuclear Explosives- Bal Harbour, Fla. (18 Oct 1971).

ABSTRACT: For abstract, see NSA 26 01, number 00218.

DESCRIPTORS: *Electric power, *Plowshare project,

BNWL-SA-4079 NTIS Prices: PC\$3.00 MF\$0.95

ABSTRACT: The status of investigations of using underground nuclear explosions to produce or to simulate the natural production of geothermal power, the economics and feasibility of such applications, and the effects of the U. S. Senate bill, S. 1349, on this program are discussed. (L.C.L.)

gnd
Ranking Research problems in Geothermal Development

California Univ., Berkeley. (071 850)

Research and development progress rept.

AUTHOR: Laird, Alan D. K.

A3414K1 FLD: 8G, 13B, 64I USGRDR7203

Aug 71 38p

CONTRACT: DI-14-30-2635

MONITOR: Int-OSW-RDPR-71-711

Paper copy available from GPO \$0.45 as stock no. 2400-0665; I1.88:711.

ABSTRACT: The report discusses research priorities for establishing feasibility of developing geothermal resources in the Imperial Valley. Priorities in order of decreasing importance are ranked (1) brine chemistry--first because, if some peculiarity of brines would require costly processing, the development may be precluded; (2) overall benefits--must be assured before development is undertaken; (3) choice of system, (4) markets, (5) reservoir management--needed for pilot plant planning; (6) demonstration-plant design, (7) technological improvements. Each of the above topics is discussed in detail together with the predicted interaction of the various parameters. The impact upon agricultural, industrial and social developments is discussed along with benefits to municipalities. The environmental aspect in terms of possible pollution, land misuse, geological damage, and the research necessary for their control is briefly evaluated. Two power-water schemes using flashed geothermal steam, and one in which boiling is suppressed are described and briefly illustrated. (Author)

DESCRIPTORS: (*water supply, Desalting), (*Geothermy, *California), Feasibility, Management planning, Reservoirs, Economic analysis, Water resources

PB-204 625 NTIS Prices: PC-GPO/MF\$0.95-NTIS

Imp

Feasibility Study of a Plowshare Geothermal Power Plant

American Oil Shale Corp., Salt Lake City, Utah. Battelle-Northwest,
Richland, Wash. Pacific Northwest Lab. California Univ., Livermore.
Lawrence Radiation Lab.

A3161B3 FLD: 18C, 77D NSA2519

Apr 71 177p

ABSTRACT: For abstract, see NSA 25 19, number 44467.

DESCRIPTORS: *Electric power, *Nuclear explosions/ underground, *Rocks

PNE-1550 NTIS Prices: PC\$3.00 MF\$0.95

ABSTRACT: A study was conducted to determine the feasibility of producing electric power from geothermal energy by using deep underground nuclear explosions to fracture large quantities of hot rock, piping water to the fractured rock to create steam, and using the steam to operate turbine-generators in a power plant. Condensed steam from the power plant would be recycled to the fractured region. The closed system design and deep containment of the explosion would guard against release of radioactivity to the environment. The factors studied included: site considerations; development of the geothermal heat source using underground nuclear explosions; methods for heat extraction; power plant operation; and costs and economic analysis. It was concluded that there is no technical reason why electric power cannot be produced from geothermal heat sources with the aid of nuclear explosions. The problems involved and areas in which further research is necessary to prove economic desirability of this method of producing electric power are identified. Further laboratory and field tests are recommended. (L.C.L.)

Druf
Geothermal Leasing Program, Considers Impact of Leasing and Operating Regulations to Implement the Geothermal Steam Act of 1970 and Leasing of 3 Areas in California

Department of the Interior, Washington, D.C. (109 950)

Draft environmental impact statement.

A3043L4 FLD: 13B, 10B, 68, 67B USGRDR7122

6 Oct 71 234p

ABSTRACT: The Secretary of the Interior is charged with the implementation of the Geothermal Steam Act of 1970 for the development of Federally owned geothermal resources. It contains: The adoption of leasing and operating regulations, pursuant to which the program would be administered, and The leasing of Federally owned geothermal resources in three specific areas; Clear Lake-Geysers; Mono Lake-Long Valley; and Imperial Valley. (Author)

DESCRIPTORS: (*Environmental surveys, Geothermal prospecting), (*California, Environmental surveys), Legislation, Regulations, Land use, Resources, Fishes, Wildlife, Aesthetics

IDENTIFIERS: *Environmental impact statements, Clear Lake, Mono Lake, Imperial Valley

PB-203 102-D NTIS Price: PC\$3.00

2/18
Report to the Secretary of the Interior of the Advisory Committee on Energy

Department of the Interior, Washington, D.C. Advisory Committee on Energy.

A2612E1 PLD: 10B, 5C, 67, 64I, 65B USGRDR7117

30 Jun 71 45p*

ABSTRACT: Results are given of a one year effort, employing an interdisciplinary approach, to study the situation and problems of the Nation's energy economy. Topics include: A general view of U.S. energy production and resources; potential and problems of new energy sources; liquid fuels; natural gas; coal; water power; nuclear power; synthetic oils; synthetic gas.

DESCRIPTORS: (*Economic surveys, *Energy), (*Resources, *Power), Inventories, Sources, Productivity, Coal, Crude oil, Natural gas, Natural gas liquids, Geothermy, Synthetic oils, Hydroelectric power generation, Nuclear energy, Solar energy, Wind power generation, Tidal energy

IDENTIFIERS: Synthetic gas

PB-201 071 NTIS Prices: PC\$3.00 MF\$0.95

2/28

Perspectives in U.S. Energy Resource Development

Sandia Labs., Albuquerque, N. Mex. (7383200)

AUTHOR: Plumlee, R. H.

A612114 FLD: 10B, 97A NSA2805

Mar 73 113p

ABSTRACT: For abstract, see NSA 28 05, number 12477.

DESCRIPTORS: (*Solar energy, *Cost), (*Energy sources, *Availability), Energy, Fossil fuels, Geothermal energy, Nuclear fuels, Synthetic fuels, Thermodynamic cycles, Usa, Wind

IDENTIFIERS: AEC

SLA-73-163 NTIS Prices: PC\$7.75/MF\$1.45

ABSTRACT: The extent, availability, cost, and development schedules of existing and potential domestic U. S. energy resources are surveyed in the context of projected U. S. energy demand. These energy components include fossil fuels and their conversion to clean synthetic fuels, nuclear fuel supplies, geothermal energy, wind power, thermonuclear fusion, and solar energy. The cost of solar energy utilization in several prospective applications is treated in considerable detail.

guy
Geothermal Energy

Los Alamos Scientific Lab., N. Mex. (4808500)

AUTHOR: Smith, M. C.

A6102F2 FLD: 1GB, 97A NSA2806

May 73 31p

CONTRACT: W-7405-eng-36

ABSTRACT: For abstract, see NSA 28 06, number 15020.

DESCRIPTORS: (*Geothermal energy, *Electricity), Economics, Electric power, Environment, Steam

IDENTIFIERS: AEC

LA-5289-MS NTIS Prices: PC\$4.00/MF\$1.45

ABSTRACT: Geothermal energy and its present and projected uses in terms of economics, current technology, and environmental impact are discussed. Both the advantages and disadvantages of geothermal energy and its conversion to electricity are presented briefly. (Author)

WJ
Total Flow Concept for Recovery of Energy from Geothermal Hot Brine Deposits

California Univ., Livermore. Lawrence Livermore Lab. (1685900)

AUTHOR: Austin, A. L., Higgins, G. H., Howard, J. H.

A5974K2 FLD: 8G, 64F NSA2801

3 Apr 73 41p

CONTRACT: W-7405-eng-48

ABSTRACT: For abstract, see NSA 28 01, number 01949.

DESCRIPTORS: (*Geothermal energy, *Economics), Brines, Energy sources, Geologic deposits

IDENTIFIERS: AEC

UCRL-51366 NTIS Prices: PC\$3.00/MF\$1.45

ABSTRACT: A new method for producing electrical power from the energy stored in hot brine deposits is described. Of the three forms of geothermal energy, the hot brine resource has the greatest potential for development of a viable long-range geothermal energy supply. It is a large energy source with recovery and conversion requiring only moderate extensions of existing technologies. The proposed method is developed specifically for application to the brines of the Salton Sea geothermal area, where enough energy is stored to provide at least 100,000 MW electrical generation capacity for more than 20 yr. The method uses the total flow concept. Hot brine is allowed to expand (from 300°C, 2200 psia, at ~5000 ft) to the surface where the wellhead product contains ~20% vapor by weight and ~560 Btu/lb at ~400 psia. This thermal energy is converted to kinetic energy by expansion of the mixture through a converging-diverging nozzle. The high velocity output is used to drive a modified hydraulic impulse turbine operating at ~3.5 in. Hg (120°F). It is estimated that an electrical power generation station using this concept will require a capital investment of ~\$200/kW and should produce power at a cost of ~3 mills/kWh. (LMT)

guf
Survey of Expert Geological Opinion on Feasibility of Plowshare
Stimulation of Natural Geothermal Systems

Battelle Pacific Northwest Labs., Richland, Wash.

AUTHOR: Stewart, D. ., Burnham, J. .

A5933I4 FLD: 18C, 77D NSA2712

20 Sep 71 20p

ABSTRACT: For abstract, see NSA 27 12, number 27531.

DESCRIPTORS: *Geothermal energy, *Nuclear explosions/ underground,

IDENTIFIERS: AEC

BNWL-B-134 NTIS Prices: PC\$3.00/MF\$0.95

ABSTRACT: Twenty-two expert geologists from six countries with natural geothermal systems, (Hawaii, Iceland, Italy, Japan, New Zealand, and the U. S.), were interviewed for their opinions on the desirability of Plowshare stimulation of natural geothermal systems and whether Plowshare stimulation would be of interest to them with their particular system. A summary of the opinions showed that all were concerned with the radioactivity produced by nuclear stimulation; all believed additional fracturing would improve steam and water recovery rates; re-injection of water into cavities seems desirable for more steam production; information from Plowshare experiments would be valuable to countries involved in geothermal energy development; and one expert would like a test in his geothermal field, while the others will wait until the technique has been developed. (LCL)

Stef
Plowshare Stimulation of Geothermal Systems

Battelle Pacific Northwest Labs., Richland, Wash.

AUTHOR: Stewart, D. ., Burnham, J.

A5874B3 FLD: 18C, 77D NSA2710

9p

REPT NO: CONF-720817-2

ABSTRACT: For abstract, see NSA 27 10, number 22340.

DESCRIPTORS: *Geothermal energy, *Nuclear explosions/ underground,

IDENTIFIERS: AEC

BNWL-SA-4259 (REV.) (DR) NTIS Prices: PC\$3.00/MF\$0.95

ABSTRACT: The economics and feasibility of using nuclear explosions for recovering geothermal energy from natural and dry hot rock sources are reviewed. (TFD)

29 up
Alternative Sources of Energy

Oak Ridge National Lab., Tenn.

AUTHOR: Carlsmith, R. S.

A5833C3 FLD: 10B, 67B NSA2708

9p

From 26. Annual Conference Of The Middle East Institute, Washington, D. C. (29 Sep 1972).

ABSTRACT: For abstract, see NSA 27 08, number 19333.

DESCRIPTORS: *Coal, *Geothermal energy, *Industrial wastes, *Nuclear power, *Oil shales, *Sands, *Sun, *Thermonuclear reactions,

IDENTIFIERS: AEC

CONF-720963-1 NTIS Prices: PC\$3.00/MF\$0.95

ABSTRACT: Important alternatives that have been proposed for energy production are gas and oil from coal, oil from tar sands and from oil shale, nuclear fission, nuclear fusion, solar energy, industrial wastes, and geothermal energy. Gas and oil supply 78% of the energy used in the United States and 61% for the entire world. Transportation in the US is dependent on petroleum fuels. The utilization of coal involves new processes that produce low-Btu gas and synthetic crude oil from coal. Economical and environmental impacts are discussed for both fossil- and nuclear-fuel processes. (JCW)

Sub
Explosive Stimulation of a Geothermal Steam Reservoir

California Univ., Livermore. Lawrence Livermore Lab.

AUTHOR: Sherwood, A. .

A5824I2 FLD: 8G, 64C NSA2707

Nov 72 14p

CONTRACT: W-7405-ENG-48

ABSTRACT: For abstract, see NSA 27 07, number 14695.

DESCRIPTORS: *Explosions, *Steam,

IDENTIFIERS: AEC

UCRL-51303 NTIS Prices: PC\$3.00/MF\$0.95

ABSTRACT: A mineral deposition model is proposed to explain the production decline from geothermal wells producing dry (superheated) steam. The model is based on isothermal mineral deposition caused by a pressure gradient near the well. Using reasonable parameter values, the model approximates the production behavior of a typical well at The Geysers field in California. The predicted effect of explosive fracturing on steam-well production and economics is discussed; the prediction shows that, in a well with a 4-ft fracture radius, the production of steam can be increased by a factor of 6 over 20 years. (Author)

Sup
Corrosion and Scaling by Steam in Nuclear Geothermal Power Plants

California Univ., Livermore. Lawrence Livermore Lab.

AUTHOR: Krikorian, Oscar H.

A5671B3 FLD: 18E, 77H NSA2624

26 Jul 72 32p

REPT NO: CONF-720607-27

From 18. Annual American Nuclear Society Conference- Las Vegas, Nv.
(18 Jun 1972).

ABSTRACT: For abstract, see NSA 26 24, number 58680.

DESCRIPTORS: *Nuclear explosions/ underground, *Steam,

UCRL-73939 (REV.2) NTIS Prices: PC\$3.00/MF\$0.95

ABSTRACT: The quality of geothermal steam produced by nuclear explosions is examined in respect to mineral content, radioactivity, and non-condensable gas content. The effects of these components on the corrosive and scaling properties of the steam are discussed. (T.F.D.)

Handwritten initials

New Method for Extracting Energy from "Dry" Geothermal Reservoirs

Los Alamos Scientific Lab., N. Mex.

AUTHOR: Brown, D. W., Smith, M. C., Potter, R. M.

A5663G4 FLD: 8G, 64F NSA2624

20 Sep 72 23p

REPT NO: CONF-720925-7

From 7. Intersociety Energy Conversion Engineering Conference- San Diego, Ca. (25 Sep 1972).

ABSTRACT: For abstract, see NSA 26 24, number 60817.

DESCRIPTORS: *Geothermal energy,

LA-DC-72-1157 NTIS Prices: PC\$3.00/MF\$0.95

No abstract available.

Inf

Geothermal Resources in California--Potentials and Problems

California Assembly General Research Committee, Sacramento. Assembly Science and Technology Advisory Council.

AUTHOR: Goldsmith, Martin, Rolph, Elizabeth

A5502K1 PLD: 8G, 64P USGRDR7224

May 72 76p

CONTRACT: NSF-GT-6

MONITOR: 18

ABSTRACT: The report was prepared at the request of the California State Assembly Speaker to evaluate the potential role of geothermal resources in meeting the demand for energy in California. The study covers the extent of geothermal resources in California and the technology, cost and environmental effects of exploitation of the resources. Initial research and writing of the report was done by Dr. Martin Goldsmith of the Environmental Quality Laboratory, California Institute of Technology. The findings and conclusions of the report were formulated and endorsed by the Panel on Energy Planning and Programs. (Author)

DESCRIPTORS: (*Geothermal prospecting, *California), (*Natural resources, Exploitation), Geysers, Steam, Energy, Electric power production, Feasibility, Water resources, Desalting, Cooling, Cost analysis, Waste water

IDENTIFIERS: *Geothermal resources, Imperial Valley, Mono Lake

PB-212 753 NTIS Prices: PC\$3.00/MF\$0.95

Sub
Induction and Growth of Fractures in Hot Rock- Artificial Geothermal
Reservoirs

Los Alamos Scientific Lab., N. Mex.

AUTHOR: Aamodt, R. Lee, Smith, Morton C.

A5434J2 FLD: 8G, 64F NSA2620

1972 31p

REPT NO: CONF-720607-23

From 18. Annual American Nuclear Society Conference- Las Vegas, Nv.
(18 Jun 1972).

ABSTRACT: For abstract, see NSA 26 20, number 50108.

DESCRIPTORS: *Energy,

LA-DC-72-669 NTIS Prices: PC\$3.00/MF\$0.95

No abstract available.

2249

New Method for Extracting Energy from "'Dry'" Geothermal Reservoirs

Los Alamos Scientific Lab., N. Mex.

AUTHOR: Brown, D. W., Smith, M. C., Potter, R. M.

A5663G4 FLD: 8G, 64F NSA2624

20 Sep 72 23p

REPT NO: CONF-720925-7

MONITOR: 18

From 7. Intersociety Energy Conversion Engineering Conference- San Diego, Ca. (25 Sep 1972).

ABSTRACT: For abstract, see NSA 26 24, number 60817.

DESCRIPTORS: *Geothermal energy,

LA-DC-72-1157 NTIS Prices: PC\$3.00/MF\$0.95

No abstract available

Sub

Corrosion and Scaling by Steam in Nuclear Geothermal Power Plants

California Univ., Livermore. Lawrence Livermore Lab.

AUTHOR: Krikorian, Oscar H.

A5344D1 FLD: 18I, 77H NSA2619

2 Jun 72 36p

REPT NO: CONF-720607-24

From 18. Annual American Nuclear Society Conference- Las Vegas, Nv.
(18 Jun 1972).

ABSTRACT: For abstract, see NSA 26 19, number 45487.

DESCRIPTORS: *Radioisotopes, *Steam, *Steam power plants,

UCRL-73939 NTIS Prices: PC\$3.00/MF\$0.95

ABSTRACT: The quality of steam produced in a nuclear geothermal well will significantly affect the design, operation, efficiency, and expense of a steam-turbine powerplant. Problem areas related to steam quality are: the carrying and deposition of minerals (scaling) by steam, the carrying of radioactive contaminants by steam, the amount and types of noncondensable gases, and the corrosion of alloys. Minerals carried by steam are usually salts (such as NaCl, NaOH, or sodium silicates) and silica. Deposition of minerals in the piping or turbine can reduce flow, give inefficient turbine operation, or cause material damage to the turbine.

51,196
X
Proposed Installation and Operation of a Skid-Mounted Desalting Unit
and Injection Well, Imperial Valley, California

Office of Saline Water, Washington, D.C. (265 500)

Final environmental impact statement.

A4782C1 FLD: 13B, 68 USGRDR7216

10 Jul 72 108p

MONITOR: FES-72-21

Supersedes report dated 25 Apr 72, PB-208 622-D.

ABSTRACT: The proposed action includes: The construction of a 96,000 gpd (maximum) desalting test facility at a geothermal test well located in the East Mesa area of Imperial Valley, California, about ten miles east of Holtville, California, the drilling of a 5,000-7,000 foot deep brine injection well, and the operation of the test facility for desalting geothermal brine and the injection well for disposal of waste brine. No long-term adverse environmental effects were determined to result from this test installation.

DESCRIPTORS: (*Environmental surveys, *Desalting), (*California, Environmental surveys), Injection wells, Geothermy, Brines, Waste disposal

IDENTIFIERS: *Environmental impact statements, Imperial Valley, *Imperial County(California), Geothermal resources

EIS-CA-72-4895-F NTIS Prices: PC\$7.50/MF\$0.95

SWP
Toward an Understanding of the Laws Governing the Development of the
Earth's Crust and the Geothermal Fields of the Lithosphere

National Aeronautics and Space Administration, Washington, D.C.

AUTHOR: Boganik, N. S.

A4364C2   PLD: 8G, 64F   STAR1009

Feb 72   83p

REPT NO: NASA-TT-F-699

Transl. Into English of the Book K Poznaniyu Zakonomernostey
Razvitiya Zemnoy Kory I Geotermalnykh Poley Stratisfery Moscow, Nauka
Press, 1970

ABSTRACT: The problems are dealt with relating to the progressive
development of the processes involved in the formation of the earth's
crust. The causes and factors affecting the emergence of new laws
during their development, processes of radioactive decay, and their
significance in the evolution of terrestrial matter and the
origination of geothermal fields are considered. (Author)

DESCRIPTORS: *Earth crust, *Geomorphology, *Radioactive decay,
*Thermodynamics, Geochemistry, Nuclear fission, Radiogenic materials,
Rocks

N72-18325   NTIS Prices: PC\$3.00/MP\$0.95

5/14/77
Geothermal Leasing Program

Department of the Interior, Washington, D.C. (109 950)

A4351B2 PLD: 13B, 68, 67B USGRDR7212

3 May 72 193p*

MONITOR: DES-72-54

Supplement to Draft dated 6 Oct 71, PB-203 102-D.

ABSTRACT: The document contains the following: A revised draft of the section on Alternatives to proposed Action originally issued as part of the Draft Environmental Impact Statement for the Geothermal Leasing Program dated September 1971; Energy alternatives, to the Draft Environmental Impact Statement discussing alternative sources of energy in the event the leasing program is not implemented, and Proposed unit plan regulations for geothermal steam and associated geothermal resources. (Author)

DESCRIPTORS: (*Environmental surveys, *Geothermal prospecting), (*Electric power generation, *Fuels), Leasing, Government policies, Coal, Manufactured gas, Petroleum products, Fossil fuels, Nuclear electric power generation, Shale oil, Bituminous sands, Hydroelectric power generation, Regulations

IDENTIFIERS: *Environmental impact statements

PB-208 954 NTIS Prices: PC\$3.00/MF\$0.95

2133502
Geothermal Leasing Program

Department of the Interior, Washington, D.C. (109 950)

A4351B2 FLD: 13B, 68, 67B USGRDR7212

3 May 72 193p*

Supplement to Draft dated 6 Oct 71, PB-203 102-D.

ABSTRACT: The document contains the following: A revised draft of the section on Alternatives to Proposed Action originally issued as part of the Draft Environmental Impact Statement for the Geothermal Leasing Program dated September 1971; Energy alternatives, to the Draft Environmental Impact Statement discussing alternative sources of energy in the event the leasing program is not implemented, and Proposed unit plan regulations for geothermal steam and associated geothermal resources. (Author)

DESCRIPTORS: (*Environmental surveys, *Geothermal prospecting), (*Electric power generation, *Fuels), Leasing, Government policies, Coal, Manufactured gas, Petroleum products, Fossil fuels, Nuclear electric power generation, Shale oil, Bituminous sands, Hydroelectric power generation, Regulations

IDENTIFIERS: *Environmental impact statements

PB-208 954 NTIS Prices: PC\$3.00/MF\$0.95

Prop
Proposed Deep Geothermal Test Well, Geothermal Resources
Investigations, Imperial Valley, California

Bureau of Reclamation, Boulder City, Nev. Region 3.

Final environmental impact statement.

A4334I3 FLD: 13B, 68 USGRDR7212

28 Apr 72 83p*

Supersedes report dated 31 Jan 72, PB-206 161-D.

ABSTRACT: A deep geothermal test well is proposed to be drilled to a depth between 4,000 and 8,000 feet in the East Mesa area of Imperial Valley, Imperial County, California. It represents a first attempt to recover steam and brine to determine its suitability for development of desalted water and electric power. A deep well would be drilled in an area referred to as the Mesa anomaly. The well would have a slight impact on the underground strata due to the comparatively small amounts of fluid withdrawn for testing. The adverse impacts were determined to be minimal. (Author)

DESCRIPTORS: (*Environmental surveys, *Geothermal prospecting), (*California, Environmental surveys), Water supply, Electric power generation, Desalting, Land use, Subsurface investigations

IDENTIFIERS: *Environmental impact statements, *Imperial County(California), Geothermal resources, Imperial Valley

PB-206 161-F NTIS Prices: PC\$3.00/MF\$0.95

DM
Foreign and Domestic Discussions on Natural Geothermal Power and
Potential Use of Plowshare to Stimulate These Natural Systems

Battelle-Northwest, Richland, Wash. Pacific Northwest Lab.

AUTHOR: Burnham, J. B., Stewart, D. H.

A3953A4 FLD: 8G, 64F NSA2604

6 Jul 71 19p

ABSTRACT: For abstract, see NSA 26 04, number 06790.

DESCRIPTORS: *Australia, *California, *Energy, *Hawaii, *Iceland,
*Italy, *New zealand, *Plowshare project,

BNWL-B-110 NTIS Prices: PC\$3.00 MF\$0.95

ABSTRACT: A survey of the major geothermal areas of the world was conducted during May 1971. Visits were made to California, Australia, Hawaii, Iceland, Italy, and New Zealand to obtain first hand information from geothermal plant geologists, drillers, and plant operators and to discuss a proposed USAEC Plowshare Geothermal Stimulation research program. A summary is given of the geothermal resources of each country visited and included information on location, geology, production, power plant development, and future plans related to geothermal energy. (L.C.L.)

Sup
Plowshare Geothermal Steam Chemistry, Introductory Studies

Battelle Pacific Northwest Labs., Richland, Wash.

AUTHOR: Charlot, L. A., Morgan, W. C., Warner, I. M.

A3654C4 FLD: 18C, 77D NSA2601

Jul 71 50p

CONTRACT: AT(45-1)-1830

ABSTRACT: For abstract, see NSA 26 01, number 00217.

DESCRIPTORS: *Plowshare project, *Radioisotopes, *Silicon oxides,
*Steam,

BNWL-1614 NTIS Prices: PC\$3.00 MF\$0.95

ABSTRACT: A two-month exploratory study of Plowshare-geothermal steam chemistry was completed and the results described. The purpose of the study was a determination of the kinds and concentrations of radioactive and nonradioactive contaminants likely to be brought to the surface by the export steam. An apparatus was constructed for the purpose of contacting with hot water granite samples cored from the region of the Piledriver underground nuclear explosion. Both steam and water phase samples were analyzed for material (elements) leached from the rock. Steam-water distribution rates were calculated for the major radioactive and nonradioactive, leachable species.

JWB

Proposed Deep Geothermal Test Well, Geothermal Resources
Investigations, Imperial Valley, California

Bureau of Reclamation, Boulder City, Nev. Region 3.

Final environmental impact statement.

A4334I3 PLD: 13B, 68 USGRDR7212

28 Apr 72 83p*

MONITOR: FES-72-9

Supersedes report dated 31 Jan 72, PB-206 161-D.

ABSTRACT: A deep geothermal test well is proposed to be drilled to a depth between 4,000 and 8,000 feet in the East Mesa area of Imperial Valley, Imperial County, California. It represents a first attempt to recover steam and brine to determine its suitability for development of desalted water and electric power. A deep well would be drilled in an area referred to as the Mesa anomaly. The well would have a slight impact on the underground strata due to the comparatively small amounts of fluid withdrawn for testing. The adverse impacts were determined to be minimal. (Author)

DESCRIPTORS: (*Environmental surveys, *Geothermal prospecting), (*California, Environmental surveys), Water supply, Electric power generation, Desalting, Land use, Subsurface investigations

IDENTIFIERS: *Environmental impact statements, *Imperial County (California), Geothermal resources, Imperial Valley

PB-206 161-F NTIS Prices: PC\$3.00/HP\$0.95

NTIS - PR-186
July 1975

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301 to 400 technical report summaries	175	220
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PRICES SUBJECT TO CHANGE

AVAILABLE PUBLISHED SEARCHES

The list of Published Searches following these introductory pages includes all those available to July, 1975. Titles are arranged in 34 subject categories as shown at the bottom of this page and are cross-referenced to all appropriate categories.

The citations in this listing include the following information:

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- + Number of technical report summaries (in parentheses) in the search.
- + Date of preparation of the search.

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SUBJECT CATEGORIES AND PAGE LOCATION

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		Urban Technology	mm

PRICES SUBJECT TO CHANGE

SAMPLE OF DATA SUPPLIED IN BIBLIOGRAPHIC ENTRY

Title _____ Industry, Innovation and the Municipal Market
Corporate Author _____ Franklin Inst. Research Labs., Philadelphia, Pa. (142 925)

Report Date _____ Final rept.
Pages in Report _____ AUTHOR: Blair, John F. Jr.
C1872L3 FLD: 5C, 96*, 86K USGRDR 7324
15 Oct 73 103p*
REPT NO: FIRL-F-C3431
PROJECT: EDA-99-6-09281
MONITOR: EDA-73-046

Abstract or
Technical Report
Summary _____

ABSTRACT: The summary report is made on work done under the auspices of the Economic Development Administration and funded through The Experimental Technology Incentives Program (ETIP). It delineates the form and content of the policies and programs required to develop the municipal local government market into a force for technological innovation and economic development. In addition to this document, a series of eighteen background papers is on file that deals in considerable depth with the more important aspects of the study. This supplementary documentation is referenced in footnotes throughout the text of the summary volume.

Key Words _____

DESCRIPTORS: (*Industrial engineering, *Urban planning), (*Public administration, *Urban development), Procurement, Reviews, Optimization, Economic development, Industrial relations, Marketing, Productivity, Systems engineering, Local government, Policies, Recommendations, Pennsylvania

IDENTIFIERS: Technological development, Innovations, Philadelphia (Pennsylvania), EDA

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Paper
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NOTE: Prices are subject to
change.

ADMINISTRATION

Order Number

COM-74-11194 Technology Transfer (144) 1972-Jul 74
COM-74-11319 Urban Information Systems (196) 1970-Aug 74 Includes
USAC reports
COM-74-11571 Productivity (126) Oct 74
NTIS/PS-74/112 Management Games (163) Nov 74
NTIS/PS-74/121 Inventory Control (195) 1970-Dec 74

NTIS/PS-74/122 Job Satisfaction (216) Dec 74
NTIS/PS-74/124 Production Planning and Scheduling (143) Dec 74
NTIS/PS-75/150 Time Series Forecasting and Prediction (96) Jan 75
NTIS/PS-75/276 Career Development. Part 1. Military Careers (143) Feb 75
NTIS/PS-75/277 Career Development. Part 2. Civilian Careers (186) Feb 75

NTIS/PS-75/352 Construction Management (103) Apr 75
NTIS/PS-75/405 Replacement Theory (85) Apr 75
NTIS/PS-75/406 Linear Programming in Management (38) May 75
NTIS/PS-75/439 PERT (123) May 75

AERONAUTICS AND AERODYNAMICS

Order Number

COM-74-10919 Air Traffic Control Simulation Models (125) May 74
NTIS/PS-74/098 Airport Noise (113) Nov 74
NTIS/PS-75/036 Collision Avoidance Systems (156) Dec 74
NTIS/PS-75/115 Holographic Flow Visualization (53) Jan 75
NTIS/PS-75/116 Flow Visualization (106) Jan 75 Excludes shadowgraph,
schlieren, and holographic techniques

NTIS/PS-75/164 Aircraft Wake Vortices (137) Dec 1974
NTIS/PS-75/318 Aircraft Sonic Boom. Part 1. Studies on Aircraft Flight
and Design (99) Feb 75
NTIS/PS-75/319 Aircraft Sonic Boom. Part 2. Effects on Buildings (60)
Feb 75
NTIS/PS-75/320 Aircraft Sonic Boom. Part 3. Biological Effects (52)
Feb 75
NTIS/PS-75/332 Surface Effect Vehicles/Ships in Marine Environments
(108) Jan 75

NTIS/PS-75/333 Surface Effect Vehicles and Surface Effect: General
Studies. Vol. 1. 1964-1971 (134) Jan 75 Does not
include marine environments
NTIS/PS-75/334 Surface Effect Vehicles and Surface Effect: General
Studies. Vol. 2. 1972-1974 (67) Jan 75 Does not
include marine environments

AERONAUTICS AND AERODYNAMICS (Cont.)

Order Number

NTIS/PS-75/336 Flight Simulator Training (119) Feb 75

AGRICULTURE AND FOOD

Order Number

COM-74-11203 Animal Waste Pollution and Its Control (115) Jul 74
NTIS/PS-74/C83 Food Processing Waste Treatment (167) Nov 74
NTIS/PS-74/119 Food Processing (207) Dec 74
NTIS/PS-75/C57 Food Taste (137) Oct 74
NTIS/PS-75/C68 Agricultural Resources Surveys (53) 1973-Jan 75

NTIS/PS-75/C72 Ground Water Pollution. Part 2. Pollution From Irrigation
and Fertilization (132) Jan 75
NTIS/PS-75/C93 Fish Protein Concentrates (117) Jan 75
NTIS/PS-75/101 Air Pollution Effects on Plants (135) Jan 75
NTIS/PS-75/111 Fishery Law (126) Jan 75
NTIS/PS-75/304 Aquaculture. Part 1. Fish (212) Feb 75 Excludes studies
on salmon

NTIS/PS-75/305 Aquaculture. Part 2. Shellfish (129) Feb 75
NTIS/PS-75/306 Aquaculture. Part 3. Salmon (63) Feb 75
NTIS/PS-75/356 GRAS (Generally Recognized as Safe) Food Ingredients (253)
April 75
NTIS/PS-75/360 Medical Entomology. Vol. 2. 1970-1975 (192) 1970-Jan 1975
NTIS/PS-75/361 Medical Entomology. Vol. 1. 1964-1969 (157) 1964-1969

NTIS/PS-75/380 Food Packaging and Storage (187) 1970-Apr 75

NTIS/PS-75/460 Sewage and Organic Waste Irrigation (111) May 75
NTIS/PS-75/468 Sport Fishing (150) Jun 75

ASTRONOMY AND ASTROPHYSICS

Order Number

NTIS/PS-75/C31 Mars Environment (93) 1971-Oct 74
NTIS/PS-75/134 Cosmic Rays (129) 1973-Jan 75
NTIS/PS-75/225 Quasars, Pulsars, Black Holes (170) Feb 75
NTIS/PS-75/229 Solar Eclipses (140) Feb 75
NTIS/PS-75/242 Cosmology (102) Feb 75

ATMOSPHERIC SCIENCES

Order Number

NTIS/PS-75/006 Clear Air Turbulence (220) Dec 74
NTIS/PS-75/045 Atmospheric Echo Sounding (50) Dec 74
NTIS/PS-75/078 Weather Modification Effects and Management (117) Jan 75
Excludes theory and physics of cloud seeding and nucleation
NTIS/PS-75/099 Fog Dispersal (167) Jan 74
NTIS/PS-75/187 Hurricane Forecasting, Modification, and Research (174) Jan 75

NTIS/PS-75/228 The Chemistry and Physics of Ozone in the Stratosphere (91) Jan 75
NTIS/PS-75/229 Solar Eclipses (140) Feb 75
NTIS/PS-75/231 Ice and Fog: Detection and Warning Systems (58) Dec 74
NTIS/PS-75/314 Automobile Air Pollution. Part 6: Atmospheric Motion (42) 1970-Dec 74
NTIS/PS-75/395 Cloud Seeding (231) Apr 75 Includes effects on water resources

BEHAVIOR AND SOCIETY

Order Number

COM-74-1010C Juvenile Delinquency Prevention Programs (100) Dec 73
COM-74-10928 Vocational Rehabilitation of the Physically Handicapped (78) May 74
COM-74-11376 Computer Aided Instruction (252) 1970-Aug 74
COM-74-11393 The Elderly (139) Sep 74
COM-74-11571 Productivity (126) Oct 74

NTIS/PS-74/110 Alcoholism (135) Nov 74
NTIS/PS-74/122 Job Satisfaction (216) Dec 74
NTIS/PS-74/125 Quality of Life in the Urban Environment (131) 1970-Dec 74
NTIS/PS-74/134 Ocean Law (123) Dec 74
NTIS/PS-75/002 Civil Insurgency (84) Jan 75

NTIS/PS-75/005 Rehabilitation of Criminal and Public Offenders (100) 1967-Oct 74
NTIS/PS-75/007 Disasters (131) Dec 74
NTIS/PS-75/012 Medicare and Medicaid Programs (64) Dec 74
NTIS/PS-75/032 Computational Linguistics (108) Jan 75
NTIS/PS-75/034 Family Counseling (35) Jan 75

NTIS/PS-75/047 Crime Prevention and Enforcement Through Community Relations (72) Jan 75

BEHAVIOR AND SOCIETY (Cont.)

Order Number

NTIS/PS-75/052	Psycholinguistics (60) Jan 75
NTIS/PS-75/053	Speech Intelligibility (170) Jan 75
NTIS/PS-75/056	Behavior and Psychology as Related to Law Enforcement (103) Jan 75
NTIS/PS-75/058	Health Manpower (86) Jan 75 Excludes allied health personnel
NTIS/PS-75/062	Audiovisual Education (69) Dec 74
NTIS/PS-75/073	Signs and Display Systems: Graphic Design and Human Engineering (92) Jan 75
NTIS/PS-75/079	American Indians (122) Jan 75
NTIS/PS-75/082	Industrial Psychology (161) Jan 75
NTIS/PS-75/083	The Use of the Mass Media by Local and Regional Governments (58) Jan 75
NTIS/PS-75/087	Information Processing in Humans (221) Jan 75
NTIS/PS-75/102	Behavior and Physiological Effects of Noise. Vol 1. 1964-1972 (200) Jan 75
NTIS/PS-75/103	Behavior and Physiological Effects of Noise. Vol 2. 1973-1974 (72) Jan 75
NTIS/PS-75/131	Rehabilitation of the Physically Handicapped (119) Jan 75 Excludes reports sponsored solely by the Atomic Energy Commission
NTIS/PS-75/132	Rehabilitation of the Mentally Retarded (79) Jan 75
NTIS/PS-75/144	Driver Education (109) Jan 75
NTIS/PS-75/145	Probation and Parole (55) Jan 75
NTIS/PS-75/147	Drug Abuse (113) Jan 75
NTIS/PS-75/161	Effects of Fatigue on Human Behavior and Performance (104) Jan 75
NTIS/PS-75/168	Ghettos (69) Jan 75
NTIS/PS-75/195	Individualized Instruction (72) Jan 75
NTIS/PS-75/232	Attitudes, Opinions, and Motivations among Adolescents (186) Feb 75
NTIS/PS-75/240	Migrant Workers (38) Jan 75
NTIS/PS-75/245	Forensic Medicine (39) Jan 75
NTIS/PS-75/253	Historical Background Studies of the National Park Service (168) Jan 75
NTIS/PS-75/261	Student Teacher Interaction (69) Feb 75
NTIS/PS-75/266	Social Change (147) Feb 75
NTIS/PS-75/276	Career Development. Part 1. Military Careers (143) Feb 75
NTIS/PS-75/277	Career Development. Part 2. Civilian Careers (186) Feb 75
NTIS/PS-75/281	Human Aggression (41) Feb 75
NTIS/PS-75/290	Labor Relations (169) Feb 75 Excludes job satisfaction, bargaining, and productivity

BEHAVIOR AND SOCIETY (Cont.)

Order Number

NTIS/PS-75/291 Collective Bargaining, Wages, and Labor Contracts (55) Feb 75
NTIS/PS-75/297 Human Memory (130) Feb 75
NTIS/PS-75/298 Work Attitudes in the Military (98) Feb 75
NTIS/PS-75/300 Work Attitudes in the Civilian Sector (178) Feb 75

NTIS/PS-75/323 Population Mobility (127) Feb 75
NTIS/PS-75/335 Simulators in Education and Training (99) Feb 75
NTIS/PS-75/336 Flight Simulator Training (119) Feb 75
NTIS/PS-75/358 Adult Education (98) Feb 75
NTIS/PS-75/373 Public Opinion and Sociology of Water Resource Development (82) 1970-Apr 75

NTIS/PS-75/393 Arms Control (234) Apr 75
NTIS/PS-75/425 Crimes and Crime Prevention (134) May 75
NTIS/PS-75/427 Blindness (113) May 75
NTIS/PS-75/443 Police (200) Jun 75

BIOMEDICAL TECHNOLOGY AND ENGINEERING

Order Number

COM-74-10888 Facial and Dental Prosthetics (63) Apr 74
COM-74-11126 Biocompatible Materials (160) Jul 74
COM-74-11312 Computer Technology in Medicine (166) 1972-Jul 74
COM-74-11528 Health Services in Rural Areas (59) Aug 1974
NTIS/PS-75/010 Blood Preservation and Storage (203) Nov 74

NTIS/PS-75/012 Medicare and Medicaid Programs (64) Dec 74
NTIS/PS-75/039 Underwater Breathing Apparatus (130) Dec 74
NTIS/PS-75/058 Health Manpower (86) Jan 75 Excludes allied health personnel
NTIS/PS-75/064 Robots (89) Jan 75
NTIS/PS-75/094 Biotelemetry (139) Nov 74

NTIS/PS-75/138 Color Vision (143) Jan 75
NTIS/PS-75/171 Emergency Medical Services and Care (87) Jan 75
NTIS/PS-75/172 Night Vision and Dark Adaptation (78) Jan 75
NTIS/PS-75/173 Radiology (102) 1967-Jan 75
NTIS/PS-75/175 Ultrasonics in Medicine (39) Jan 75

NTIS/PS-75/213 Nuclear Medicine (218) Jan 75
NTIS/PS-75/241 Ambulatory Health Care (74) Feb 75
NTIS/PS-75/366 Electromagnetic Shielding. Vol 1. 1964-1971 (162) Apr 75

BIOMEDICAL TECHNOLOGY AND ENGINEERING (Cont.)

Order Number

NTIS/PS-75/367 Electromagnetic Shielding. Vol 2. 1972-1975 (78) Apr 75
NTIS/PS-75/396 Bionics (53) May 75

NTIS/PS-75/397 Artificial Intelligence (80) May 75
NTIS/PS-75/418 Artificial Kidneys (182) 1968-Apr 75
NTIS/PS-75/419 Health Care Delivery (137) May 75
NTIS/PS-75/423 Mechanical Hearts. Vol. 1. 1969-1973. (173) 1969-1973
NTIS/PS-75/424 Mechanical Hearts. Vol. 2. 1974-1975. (77) 1974-1975

NTIS/PS-75/427 Blindness (113) May 75
NTIS/PS-75/438 Artificial Limbs (115) 1968-May 75

BUILDING TECHNOLOGY

Order Number

COM-73-10242 Stress Analysis of Cracks (129) Jan 74
COM-74-10982 Industrialized Housing (159) Jun 74
COM-74-11141 Earthquake Engineering: Buildings, Bridges, Dams, and
Related Structures (190) 1964-May 74
COM-74-11534 Building Fires (143) Sep 74
COM-74-11535 Concrete Polymer Composites (72) Oct 74

NTIS/PS-75/051 Wood Bonding (96) Jan 75
NTIS/PS-75/133 Fire Alarms and Fire Detectors (96) Jan 75
NTIS/PS-75/211 Prestressed Concrete Technology (161) Dec 74
NTIS/PS-75/221 Fiberboard and Particleboard (75) Jan 75
NTIS/PS-75/282 Structural Foundations in Soils, Ice, Snow, and
Permafrost. Vol. 1. 1964-1971 (135) Jan 75 Excludes
subway and seabed construction

NTIS/PS-75/283 Structural Foundations in Soils, Ice, Snow, and
Permafrost. Vol. 2. 1972-1974 (57) Jan 75 Excludes
subway and seabed construction

NTIS/PS-75/319 Aircraft Sonic Boom. Part 2. Effects on Buildings (60)
Feb 75

NTIS/PS-75/345 Solar Heating and Air Conditioning (71) Jan 75

NTIS/PS-75/352 Construction Management (103) Apr 75

NTIS/PS-75/389 Architectural Construction Materials. Part 1. Non
Concrete (189) May 75 Excludes concretes, bridges,
pavements, airfields, cold weather construction,
composites, and earthquake resistant construction

NTIS/PS-75/390 Architectural Construction Materials. Part 2. Concrete
and Cement (127) May 75 Excludes non-concretes,
bridges, pavements, airfields, cold weather
construction, composites, and earthquake resistant
construction

BUILDING TECHNOLOGY (Cont.)

Order Number

NTIS/PS-75/391 Construction Equipment (174) May 75 Excludes
transstations
NTIS/PS-75/394 Cold Weather Construction (99) May 75 Excludes
permafrost construction
NTIS/PS-75/428 Structural Mechanics Software (185) May 75
NTIS/PS-75/465 Stress Crack Phenomena (186) Jun 75 Excludes rock
mechanics and mathematical analysis

NTIS/PS-75/466 Mathematical Analysis of Stress Cracks. Vol 1. 1964-1973
(207) June 75
NTIS/PS-75/467 Mathematical Analysis of Stress Cracks. Vol 2. 1974-May
75 (109) June 75

BUSINESS AND ECONOMICS

Order Number

COM-74-11571 Productivity (126) Oct 74
NTIS/PS-74/085 Material Shortages (96) Nov 74
NTIS/PS-74/091 Air Pollution Economics (202) 1970-Nov 74
NTIS/PS-74/092 Solid Waste Disposal Economics (76) Nov 74
NTIS/PS-74/093 Noise Pollution Economics (23) Nov 74

NTIS/PS-74/094 Water Pollution Economics (199) Nov 74 Excludes sewage
treatment
NTIS/PS-74/130 Effects of Inflation (48) Dec 74
NTIS/PS-74/134 Ocean Law (123) Dec 74

NTIS/PS-75/097 Revenue Sharing (30) Jan 75

NTIS/PS-75/098 Federal Individual Income Tax Return Data by ZIP Code
(104) Jan 75
NTIS/PS-75/119 Minority Business (71) Jan 75 Excludes regional and
socioeconomic studies
NTIS/PS-75/120 Economic Development of Ethnic Minorities (86) Jan 75
NTIS/PS-75/199 Urban Financing and Taxation (95) Jan 75 Excludes
financing of transportation and pollution control
NTIS/PS-75/200 Financing Urban Transportation. Part 1. General Studies
(65) 1970-Jan 75

NTIS/PS-75/201 Financing Urban Transportation. Part 2. Local Studies
(95) 1970-Jan 75
NTIS/PS-75/202 Financing and Taxation For Urban Control of Pollution
(111) Jan 75
NTIS/PS-75/203 Housing Taxation and Financing by the Federal, State, and
Local Governments (87) Jan 75

BUSINESS AND ECONOMICS (Cont.)

Order Number

NTIS/PS-75/290 Labor Relations (169) Feb 75 Excludes job satisfaction,
bargaining, and productivity
NTIS/PS-75/291 Collective Bargaining, Wages, and Labor Contracts (55)
Feb 75

NTIS/PS-75/299 Federal Trade Commission Advertising Substantiation
Program (148) Feb 75
NTIS/PS-75/400 Telecommunications--Economic Studies (66) May 75
NTIS/PS-75/407 Economic Models. Vol. 1. 1964-March 1974 (161) May 75
NTIS/PS-75/408 Economic Models. Vol. 2. April 1974-April 1975 (140) May 75
NTIS/PS-75/409 Consumer Products and Consumer Affairs (41) May 75

CHEMISTRY

Order Number

COM-74-11018 Chemical Analysis of Aerosols and Airborne Particulates
(60) Jun 74 Excludes sampling and particle size
analysis
NTIS/PS-74/109 Drag Reducing Fluids (134) 1969-Nov 74
NTIS/PS-74/111 Fire Resistant Fibers and Textiles (124) Dec 74
NTIS/PS-74/116 Liquid Crystals (182) Nov 74
NTIS/PS-74/117 Polycarboranes (63) Nov 74

NTIS/PS-74/118 Waste Processing and Pollution in the Chemical and
Petrochemical Industries (172) Dec 74
NTIS/PS-74/133 Fly Ash (143) Dec 74
NTIS/PS-75/017 Sewage Treatment by Reverse Osmosis and Membrane
Processes (39) Dec 74
NTIS/PS-75/041 Standard Reference Materials (118) Jan 75
NTIS/PS-75/048 Lubricating Oil Analysis for Wear Monitoring (46) Jan 74

NTIS/PS-75/084 Combustion of Plastics and Elastomers (67) Jan 75
NTIS/PS-75/135 Electrodialysis Desalination (100) Dec 74
NTIS/PS-75/156 Water Pollution Detection (166) 1970-Jan 75
NTIS/PS-75/157 Corrosion in Desalination Plants (154) Dec 74
NTIS/PS-75/159 Laser Spectroscopy (126) 1970-Jan 75 Excludes Raman
spectroscopy

NTIS/PS-75/160 Laser Raman Spectroscopy (66) 1970-Jan 74
NTIS/PS-75/163 Gas Scrubbers (156) Dec 74
NTIS/PS-75/193 Osmotic Desalting Membranes. Vol. 2. 1973-1974 (89) Jan 75
NTIS/PS-75/194 Osmotic Desalting Membranes. Vol. 1. 1964-1972 (120) Jan
75
NTIS/PS-75/206 Acrylic Resins. Part 1. Acrylonitrile Polymers (75) Dec
74

CHEMISTRY (Cont.)

Order Number

NTIS/PS-75/207 Acrylic Resins. Part 2. Methacrylate Polymers (146) Dec 74
NTIS/PS-75/208 Acrylic Resins. Part 3. Acrylates, Acrylamides, and General Studies (125) Dec 74
NTIS/PS-75/209 Mercury Pollution (113) Dec 74 Excludes toxicity and pollution effects
NTIS/PS-75/228 The Chemistry and Physics of Ozone in the Stratosphere (91) Jan 75
NTIS/PS-75/256 Fluidized Bed Combustion (66) Dec 74

NTIS/PS-75/257 The Chemistry of Silicone Resins (130) Jan 75
NTIS/PS-75/267 Lead Pollution (171) Jan 75 Excludes pollution effects and toxicology of lead
NTIS/PS-75/285 Hazardous Material Waste Disposal (92) Dec 74 Excludes radioactive wastes
NTIS/PS-75/286 Hazardous Materials Transportation (126) Dec 74 Excludes radioactive wastes
NTIS/PS-75/289 Chemical Analysis of Steels (110) Feb 75

NTIS/PS-75/310 Automobile Air Pollution. Part 2. Exhaust Analysis (33) 1970-Dec 74
NTIS/PS-75/353 Polytetrafluoroethylene (Teflon) (118) Apr 75
NTIS/PS-75/359 Polywater (34) Apr 75
NTIS/PS-75/381 Desulfurization of Coal and Petroleum (107) Apr 75 Excludes flue gas and other post-combustion sulfur control
NTIS/PS-75/385 Coal Gasification and Liquefaction Vol 1. (161) 1964-1973

NTIS/PS-75/386 Coal Gasification and Liquefaction. Vol 2. 1974 (90) 1974-Apr 75
NTIS/PS-75/402 Light Detection and Ranging (LIDAR) (191) May 75
NTIS/PS-75/455 Sulfur Dioxide Control. Vol 2. 1973-1974 (94) May 75 Excludes fuel desulfurization
NTIS/PS-75/456 Sulfur Dioxide Control. Vol 1. 1964-1972 (159) May 75
NTIS/PS-75/461 Activated Carbon (221) May 75 Includes activated carbon treatment of sewage

CIVIL AND STRUCTURAL ENGINEERING

Order Number

COM-73-10242 Stress Analysis of Cracks (129) Jan 74
COM-74-11141 Earthquake Engineering: Buildings, Bridges, Dams, and Related Structures (190) 1964-May 74
COM-74-11201 Flood Control (191) 1972-Jul 74
COM-74-11535 Concrete Polymer Composites (72) Oct 74

CIVIL AND STRUCTURAL ENGINEERING (Cont.)

Order Number

NTIS/PS-74/096 Tunnel Construction (138) Nov 74

NTIS/PS-75/050 Environmental and Ecological Effects of Dredging (85) Jan 75

NTIS/PS-75/061 De-icing Materials and Techniques for Roads and Runways (92) Jan 75

NTIS/PS-75/076 Bridges: Construction and Construction Materials (104) Dec 74

NTIS/PS-75/180 Highway Beautification (46) Jan 75

NTIS/PS-75/198 Permafrost. Part 2. Structural Engineering (174) Jan 75

NTIS/PS-75/211 Prestressed Concrete Technology (161) Dec 74

NTIS/PS-75/255 Foundations in Marine Environments (64) Dec 74

NTIS/PS-75/282 Structural Foundations in Soils, Ice, Snow, and Permafrost. Vol. 1. 1964-1971 (135) Jan 75 Excludes subway and seabed construction

NTIS/PS-75/283 Structural Foundations in Soils, Ice, Snow, and Permafrost. Vol. 2. 1972-1974 (57) Jan 75 Excludes subway and seabed construction

NTIS/PS-75/352 Construction Management (103) Apr 75

NTIS/PS-75/365 Soil Compaction/Consolidation (181) Apr 75

NTIS/PS-75/366 Electromagnetic Shielding. Vol 1. 1964-1971 (162) Apr 75

NTIS/PS-75/367 Electromagnetic Shielding. Vol 2. 1972-1975 (78) Apr 75

NTIS/PS-75/389 Architectural Construction Materials. Part 1. Non Concrete (189) May 75 Excludes concretes, bridges, pavements, airfields, cold weather construction, composites, and earthquake resistant construction

NTIS/PS-75/390 Architectural Construction Materials. Part 2. Concrete and Cement (127) May 75 Excludes non-concretes, bridges, pavements, airfields, cold weather construction, composites, and earthquake resistant construction

NTIS/PS-75/391 Construction Equipment (174) May 75 Excludes translations

NTIS/PS-75/394 Cold Weather Construction (99) May 75 Excludes permafrost construction

NTIS/PS-75/466 Mathematical Analysis of Stress Cracks. Vol 1. 1964-1973 (207) June 75

NTIS/PS-75/467 Mathematical Analysis of Stress Cracks. Vol 2. 1974-May 75 (109) June 75

NTIS/PS-75/469 Erosion Control (138) May 75 Excludes soil stabilization

NTIS/PS-75/470 Soil Stabilization (167) May 75 Excludes erosion control

COMMUNICATION

Order Number

COM-74-11435	Speech Recognition by Computer (142) Sep 74
COM-74-11572	Computer Networks (153) 1969-Oct 74
NTIS/PS-74/087	Telephone Systems (181) Dec 74
NTIS/PS-74/101	Applications of the Fast Fourier Transform (144) 1970-Nov 74
NTIS/PS-75/030	Vocoders (87) Jan 75
NTIS/PS-75/035	Electroluminescent Display Devices (105) Jan 75
NTIS/PS-75/037	Underwater Voice Communication Systems (78) Dec 74
NTIS/PS-75/052	Psycholinguistics (60) Jan 75
NTIS/PS-75/053	Speech Intelligibility (170) Jan 75
NTIS/PS-75/067	Data Compression (89) Jan 75
NTIS/PS-75/073	Signs and Display Systems: Graphic Design and Human Engineering (92) Jan 75
NTIS/PS-75/083	The Use of the Mass Media by Local and Regional Governments (58) Jan 75
NTIS/PS-75/142	Modems (92) Jan 75
NTIS/PS-75/178	Frequency Allocation and Management (100) Jan 75
NTIS/PS-75/188	Band Pass Filters (104) Jan 75
NTIS/PS-75/248	Acoustic Surface Waves. Vol. 1. 1964-1972 (75) Jan 75
NTIS/PS-75/249	Acoustic Surface Waves. Vol. 2. 1973-1974 (137) Jan 75
NTIS/PS-75/250	Microwave Communication (163) Jan 75.
NTIS/PS-75/302	Antenna Arrays. Vol 2. 1972-1974 (93) Feb 75 Excludes phased arrays
NTIS/PS-75/303	Antenna Arrays. Vol 1. 1964-1971 (219) Feb 75 Excludes phased arrays
NTIS/PS-75/337	Phased Arrays. Vol 1. 1964-1971 (141) Feb 75
NTIS/PS-75/338	Phased Arrays. Vol 2. 1972-1974 (103) Feb 75
NTIS/PS-75/366	Electromagnetic Shielding. Vol 1. 1964-1971 (162) Apr 75
NTIS/PS-75/367	Electromagnetic Shielding. Vol 2. 1972-1975 (78) Apr 75
NTIS/PS-75/378	Walsh Functions (55) Apr 75
NTIS/PS-75/398	Information and Communication Theory (124) May 75
NTIS/PS-75/400	Telecommunications--Economic Studies (66) May 75
NTIS/PS-75/404	Cable Television (75) Apr 75
NTIS/PS-75/412	Light Communication Systems (151) Apr 75
NTIS/PS-75/420	Fiber Optics (147) 1969-May 75
NTIS/PS-75/434	Microforms. Vol 1. 1964-1973 (187) Jun 75
NTIS/PS-75/435	Microforms. Vol 2. 1973-Apr 75 (74) Jun 75
NTIS/PS-75/449	Single Sideband Communications (86) Apr 75
NTIS/PS-75/459	Tropospheric Scatter Communications (98) 1964-Apr 75

COMPUTERS, CONTROL AND INFORMATION THEORY

Order Number

COM-74-10124	Automated Text Editing (57) Dec 73
COM-74-11312	Computer Technology in Medicine (166) 1972-Jul 74
COM-74-11433	Control Theory (203) 1970-Jul 74
COM-74-11435	Speech Recognition by Computer (142) Sep 74
COM-74-11454	The Use of Computers in Solving Mathematical Problems (172) Jun 71-Sep 74
COM-74-11572	Computer Networks (153) 1969-Oct 74
NTIS/PS-74/084	Pattern Recognition (97) Nov 74
NTIS/PS-74/095	Computer Storage Management (118) Nov 74
NTIS/PS-74/101	Applications of the Fast Fourier Transform (144) 1970-Nov 74
NTIS/PS-74/102	Minicomputers (215) Nov 74
NTIS/PS-75/026	Automata Theory (132) December 74
NTIS/PS-75/029	Logic Design (116) Dec 74
NTIS/PS-75/035	Electroluminescent Display Devices (105) Jan 75
NTIS/PS-75/063	Computer Performance Evaluation (40) Jan 75
NTIS/PS-75/064	Robots (89) Jan 75
NTIS/PS-75/065	Network Flows (126) Jan 75
NTIS/PS-75/067	Data Compression (89) Jan 75
NTIS/PS-75/086	Magnetic Bubble Domains (42) Jan 75
NTIS/PS-75/121	Symbolic Programming (41) Jan 75
NTIS/PS-75/128	Switching Circuits (111) 1970-Dec 74
NTIS/PS-75/158	Interactive Computer Graphics (126) 1970-Jan 75
NTIS/PS-75/251	Microcomputers (59) Feb 75
NTIS/PS-75/274	Semiconductor Computer Storage (89) Jan 75
NTIS/PS-75/355	Computer Software Maintenance (45) Apr 75
NTIS/PS-75/378	Walsh Functions (55) Apr 75
NTIS/PS-75/397	Artificial Intelligence (80) May 75
NTIS/PS-75/398	Information and Communication Theory (124) May 75
NTIS/PS-75/411	Machine Translation (127) May 75 Covers several foreign languages
NTIS/PS-75/416	Computer Software Standards (53) May 75
NTIS/PS-75/437	Computer Information Security and Protection (167) May 75

DETECTION AND COUNTERMEASURES

Order Number

NTIS/PS-75/055 Night Vision Devices (95) Jan 75
NTIS/PS-75/075 Infrared Upconversion (48) Dec 74
NTIS/PS-75/104 Remote Sensing for Natural Resource, Environmental, and Regional Planning (91) 1973-Jan 75
NTIS/PS-75/105 Instrumentation and Data Processing Used in the Earth Resources Technology Satellite (80) 1973-Dec 74
NTIS/PS-75/165 Electronic Countermeasures and Electronic Counter Countermeasures (91) Jan 75

NTIS/PS-75/231 Ice and Fog: Detection and Warning Systems (58) Dec 74
NTIS/PS-75/302 Antenna Arrays. Vol 2. 1972-1974 (93) Feb 75 Excludes phased arrays
NTIS/PS-75/303 Antenna Arrays. Vol 1. 1964-1971 (219) Feb 75 Excludes phased arrays
NTIS/PS-75/326 Seismic Detection. Part 1. General Studies (82) Jan 75 Excludes detection of nuclear events.
NTIS/PS-75/327 Seismic Detection. Part 2. Nuclear Events--1970-1972--Vol. 1. (135) Jan 75

NTIS/PS-75/328 Seismic Detection. Part 2. Nuclear Events--1973-1974--Vol. 2. (124) Jan 75
NTIS/PS-75/337 Phased Arrays. Vol 1. 1964-1971 (141) Feb 75
NTIS/PS-75/338 Phased Arrays. Vol 2. 1972-1974 (103) Feb 75
NTIS/PS-75/351 Nonlinear Acoustics (71) Apr 75
NTIS/PS-75/366 Electromagnetic Shielding. Vol 1. 1964-1971 (162) Apr 75

NTIS/PS-75/367 Electromagnetic Shielding. Vol 2. 1972-1975 (78) Apr 75
NTIS/PS-75/402 Light Detection and Ranging(LIDAR) (191) May 75

ELECTROTECHNOLOGY

Order Number

NTIS/PS-75/035 Electroluminescent Display Devices (105) Jan 75
NTIS/PS-75/055 Night Vision Devices (95) Jan 75
NTIS/PS-75/128 Switching Circuits (111) 1970-Dec 74
NTIS/PS-75/149 IMPATT Diodes (81) Jan 75
NTIS/PS-75/154 Phase Shifters (119) Jan 75

NTIS/PS-75/177 Schottky Barrier Devices (114) Jan 75
NTIS/PS-75/188 Band Pass Filters (104) Jan 75
NTIS/PS-75/190 Electron Beam Semiconductor Devices (38) Jan 75
NTIS/PS-75/227 Gunn Effect Devices (140) Jan 75
NTIS/PS-75/233 Printed Circuits. Vol 1. 1964-1971 (109) Jan 75

ELECTROTECHNOLOGY (Cont.)

Order Number

NTIS/PS-75/234 Printed Circuits. Vol 2. 1972-1974 (67) Jan 75
NTIS/PS-75/239 Strip Transmission Lines (111) Jan 75
NTIS/PS-75/246 Beam Lead Microelectronics (36) Jan 75
NTIS/PS-75/247 Integrated Circuit Reliability (173) Jan 75
NTIS/PS-75/248 Acoustic Surface Waves. Vol. 1. 1964-1972 (75) Jan 75

NTIS/PS-75/249 Acoustic Surface Waves. Vol. 2. 1973-1974 (137) Jan 75
NTIS/PS-75/258 Lightning, Surge, and Transient Protection (88) Jan 75
NTIS/PS-75/274 Semiconductor Computer Storage (89) Jan 75
NTIS/PS-75/275 Charge Transfer and Transferred Electron Devices (57)
Jan 75
NTIS/PS-75/288 Transistor Amplifiers (93) Jan 75

NTIS/PS-75/302 Antenna Arrays. Vol 2. 1972-1974 (93) Feb 75 Excludes
phased arrays
NTIS/PS-75/303 Antenna Arrays. Vol 1. 1964-1971 (219) Feb 75 Excludes
phased arrays

NTIS/PS-75/337 Phased Arrays. Vol 1. 1964-1971 (141) Feb 75
NTIS/PS-75/338 Phased Arrays. Vol 2. 1972-1974 (103) Feb 75
NTIS/PS-75/324 Microwave Oscillators. Vol. 1. 1964-1974. (118) Jan 75
NTIS/PS-75/325 Microwave Oscillators. Vol. 2. 1972-1974 (73) Jan 75
NTIS/PS-75/366 Electromagnetic Shielding. Vol 1. 1964-1971 (162) Apr 75
NTIS/PS-75/367 Electromagnetic Shielding. Vol 2. 1972-1975 (78) Apr 75
NTIS/PS-75/368 Amorphous Semiconductors (224) Oct 73 -Dec 74
NTIS/PS-75/415 Light Emitting Diodes (159) Apr 75
NTIS/PS-75/420 Fiber Optics (147) 1969-May 75

NTIS/PS-75/457 Ferrite Microwave Electronics. Vol 1. 1964-1969 (221)
1964-1969
NTIS/PS-75/458 Ferrite Microwave Electronics. Vol 2. 1970-1974 (105)
1970-Apr 75

ENERGY

Order Number

COM-74-11533 Fuel Cells (270) 1969-Sep 74
NTIS/PS-74/103 Offshore Drilling (96) 1966-Nov 74 Includes
environmental aspects
NTIS/PS-74/131 Nuclear Fusion (146) 1971-Dec 74 Excludes reports
sponsored solely by the Atomic Energy Commission
NTIS/PS-75/070 Design and Applications of Flywheels (57) Jan 75
NTIS/PS-75/089 Cadmium Sulfide Solar Cells (161) Jan 75

ENERGY (Cont.)

Order Number

NTIS/PS-75/137	Optical Coatings for Solar Cells and Solar Collectors (51) Jan 75
NTIS/PS-75/214	Energy Conservation (91) Jan 75
NTIS/PS-75/215	Waste Heat Utilization (116) Jan 75 Includes total energy systems
NTIS/PS-75/254	Oil Recovery (86) Jan 75 Excludes offshore drilling
NTIS/PS-75/316	Heat Pipes. Vol 1. 1964-1972 (175) Feb 75
NTIS/PS-75/317	Heat Pipes. Vol 2. 1973-1974 (122) Feb 75
NTIS/PS-75/342	Fuel Consumption. Part 2. Transportation (93) Feb 75
NTIS/PS-75/343	Fuel Consumption. Part 1. Industrial, Residential, and General Studies (75) Feb 75
NTIS/PS-75/345	Solar Heating and Air Conditioning (71) Jan 75
NTIS/PS-75/346	Solar Electric Power Generation (94) Jan 75
NTIS/PS-75/347	Solar Collectors and Concentrators (57) Jan 75 Excludes spacecraft application
NTIS/PS-75/348	Wind Power (85) Jan 75
NTIS/PS-75/362	Oil Shale (137) Apr 75
NTIS/PS-75/363	Electric Power Consumption (89) Apr 75
NTIS/PS-75/371	Pollution and Environmental Aspects of Fuel Conversion (47) Apr 75
NTIS/PS-75/372	Thermionics (119) Apr 75
NTIS/PS-75/377	Geothermal Energy (148) Apr 75
NTIS/PS-75/379	Hydrogen Energy (86) Apr 75
NTIS/PS-75/381	Desulfurization of Coal and Petroleum (107) Apr 75 Excludes flue gas and other post-combustion sulfur control
NTIS/PS-75/385	Coal Gasification and Liquefaction Vol 1. (161) 1964-1973
NTIS/PS-75/386	Coal Gasification and Liquefaction. Vol 2. 1974 (90) 1974-Apr 75
NTIS/PS-75/445	Nickel Cadmium Batteries (163) May 75
NTIS/PS-75/448	Magnetohydrodynamic Generators in Power Generation (105) May 75
NTIS/PS-75/463	Natural Gas. Part 1. Supply, Demand, and Utilization (97) May 75
NTIS/PS-75/464	Natural Gas. Part 2. Marine Transportation (44) May 75

ENVIRONMENTAL POLLUTION AND CONTROL

Order Number

COM-73-11463	Odor Pollution (92) Aug 73
COM-74-10951	Oil Spill Removal (114) May 74
COM-74-11018	Chemical Analysis of Aerosols and Airborne Particulates (60) Jun 74 Excludes sampling and particle size analysis
COM-74-11140	Metal Waste Reclamation (146) Jul 74
COM-74-11203	Animal Waste Pollution and Its Control (115) Jul 74
COM-74-11360	Air Quality Monitoring (121) 1970-Jul 74
NTIS/PS-74/083	Food Processing Waste Treatment (167) Nov 74
NTIS/PS-74/088	Supertankers and Superports (60) Nov 74 Includes environmental considerations
NTIS/PS-74/089	Nitrogen Oxide Air Pollution Studies (152) Nov 74
NTIS/PS-74/090	Eutrophication (254) Nov 74
NTIS/PS-74/091	Air Pollution Economics (202) 1970-Nov 74
NTIS/PS-74/092	Solid Waste Disposal Economics (76) Nov 74
NTIS/PS-74/093	Noise Pollution Economics (23) Nov 74
NTIS/PS-74/094	Water Pollution Economics (199) Nov 74 Excludes sewage treatment
NTIS/PS-74/097	Activated Sludge Treatment (235) Nov 74
NTIS/PS-74/098	Airport Noise (113) Nov 74
NTIS/PS-74/099	Water Rights and Water Law (147) Nov 74
NTIS/PS-74/100	Water Pollution in Estuaries and Coastal Zones (153) Nov 74 Excludes specific biological and oceanographic studies
NTIS/PS-74/103	Offshore Drilling (96) 1966-Nov 74 Includes environmental aspects
NTIS/PS-74/104	Urban Air Pollution (153) 1970-Nov 74
NTIS/PS-74/106	Urban Noise Pollution (66) 1970-Nov 74
NTIS/PS-74/107	Urban Sewage Treatment Planning (134) 1970-Nov 74
NTIS/PS-74/108	Urban Storm Sewers and Water Runoff (229) Nov 74
NTIS/PS-74/113	Air Pollution Effects on Materials (57) Dec 74
NTIS/PS-74/118	Waste Processing and Pollution in the Chemical and Petrochemical Industries (172) Dec 74
NTIS/PS-74/125	Quality of Life in the Urban Environment (131) 1970-Dec 74
NTIS/PS-74/129	Automatic Acquisition of Water Quality Data (116) 1970-Dec 74
NTIS/PS-74/133	Fly Ash (143) Dec 74
NTIS/PS-74/134	Ocean Law (123) Dec 74
NTIS/PS-74/135	DDT, DDD, and DDE Pesticides (150) Dec 74
NTIS/PS-75/009	Toxic Effects of Pesticides (143) Dec 74

ENVIRONMENTAL POLLUTION AND CONTROL (Cont.)

Order Number

NTIS/PS-75/017 Sewage Treatment by Reverse Osmosis and Membrane Processes (39) Dec 74

NTIS/PS-75/019 Asbestos and Silicate Pollution (91) Dec 74 Includes silicosis and asbestosis

NTIS/PS-75/020 Cadmium Pollution (101) Dec 74

NTIS/PS-75/021 Beryllium Pollution (53) Dec 74

NTIS/PS-75/022 Industrial Hazards Due to Atmospheric Factors (181) 1970-Sept 74

NTIS/PS-75/024 Bioindicators of Pollution (119) Nov 74

NTIS/PS-75/046 Acid Mine Drainage (137) Jan 75

NTIS/PS-75/050 Environmental and Ecological Effects of Dredging (85) Jan 75

NTIS/PS-75/054 Strip Mining (101) Jan 75

NTIS/PS-75/060 Maneuvering Aircraft: Noise Pollution and Control (102) Jan 75

NTIS/PS-75/069 Pollution and Its Control In the Paper and Pulp Industry (145) Jan 75

NTIS/PS-75/071 Ground Water Pollution. Part 1. General Studies (133) Jan 74 Excludes studies dealing with irrigation and fertilization

NTIS/PS-75/072 Ground Water Pollution. Part 2. Pollution From Irrigation and Fertilization (132) Jan 75

NTIS/PS-75/080 Textile Processing Wastes (59) Jan 75

NTIS/PS-75/088 Ecosystem Models (144) Jan 74

NTIS/PS-75/101 Air Pollution Effects on Plants (135) Jan 75

NTIS/PS-75/102 Behavior and Physiological Effects of Noise. Vol 1. 1964-1972 (200) Jan 75

NTIS/PS-75/103 Behavior and Physiological Effects of Noise. Vol 2. 1973-1974 (72) Jan 75

NTIS/PS-75/104 Remote Sensing for Natural Resource, Environmental, and Regional Planning (91) 1973-Jan 75

NTIS/PS-75/107 Ecology of Insecticide Water Pollution. Vol 1. 1974 (62) Jan 75

NTIS/PS-75/108 Ecology of Insecticide Water Pollution. Vol 2. 1964-1973 (203) Jan 75

NTIS/PS-75/112 Coal Mine Waste (51) Dec 74

NTIS/PS-75/118 The Biological Effects of Oil Spills (107) Jan 75 Excludes biodeterioration

NTIS/PS-75/129 Bacterial Pollution of Water (147) Jan 75

NTIS/PS-75/139 Diesel Engine Exhaust (86) Jan 75

NTIS/PS-75/152 Biodeterioration of Oil Spills (81) Jan 74

NTIS/PS-75/156 Water Pollution Detection (166) 1970-Jan 75

NTIS/PS-75/163 Gas Scrubbers (156) Dec 74

ENVIRONMENTAL POLLUTION AND CONTROL (Cont.)

Order Number

NTIS/PS-75/184 Regional and Urban Solid Waste Disposal. Part 1. Management Planning (81) Jan 75

NTIS/PS-75/185 Regional and Urban Solid Waste Disposal. Part 2. Local Case Studies (110) Jan 75

NTIS/PS-75/186 Regional and Urban Solid Waste Disposal. Part 3. Handling and Disposal Technology (84) Jan 75

NTIS/PS-75/202 Financing and Taxation For Urban Control of Pollution (111) Jan 75

NTIS/PS-75/209 Mercury Pollution (113) Dec 74 Excludes toxicity and pollution effects

NTIS/PS-75/210 Biological Effects of Mercury Pollution (112) Dec 74

NTIS/PS-75/215 Waste Heat Utilization (116) Jan 75 Includes total energy systems

NTIS/PS-75/218 Thermal Pollution. Part 1. Control Techniques and General Studies (85) Jan 75 Excludes waste heat recovery

NTIS/PS-75/219 Thermal Pollution. Part 2. Biological Effects (171) Jan 75

NTIS/PS-75/220 Thermal Pollution. Part 3. Hydrology and Hydrodynamics (124) Jan 75

NTIS/PS-75/228 The Chemistry and Physics of Ozone in the Stratosphere (91) Jan 75

NTIS/PS-75/252 Sewage Sludge Disposal (146) Dec 74

NTIS/PS-75/256 Fluidized Bed Combustion (66) Dec 74

NTIS/PS-75/267 Lead Pollution (171) Jan 75 Excludes pollution effects and toxicology of lead

NTIS/PS-75/268 Biological Effects of Lead Pollution (109) Jan 75

NTIS/PS-75/285 Hazardous Material Waste Disposal (92) Dec 74 Excludes radioactive wastes

NTIS/PS-75/286 Hazardous Materials Transportation (126) Dec 74 Excludes radioactive wastes

NTIS/PS-75/309 Automobile Air Pollution. Part 1. Abatement Through Management and Planning (89) 1970-Jan 75

NTIS/PS-75/310 Automobile Air Pollution. Part 2. Exhaust Analysis (33) 1970-Dec 74

NTIS/PS-75/311 Automobile Air Pollution. Part 3. Control Equipment (100) 1970-Dec 74

NTIS/PS-75/312 Automobile Air Pollution. Part 4. New Automotive Engines (60) 1970-Dec 74

NTIS/PS-75/313 Automobile Air Pollution. Part 5. Automotive Fuels (48) 1970-Dec 74

NTIS/PS-75/314 Automobile Air Pollution. Part 6. Atmospheric Motion (42) 1970-Dec 74

NTIS/PS-75/318 Aircraft Sonic Boom. Part 1. Studies on Aircraft Flight and Design (99) Feb 75

ENVIRONMENTAL POLLUTION AND CONTROL (Cont.)

Order Number

NTIS/PS-75/319 Aircraft Sonic Boom. Part 2. Effects on Buildings (60)
Feb 75

NTIS/PS-75/320 Aircraft Sonic Boom. Part 3. Biological Effects (52)
Feb 75

NTIS/PS-75/350 Incineration Studies (202) Mar 75

NTIS/PS-75/354 Ground Water Pollution. Part 3. Saline Ground Water (76)
Apr 75

NTIS/PS-75/357 Aeration of Sewage Lagoons, Reservoirs, and Streams (157)
Apr 75

NTIS/PS-75/362 Oil Shale (137) Apr 75

NTIS/PS-75/371 Pollution and Environmental Aspects of Fuel Conversion
(47) Apr 75

NTIS/PS-75/375 Biochemical Oxygen Demand (262) Mar 75

NTIS/PS-75/381 Desulfurization of Coal and Petroleum (107) Apr 75
Excludes flue gas and other post-combustion sulfur
control

NTIS/PS-75/382 Metal Processing Wastes. Part 2. Water Pollution (112)
Apr 75

NTIS/PS-75/383 Metal Processing Wastes. Part 1. Air Pollution (167)
Apr 75

NTIS/PS-75/388 Septic Tank Design and Use (73) Apr 75 Includes reports
dealing with non-septic tank, household sewage
treatment systems

NTIS/PS-75/401 Effects of Land Use and Urbanization on Water Resources
(94) 1971-May 75

NTIS/PS-75/410 Air Pollution Emission Factors (69) May 75

NTIS/PS-75/426 Salt Marshes (92) May 75

NTIS/PS-75/429 Radioactivity from Nuclear Power Plants (227) May 75

NTIS/PS-75/430 Sewage Effects in Marine and Estuarine Environments (136)
May 75

NTIS/PS-75/441 Water Quality Modeling--Hydrological and Limnological
Systems (213) Jun 75

NTIS/PS-75/444 Highway Traffic Noise (101) May 75

NTIS/PS-75/450 Solid Waste Reclamation and Recycling. Part 1. Packaging
and Containers (44) May 75 Excludes studies only
dealing with specific materials

NTIS/PS-75/451 Solid Waste Reclamation and Recycling. Part 2. Plastics.
(60) May 75

NTIS/PS-75/452 Solid Waste Reclamation and Recycling. Part 3. Metals
(136) May 75 Includes metal recovery from aqueous
industrial waste streams

NTIS/PS-75/453 Solid Waste Reclamation and Recycling. Part 4. Glass
(39) May 75

NTIS/PS-75/454 Solid Waste Recycling and Reclamation. Part 5. Paper
(59) May 75

ENVIRONMENTAL POLLUTION AND CONTROL (Cont.)

Order Number

NTIS/PS-75/455 Sulfur Dioxide Control. Vol 2. 1973-1974 (94) May 75
Excludes fuel desulfurization
NTIS/PS-75/456 Sulfur Dioxide Control. Vol 1. 1964-1972 (159) May 75
NTIS/PS-75/460 Sewage and Organic Waste Irrigation (111) May 75
NTIS/PS-75/461 Activated Carbon (221) May 75 Includes activated carbon
treatment of sewage

NTIS/PS-75/462 Ocean Waste Disposal (164) May 75 Excludes thermal
effluents

INDUSTRIAL AND MECHANICAL ENGINEERING

Order Number

COM-74-11223 Mine Safety (158) 1972-Jul 74
NTIS/PS-74/124 Production Planning and Scheduling (143) Dec 74
NTIS/PS-75/022 Industrial Hazards Due to Atmospheric Factors (181)
1970-Sept 74
NTIS/PS-75/041 Standard Reference Materials (118) Jan 75
NTIS/PS-75/048 Lubricating Oil Analysis for Wear Monitoring (46) Jan 74

NTIS/PS-75/070 Design and Applications of Flywheels (57) Jan 75
NTIS/PS-75/082 Industrial Psychology (161) Jan 75
NTIS/PS-75/123 Metrication in the United States (72) Dec 74
NTIS/PS-75/133 Fire Alarms and Fire Detectors (96) Jan 75
NTIS/PS-75/155 Plasma and Flame Spraying (129) Jan 75

NTIS/PS-75/162 Metal Drawing (43) Jan 75
NTIS/PS-75/166 High Energy Rate Forming. Part 1 (68) Jan 75 Excludes
explosive forming
NTIS/PS-75/167 High Energy Rate Forming. Part 2. Explosive Forming (104)
Jan 75
NTIS/PS-75/204 Fluid Control Devices. Vol 1. 1964-1971 (188) Dec 74
NTIS/PS-75/205 Fluid Control Devices. Vol 2. 1972-1974 (104) Dec 74

NTIS/PS-75/223 Ferrous Metal Casting (173) Dec 74
NTIS/PS-75/226 Electron Beam Welding (131) Jan 75
NTIS/PS-75/243 Gas Bearings (124) 1970-Jan 75
NTIS/PS-75/244 Use of Ultrasonics in Manufacturing Procedures (89) Dec
74
NTIS/PS-75/270 Nondestructive Ultrasonic Testing and Inspection. Vol. 1.
1964-1971 (188) Jan 75

NTIS/PS-75/271 Nondestructive Ultrasonic Testing and Inspection. Vol. 2.
1972-1974 (165) Jan 75

INDUSTRIAL AND MECHANICAL ENGINEERING (Cont.)

Order Number

NTIS/PS-75/284 Shipborne Containers and Containerization (100) Jan 75
NTIS/PS-75/316 Heat Pipes. Vol 1. 1964-1972 (175) Feb 75
NTIS/PS-75/317 Heat Pipes. Vol 2. 1973-1974 (122) Feb 75
NTIS/PS-75/330 Electrodeposition. Vol 1. 1964-1971 (97) Jan 75

NTIS/PS-75/331 Electrodeposition. Vol 2. 1972-1974 (110) Jan 75
NTIS/PS-75/343 Fuel Consumption. Part 1. Industrial, Residential, and
General Studies (75) Feb 75

LIBRARY AND INFORMATION SCIENCES

Order Number

COM-74-10124 Automated Text Editing (57) Dec 73
NTIS/PS-75/085 Biomedical Information Systems (123) Jan 75
NTIS/PS-75/146 Copyrights (56) Jan 75
NTIS/PS-75/189 User Needs in Documentation and Information (60) Jan 75
NTIS/PS-75/269 Records Management (170) Feb 75

NTIS/PS-75/411 Machine Translation (127) May 75 Covers several foreign
languages
NTIS/PS-75/434 Microforms. Vol 1. 1964-1973 (187) Jun 75
NTIS/PS-75/435 Microforms. Vol 2. 1973-Apr 75 (74) Jun 75

MATERIALS SCIENCES

Order Number

COM-74-11140 Metal Waste Reclamation (146) Jul 74
COM-74-11526 Carbon and Graphite Materials. Part 1. Carbon Fibers and
Carbon Fiber Composites (278) Sep 74
COM-74-11527 Carbon and Graphite Materials. Part 2. Carbon and
Graphite Composites (149) Sep 74 Excludes carbon
fibers
NTIS/PS-74/109 Drag Reducing Fluids (134) 1969-Nov 74
NTIS/PS-74/111 Fire Resistant Fibers and Textiles (124) Dec 74

NTIS/PS-74/113 Air Pollution Effects on Materials (57) Dec 74
NTIS/PS-74/133 Fly Ash (143) Dec 74
NTIS/PS-75/040 Adhesives (123) 1970-Jan 75
NTIS/PS-75/041 Standard Reference Materials (118) Jan 75
NTIS/PS-75/048 Lubricating Oil Analysis for Wear Monitoring (46) Jan 74

MATERIALS SCIENCES (Cont.)

Order Number

NTIS/PS-75/049	Hydrogen Embrittlement of Metals (185) Jan 75
NTIS/PS-75/051	Wood Bonding (96) Jan 75
NTIS/PS-75/084	Combustion of Plastics and Elastomers (67) Jan 75
NTIS/PS-75/109	Reinforced Plastics. Part 1. Fiberglass Reinforcement (151) Jan 75
NTIS/PS-75/110	Reinforced Plastics. Part 2. Boron, Carbon, and Other Reinforcing Materials (152) Jan 75
NTIS/PS-75/113	Solid Lubricants (109) Jan 75
NTIS/PS-75/122	Highway Markings (64) Dec 74
NTIS/PS-75/126	Gas Turbines, General: Corrosion and Erosion (141) Dec 74 Excludes turbine blades
NTIS/PS-75/127	Turbine Blades: Corrosion and Erosion (78) Dec 74
NTIS/PS-75/136	Lightweight Armor (106) Jan 75
NTIS/PS-75/137	Optical Coatings for Solar Cells and Solar Collectors (51) Jan 75
NTIS/PS-75/140	Seals and Gaskets (180) 1970-Jan 75
NTIS/PS-75/143	Sea Water Corrosion (165) Dec 74
NTIS/PS-75/155	Plasma and Flame Spraying (129) Jan 75
NTIS/PS-75/157	Corrosion in Desalination Plants (154) Dec 74
NTIS/PS-75/179	Superalloys (172) Dec 74
NTIS/PS-75/181	Carbon and Graphite Materials. Part 3. Graphite Research (148) Jan 75
NTIS/PS-75/182	Carbon and Graphite Materials. Part 4. Carbon Research (67) Jan 75
NTIS/PS-75/183	Carbon and Graphite Materials. Part 5. Glassy Carbon (35) Dec 74
NTIS/PS-75/192	Cryogenic Properties of Aluminum and Aluminum Alloys (70) Jan 75
NTIS/PS-75/206	Acrylic Resins. Part 1. Acrylonitrile Polymers (75) Dec 74
NTIS/PS-75/207	Acrylic Resins. Part 2. Methacrylate Polymers (146) Dec 74
NTIS/PS-75/208	Acrylic Resins. Part 3. Acrylates, Acrylamides, and General Studies (125) Dec 74
NTIS/PS-75/212	Ablation and Ablative Materials (121) Jan 75
NTIS/PS-75/217	Fracture of Ceramics (147) Dec 74
NTIS/PS-75/221	Fiberboard and Particleboard (75) Jan 75
NTIS/PS-75/223	Ferrous Metal Casting (173) Dec 74
NTIS/PS-75/226	Electron Beam Welding (131) Jan 75
NTIS/PS-75/241	Cathodic Protection (135) Dec 74
NTIS/PS-75/257	The Chemistry of Silicone Resins (130) Jan 75

MATERIALS SCIENCES (Cont.)

Order Number

NTIS/PS-75/289 Chemical Analysis of Steels (110) Feb 75
NTIS/PS-75/294 Cavitation. Part 3. Corrosion and Erosion (83) Feb 75
Excludes turbine cavitation
NTIS/PS-75/295 Cavitation. Part 4. Cavitation Flow and Erosion in
Turbines (60) Feb 75
NTIS/PS-75/330 Electrodeposition. Vol 1. 1964-1971 (97) Jan 75
NTIS/PS-75/331 Electrodeposition. Vol 2. 1972-1974 (110) Jan 75

NTIS/PS-75/353 Polytetrafluoroethylene (Teflon) (118) Apr 75
NTIS/PS-75/370 Detergents, Soaps, and Surface Active Cleaners (105)
Apr 75
NTIS/PS-75/414 Boron Reinforced Composites (199) 1972-May 75
NTIS/PS-75/422 Metal Matrix Composites (180) 1971-May 75
NTIS/PS-75/440 Cyanoacrylate Tissue Adhesives (48) 1964-May 75

NTIS/PS-75/442 Marine Fouling (140) 1969-Jun 75
NTIS/PS-75/450 Solid Waste Reclamation and Recycling. Part 1. Packaging
and Containers (44) May 75 Excludes studies only
dealing with specific materials.
NTIS/PS-75/451 Solid Waste Reclamation and Recycling. Part 2. Plastics.
(60) May 75
NTIS/PS-75/452 Solid Waste Reclamation and Recycling. Part 3. Metals
(136) May 75 Includes metal recovery from aqueous
industrial waste streams
NTIS/PS-75/453 Solid Waste Reclamation and Recycling. Part 4. Glass
(39) May 75

NTIS/PS-75/465 Stress Crack Phenomena (186) Jun 75 Excludes rock
mechanics and mathematical analysis
NTIS/PS-75/466 Mathematical Analysis of Stress Cracks. Vol 1. 1964-1973
(207) June 75
NTIS/PS-75/467 Mathematical Analysis of Stress Cracks. Vol 2. 1974-May
75 (109) June 75

MATHEMATICAL SCIENCES

Order Number

COM-74-11454 The Use of Computers in Solving Mathematical Problems
(172) Jun 71-Sep 74
COM-74-11499 Numerical Methods in Fluid Flow Problems (139) Sep 74
NTIS/PS-75/027 Integration of Partial Differential Equations (121)
1970-Nov 74
NTIS/PS-75/028 Integration of Nonlinear Differential Equations (78)
1970-Nov 74
NTIS/PS-75/065 Network Flows (126) Jan 75

MATHEMATICAL SCIENCES (Cont.)

Order Number

NTIS/PS-75/066 Experimental Design (100) Jan 75
NTIS/PS-75/150 Time Series Forecasting and Prediction (96) Jan 75
NTIS/PS-75/406 Linear Programming in Management (38) May 75

MEDICINE AND BIOLOGY

Order Number

COM-74-10105 Antineoplastic Agents (136) 1970-Jan 74
COM-74-10928 Vocational Rehabilitation of the Physically Handicapped
(78) May 74
COM-74-11312 Computer Technology in Medicine (166) 1972-Jul 74
NTIS/PS-74/086 Carcinogens (134) Sep 74
NTIS/PS-74/114 Sickle Cell Anemia (35) Nov 74

NTIS/PS-74/115 Hepatitis and Blood Transfusions (48) Nov 74
NTIS/PS-74/126 Immunologic Diseases (199) Dec 74
NTIS/PS-74/127 Transplantation Immunology (94) 1970-Dec 74
NTIS/PS-74/128 Vaccines and Immunity (169) 1970-Dec 74
NTIS/PS-74/135 DDT, DDD, and DDE Pesticides (150) Dec 74

NTIS/PS-75/009 Toxic Effects of Pesticides (143) Dec 74
NTIS/PS-75/011 Biological Effects of Laser Radiation (169) Jan 75
NTIS/PS-75/012 Medicare and Medicaid Programs (64) Dec 74
NTIS/PS-75/013 Molecular Biology (91) 1968-Oct 74
NTIS/PS-75/019 Asbestos and Silicate Pollution (91) Dec 74 Includes
silicosis and asbestosis

NTIS/PS-75/022 Industrial Hazards Due to Atmospheric Factors (181)
1970-Sept 74
NTIS/PS-75/023 Epilepsy (59) Nov 74
NTIS/PS-75/024 Bioindicators of Pollution (119) Nov 74
NTIS/PS-75/025 Biofeedback (35) Jan 75
NTIS/PS-75/033 Stress Factors on Pilot Performance (65) Nov 74

NTIS/PS-75/043 The Use of Dogs to Detect Explosives and Narcotics (24)
Jan 75
NTIS/PS-75/085 Biomedical Information Systems (123) Jan 75
NTIS/PS-75/087 Information Processing in Humans (221) Jan 75
NTIS/PS-75/088 Ecosystem Models (144) Jan 74
NTIS/PS-75/090 Congenital Abnormalities (50) Jan 75

NTIS/PS-75/091 Biological Pest Control (77) 1966-Jan 75
NTIS/PS-75/092 Endangered Species (29) Dec 74

MEDICINE AND BIOLOGY (Cont.)

Order Number

NTIS/PS-75/093	Fish Protein Concentrates (117) Jan 75
NTIS/PS-75/095	Venereal Diseases (46) Oct 74
NTIS/PS-75/096	Contraceptives and Birth Control (49) Nov 74
NTIS/PS-75/100	Interferon (157) Jan 75
NTIS/PS-75/101	Air Pollution Effects on Plants (135) Jan 75
NTIS/PS-75/102	Behavior and Physiological Effects of Noise. Vol 1. 1964-1972 (200) Jan 75
NTIS/PS-75/103	Behavior and Physiological Effects of Noise. Vol 2. 1973-1974 (72) Jan 75
NTIS/PS-75/106	Auditory Perception in Cetacea (57) Jan 75
NTIS/PS-75/107	Ecology of Insecticide Water Pollution. Vol 1. 1974 (62) Jan 75
NTIS/PS-75/108	Ecology of Insecticide Water Pollution. Vol 2. 1964-1973 (203) Jan 75
NTIS/PS-75/118	The Biological Effects of Oil Spills (107) Jan 75 Excludes biodeterioration
NTIS/PS-75/124	Herpes Virus (103) Jan 75
NTIS/PS-75/125	Cigarette Smoking (39) Jan 75
NTIS/PS-75/129	Bacterial Pollution of Water (147) Jan 75
NTIS/PS-75/131	Rehabilitation of the Physically Handicapped (119) Jan 75 Excludes reports sponsored solely by the Atomic Energy Commission
NTIS/PS-75/132	Rehabilitation of the Mentally Retarded (79) Jan 75
NTIS/PS-75/138	Color Vision (143) Jan 75
NTIS/PS-75/147	Drug Abuse (113) Jan 75
NTIS/PS-75/152	Biodeterioration of Oil Spills (81) Jan 74
NTIS/PS-75/161	Effects of Fatigue on Human Behavior and Performance (104) Jan 75
NTIS/PS-75/169	Whales (93) Jan 75
NTIS/PS-75/170	Cold Weather Stress on Humans (72) Jan 75
NTIS/PS-75/171	Emergency Medical Services and Care (87) Jan 75
NTIS/PS-75/172	Night Vision and Dark Adaptation (78) Jan 75
NTIS/PS-75/173	Radiology (102) 1967-Jan 75
NTIS/PS-75/175	Ultrasonics in Medicine (39) Jan 75
NTIS/PS-75/176	Prostaglandins (37) 1967-Jan 75
NTIS/PS-75/210	Biological Effects of Mercury Pollution (112) Dec 74
NTIS/PS-75/213	Nuclear Medicine (218) Jan 75
NTIS/PS-75/219	Thermal Pollution. Part 2. Biological Effects (171) Jan 75
NTIS/PS-75/222	Tumor Immunology (51) 1964-Sept 73
NTIS/PS-75/235	Psychoses (85) Jan 75

MEDICINE AND BIOLOGY (Cont.)

Order Number

NTIS/PS-75/236   Hyperbaric Oxygenation (125) Jan 75

NTIS/PS-75/237   Altitude Hypoxia (166) Jan 75
NTIS/PS-75/245   Forensic Medicine (39) Jan 75
NTIS/PS-75/259   Nystagmus (196) Jan 75
NTIS/PS-75/260   Hemophilia (22) Jan 75
NTIS/PS-75/262   Radioimmunoassay Studies (55) Jan 75

NTIS/PS-75/263   Tumor Viruses (65) Jan 75
NTIS/PS-75/264   Cardiovascular Diseases. Vol. 2. 1973-1974 (106) 1973-Oct
74
NTIS/PS-75/265   Cardiovascular Diseases. Vol. 1. 1964-1972 (151)
1964-1972
NTIS/PS-75/268   Biological Effects of Lead Pollution (109) Jan 75
NTIS/PS-75/272   Hypertension (80) Jan 75

NTIS/PS-75/273   Chronic Obstructive Lung Disease (24) Jan 75
NTIS/PS-75/278   Underwater Medicine and Physiology (191) Jan 75
NTIS/PS-75/280   Burn Therapy (126) Jan 75
NTIS/PS-75/307   Malaria. Vol 1. 1964-1970 (174) Feb 75
NTIS/PS-75/308   Malaria. Vol 2. 1971-1974 (64) Feb 75

NTIS/PS-75/315   Oral Diseases and Preventive Dentistry (119) Feb 75
NTIS/PS-75/320   Aircraft Sonic Boom. Part 3. Biological Effects (52)
Feb 75
NTIS/PS-75/329   Ecology of the Marine Environment (205) Feb 75
NTIS/PS-75/339   Leukemia (134) Feb 75
NTIS/PS-75/340   Dental Materials and Equipment (143) Feb 75

NTIS/PS-75/344   Schistosoma and Schistosomiasis (130) Feb 75
NTIS/PS-75/349   Septicemia (158) Feb 75
NTIS/PS-75/356   GRAS(Generally Recognized as Safe) Food Ingredients (253)
April 75
NTIS/PS-75/360   Medical Entomology. Vol. 2. 1970-1975 (192) 1970-Jan 1975
NTIS/PS-75/361   Medical Entomology. Vol.1.1964-1969 (157) 1964-1969

NTIS/PS-75/369   Hemorrhagic Shock (70) 1964 - Apr 75
NTIS/PS-75/384   Biological Effects of Microwaves (112) Mar 75
NTIS/PS-75/387   Toxicity of Gaseous Halocarbons (70) May 1975
NTIS/PS-75/418   Artificial Kidneys (182) 1968-Apr 75
NTIS/PS-75/427   Blindness (113) May 75

NTIS/PS-75/429   Radioactivity from Nuclear Power Plants (227) May 75
NTIS/PS-75/430   Sewage Effects in Marine and Estuarine Environments (136)
May 75
NTIS/PS-75/440   Cyanoacrylate Tissue Adhesives (48) 1964-May 75

MILITARY SCIENCES

Order Number

NTIS/PS-74/121 Inventory Control (195) 1970-Dec 74
NTIS/PS-75/001 Guerrilla Warfare (125) Jan 74
NTIS/PS-75/002 Civil Insurgency (84) Jan 75
NTIS/PS-75/003 Riots and Riot Control (110) Jan 75
NTIS/PS-75/004 Insurgency and Counterinsurgency in Military Affairs
(128) Jan 75

NTIS/PS-75/055 Night Vision Devices (95) Jan 75
NTIS/PS-75/393 Arms Control (234) Apr 75
NTIS/PS-75/405 Replacement Theory (85) Apr 75

MISSILE TECHNOLOGY

Order Number

NTIS/PS-75/436 Inertial Navigation and Guidance (208) Apr 74

NATURAL RESOURCES

Order Number

COM-73-11E02 Structural Geologic Studies (88) Jul 73
COM-74-10406 Forest management (85) 1967-Feb 74
COM-74-11223 Mine Safety (158) 1972-Jul 74
NTIS/PS-74/090 Eutrophication (254) Nov 74
NTIS/PS-74/099 Water Rights and Water Law (147) Nov 74

NTIS/PS-74/103 Offshore Drilling (96) 1966-Nov 74 Includes
environmental aspects
NTIS/PS-74/129 Automatic Acquisition of Water Quality Data (116)
1970-Dec 74
NTIS/PS-74/134 Ocean Law (123) Dec 74
NTIS/PS-75/042 Snow Studies (192) Jan 75
NTIS/PS-75/046 Acid Mine Drainage (137) Jan 75

NTIS/PS-75/050 Environmental and Ecological Effects of Dredging (85)
Jan 75
NTIS/PS-75/054 Strip Mining (101) Jan 75
NTIS/PS-75/059 Seismology (62) 1974-Oct 74 Excludes detection
NTIS/PS-75/068 Agricultural Resources Surveys (53) 1973-Jan 75
NTIS/PS-75/071 Ground Water Pollution. Part 1. General Studies (133)
Jan 74 Excludes studies dealing with irrigation and
fertilization

NATURAL RESOURCES (Cont.)

Order Number

NTIS/PS-75/072 Ground Water Pollution. Part 2. Pollution From Irrigation and Fertilization (132) Jan 75

NTIS/PS-75/078 Weather Modification Effects and Management (117) Jan 75
Excludes theory and physics of cloud seeding and nucleation

NTIS/PS-75/092 Endangered Species (29) Dec 74

NTIS/PS-75/104 Remote Sensing for Natural Resource, Environmental, and Regional Planning (91) 1973-Jan 75

NTIS/PS-75/105 Instrumentation and Data Processing Used in the Earth Resources Technology Satellite (80) 1973-Dec 74

NTIS/PS-75/112 Coal Mine Waste (51) Dec 74

NTIS/PS-75/191 Tectonics (157) Jan 75

NTIS/PS-75/196 Mine Ventilation (66) Jan 75

NTIS/PS-75/197 Permafrost. Part 1. General Studies (105) Jan 75

NTIS/PS-75/198 Permafrost. Part 2. Structural Engineering (174) Jan 75

NTIS/PS-75/220 Thermal Pollution. Part 3. Hydrology and Hydrodynamics (124) Jan 75

NTIS/PS-75/254 Oil Recovery (86) Jan 75 Excludes offshore drilling

NTIS/PS-75/326 Seismic Detection. Part 1. General Studies (82) Jan 75
Excludes detection of nuclear events.

NTIS/PS-75/354 Ground Water Pollution. Part 3. Saline Ground Water (76) Apr 75

NTIS/PS-75/357 Aeration of Sewage Lagoons, Reservoirs, and Streams (157) Apr 75

NTIS/PS-75/362 Oil Shale (137) Apr 75

NTIS/PS-75/373 Public Opinion and Sociology of Water Resource Development (82) 1970-Apr 75

NTIS/PS-75/374 Planning and Impact of Water Resource Programs (210) 1972-Apr 75

NTIS/PS-75/375 Biochemical Oxygen Demand (262) Mar 75

NTIS/PS-75/377 Geothermal Energy (148) Apr 75

NTIS/PS-75/392 Underwater Construction and Mining (127) May 75

NTIS/PS-75/401 Effects of Land Use and Urbanization on Water Resources (94) 1971-May 75

NTIS/PS-75/426 Salt Marshes (92) May 75

NTIS/PS-75/441 Water Quality Modeling--Hydrological and Limnological Systems (213) Jun 75

NTIS/PS-75/468 Sport Fishing (150) Jun 75

NAVIGATION, GUIDANCE AND CONTROL

Order Number

NTIS/PS-75/151   Omega Navigation System (129) Jan 75
NTIS/PS-75/436   Inertial Navigation and Guidance (208) Apr 74

NON-DESTRUCTIVE TESTING

Order Number

COM-74-11372   Motor Vehicle Tires: Skid and Wear Resistance;
Nondestructive Tests; Safety (130) Aug 74
NTIS/PS-75/115   Holographic Flow Visualization (53) Jan 75
NTIS/PS-75/117   Schlieren and Shadowgraph Photography (149) Jan 75
NTIS/PS-75/270   Nondestructive Ultrasonic Testing and Inspection. Vol. 1.
1964-1971 (188) Jan 75
NTIS/PS-75/271   Nondestructive Ultrasonic Testing and Inspection. Vol. 2.
1972-1974 (165) Jan 75

NTIS/PS-75/431   Applications of Holography (230) Jun 75 Excludes flow
visualization and acoustic holography
NTIS/PS-75/432   Acoustic Holography (92) Jun 75
NTIS/PS-75/433   Holographic Theory and Recording Techniques (150) Jun 75
Excludes acoustic holography and applications

NUCLEAR SCIENCE AND TECHNOLOGY

Order Number

NTIS/PS-74/131   Nuclear Fusion (146) 1971-Dec 74 Excludes reports
sponsored solely by the Atomic Energy Commission
NTIS/PS-75/131   Rehabilitation of the Physically Handicapped (119) Jan 75
Excludes reports sponsored solely by the Atomic Energy
Commission
NTIS/PS-75/181   Carbon and Graphite Materials. Part 3. Graphite Research
(148) Jan 75
NTIS/PS-75/213   Nuclear Medicine (218) Jan 75
NTIS/PS-75/327   Seismic Detection. Part 2. Nuclear
Events--1970-1972--Vol. 1. (135) Jan 75

NTIS/PS-75/328   Seismic Detection. Part 2. Nuclear
Events--1973-1974--Vol. 2. (124) Jan 75

OCEAN TECHNOLOGY AND ENGINEERING

Order Number

COM-74-10951	Oil Spill Removal (114) May 74
NTIS/PS-74/088	Supertankers and Superports (60) Nov 74 Includes environmental considerations
NTIS/PS-74/100	Water Pollution in Estuaries and Coastal Zones (153) Nov 74 Excludes specific biological and oceanographic studies
NTIS/PS-74/123	Offshore Structures (66) Dec 74 Excludes offshore drilling platforms
NTIS/PS-74/134	Ocean Law (123) Dec 74
NTIS/PS-75/014	Marine Anchors (97) Dec 74
NTIS/PS-75/037	Underwater Voice Communication Systems (78) Dec 74
NTIS/PS-75/038	Underwater Clothing, Tools, and Equipment (101) Dec 74 Excludes breathing apparatus
NTIS/PS-75/039	Underwater Breathing Apparatus (130) Dec 74
NTIS/PS-75/059	Seismology (62) 1974-Oct 74 Excludes detection
NTIS/PS-75/077	Icebreakers and Icebreaking (88) Dec 74
NTIS/PS-75/118	The Biological Effects of Oil Spills (107) Jan 75 Excludes biodeterioration
NTIS/PS-75/141	Recreational Boating (71) Jan 75
NTIS/PS-75/143	Sea Water Corrosion (165) Dec 74
NTIS/PS-75/152	Biodeterioration of Oil Spills (81) Jan 74
NTIS/PS-75/169	Whales (93) Jan 75
NTIS/PS-75/191	Tectonics (157) Jan 75
NTIS/PS-75/255	Foundations in Marine Environments (64) Dec 74
NTIS/PS-75/278	Underwater Medicine and Physiology (191) Jan 75
NTIS/PS-75/284	Shipborne Containers and Containerization (100) Jan 75
NTIS/PS-75/293	Cavitation. Part 2. Hydrofoils (90) Feb 75
NTIS/PS-75/296	Cavitation. Part 5. Propeller Cavitation (74) Feb 75
NTIS/PS-75/304	Aquaculture. Part 1. Fish (212) Feb 75 Excludes studies on salmon
NTIS/PS-75/305	Aquaculture. Part 2. Shellfish (129) Feb 75
NTIS/PS-75/329	Ecology of the Marine Environment (205) Feb 75
NTIS/PS-75/332	Surface Effect Vehicles/Ships in Marine Environments (108) Jan 75
NTIS/PS-75/392	Underwater Construction and Mining (127) May 75
NTIS/PS-75/413	Ocean Wave Sensors (129) May 75
NTIS/PS-75/430	Sewage Effects in Marine and Estuarine Environments (136) May 75
NTIS/PS-75/442	Marine Fouling (140) 1969-Jun 75
NTIS/PS-75/446	Remote Sensing of the Ocean. Part 1. Physical, Chemical, and Geological (147) 1970-Apr 75

OCEAN TECHNOLOGY AND ENGINEERING (Cont.)

Order Number

NTIS/PS-75/447 Remote Sensing of the Ocean. Part 2. Dynamics (87)
1970-Apr 75
NTIS/PS-75/462 Ocean Waste Disposal (164) May 75 Excludes thermal
effluents
NTIS/PS-75/464 Natural Gas. Part 2. Marine Transportation (44) May 75

ORDNANCE

Order Number

NTIS/PS-75/043 The Use of Dogs to Detect Explosives and Narcotics (24)
Jan 75
NTIS/PS-75/136 Lightweight Armor (106) Jan 75

PHOTOGRAPHY AND RECORDING DEVICES

Order Number

NTIS/PS-75/115 Holographic Flow Visualization (53) Jan 75
NTIS/PS-75/116 Flow Visualization (106) Jan 75 Excludes shadowgraph,
schlieren, and holographic techniques
NTIS/PS-75/117 Schlieren and Shadowgraph Photography (149) Jan 75
NTIS/PS-75/431 Applications of Holography (230) Jun 75 Excludes flow
visualization and acoustic holography
NTIS/PS-75/432 Acoustic Holography (92) Jun 75

NTIS/PS-75/433 Holographic Theory and Recording Techniques (150) Jun 75
Excludes acoustic holography and applications

PHYSICS

Order Number

COM-73-10242 Stress Analysis of Cracks (129) Jan 74
COM-74-11056 Carbon Dioxide Lasers (170) Jun 74
COM-74-11499 Numerical Methods in Fluid Flow Problems (139) Sep 74
NTIS/PS-74/109 Drag Reducing Fluids (134) 1969-Nov 74
NTIS/PS-74/116 Liquid Crystals (182) Nov 74

PHYSICS (Cont.)

Order Number

NTIS/PS-74/120 Dye Lasers (140) Dec 74
NTIS/PS-74/131 Nuclear Fusion (146) 1971-Dec 74 Excludes reports
sponsored solely by the Atomic Energy Commission
NTIS/PS-75/015 Metal Vapor Lasers (35) Dec 74
NTIS/PS-75/016 Carbon Monoxide Lasers (83) Dec 74
NTIS/PS-75/018 Gas Dynamic Lasers (85) Dec 74

NTIS/PS-75/035 Electroluminescent Display Devices (105) Jan 75
NTIS/PS-75/044 Gallium Arsenide Lasers (77) Jan 74
NTIS/PS-75/075 Infrared Upconversion (48) Dec 74
NTIS/PS-75/081 Ultraviolet and X Ray Lasers (80) Jan 75
NTIS/PS-75/086 Magnetic Bubble Domains (42) Jan 75

NTIS/PS-75/089 Cadmium Sulfide Solar Cells (161) Jan 75
NTIS/PS-75/115 Holographic Flow Visualization (53) Jan 75
NTIS/PS-75/116 Flow Visualization (106) Jan 75 Excludes shadowgraph,
schlieren, and holographic techniques
NTIS/PS-75/117 Schlieren and Shadowgraph Photography (149) Jan 75
NTIS/PS-75/153 Cavity Flow (117) Jan 75

NTIS/PS-75/164 Aircraft Wake Vortices (137) Dec 1974
NTIS/PS-75/177 Schottky Barrier Devices (114) Jan 75
NTIS/PS-75/178 Frequency Allocation and Management (100) Jan 75
NTIS/PS-75/188 Band Pass Filters (104) Jan 75
NTIS/PS-75/204 Fluid Control Devices. Vol 1. 1964-1971 (188) Dec 74

NTIS/PS-75/205 Fluid Control Devices. Vol 2. 1972-1974 (104) Dec 74
NTIS/PS-75/225 Quasars, Pulsars, Black Holes (170) Feb 75
NTIS/PS-75/229 Solar Eclipses (140) Feb 75
NTIS/PS-75/230 Relativity Theory (130) 1970-Dec 74
NTIS/PS-75/238 Quantum Electrodynamics (153) Feb 75

NTIS/PS-75/242 Cosmology (102) Feb 75
NTIS/PS-75/244 Use of Ultrasonics in Manufacturing Procedures (89) Dec
74
NTIS/PS-75/248 Acoustic Surface Waves. Vol. 1. 1964-1972 (75) Jan 75
NTIS/PS-75/249 Acoustic Surface Waves. Vol. 2. 1973-1974 (137) Jan 75
NTIS/PS-75/292 Cavitation. Part 1. Cavitation Flow (142) Feb 75

NTIS/PS-75/293 Cavitation. Part 2. Hydrofoils (90) Feb 75
NTIS/PS-75/294 Cavitation. Part 3. Corrosion and Erosion (83) Feb 75
Excludes turbine cavitation
NTIS/PS-75/295 Cavitation. Part 4. Cavitation Flow and Erosion in
Turbines (60) Feb 75
NTIS/PS-75/296 Cavitation. Part 5. Propeller Cavitation (74) Feb 75
NTIS/PS-75/316 Heat Pipes. Vol 1. 1964-1972 (175) Feb 75

PHYSICS (Cont.)

Order Number

NTIS/PS-75/317 Heat Pipes. Vol 2. 1973-1974 (122) Feb 75
NTIS/PS-75/351 Nonlinear Acoustics (71) Apr 75
NTIS/PS-75/368 Amorphous Semiconductors (224) Oct 73 -Dec 74
NTIS/PS-75/399 Radiation Damage of Laser Materials (143) Apr 75
NTIS/PS-75/402 Light Detection and Ranging(LIDAR). (191) May 75

NTIS/PS-75/412 Light Communication Systems (151) Apr 75
NTIS/PS-75/415 Light Emitting Diodes (159) Apr 75
NTIS/PS-75/420 Fiber Optics (147) 1969-May 75
NTIS/PS-75/428 Structural Mechanics Software (185) May 75
NTIS/PS-75/431 Applications of Holography (230) Jun 75 Excludes flow
visualization and acoustic holography

NTIS/PS-75/432 Acoustic Holography (92) Jun 75
NTIS/PS-75/433 Holographic Theory and Recording Techniques (150) Jun 75
Excludes acoustic holography and applications
NTIS/PS-75/448 Magnetohydrodynamic Generators in Power Generation (105)
May 75
NTIS/PS-75/457 Ferrite Microwave Electronics. Vol 1. 1964-1969 (221)
1964-1969
NTIS/PS-75/458 Ferrite Microwave Electronics. Vol 2. 1970-1974 (105)
1970-Apr 75

NTIS/PS-75/465 Stress Crack Phenomena (186) Jun 75 Excludes rock
mechanics and mathematical analysis
NTIS/PS-75/466 Mathematical Analysis of Stress Cracks. Vol 1. 1964-1973
(207) June 75
NTIS/PS-75/467 Mathematical Analysis of Stress Cracks. Vol 2. 1974-May
75 (109) June 75

PROPULSION AND FUELS

Order Number

NTIS/PS-75/126 Gas Turbines, General: Corrosion and Erosion (141) Dec 74
Excludes turbine blades
NTIS/PS-75/127 Turbine Blades: Corrosion and Erosion (78) Dec 74
NTIS/PS-75/139 Diesel Engine Exhaust (86) Jan 75
NTIS/PS-75/256 Fluidized Bed Combustion (66) Dec 74
NTIS/PS-75/295 Cavitation. Part 4. Cavitation Flow and Erosion in
Turbines (60) Feb 75

NTIS/PS-75/312 Automobile Air Pollution. Part 4. New Automotive Engines
(60) 1970-Dec 74
NTIS/PS-75/313 Automobile Air Pollution. Part 5. Automotive Fuels (48)
1970-Dec 74

TRANSPORTATION

Order Number

COM-74-10587	Transportation for the Elderly and Physically Handicapped (25) Apr 74
COM-74-10519	Air Traffic Control Simulation Models (125) May 74
COM-74-11372	Motor Vehicle Tires: Skid and Wear Resistance; Nondestructive Tests; Safety (130) Aug 74
COM-74-11573	Electric Automobiles (60) Oct 74
NTIS/PS-74/098	Airport Noise (113) Nov 74
NTIS/PS-74/110	Alcoholism (135) Nov 74
NTIS/PS-75/006	Pedestrian Movement and Safety (70) 1968-Oct 74
NTIS/PS-75/008	Clear Air Turbulence (220) Dec 74
NTIS/PS-75/033	Stress Factors on Pilot Performance (65) Nov 74
NTIS/PS-75/036	Collision Avoidance Systems (156) Dec 74
NTIS/PS-75/060	Maneuvering Aircraft: Noise Pollution and Control (102) Jan 75
NTIS/PS-75/073	Signs and Display Systems: Graphic Design and Human Engineering (92) Jan 75
NTIS/PS-75/074	Bicycles (41) Jan 75
NTIS/PS-75/099	Fog Dispersal (167) Jan 74
NTIS/PS-75/114	Tracked Air Cushion Vehicles and Magnetic Levitation (70) Dec 74
NTIS/PS-75/122	Highway Markings (64) Dec 74
NTIS/PS-75/130	Air Bag Restraints (68) Jan 75
NTIS/PS-75/144	Driver Education (109) Jan 75
NTIS/PS-75/148	Tourism and Travel in the United States (85) Jan 75
NTIS/PS-75/151	Omega Navigation System (129) Jan 75
NTIS/PS-75/164	Aircraft Wake Vortices (137) Dec 1974
NTIS/PS-75/174	Discrete Address Beacon System (46) Jan 75
NTIS/PS-75/180	Highway Beautification (46) Jan 75
NTIS/PS-75/200	Financing Urban Transportation. Part 1. General Studies (65) 1970-Jan 75
NTIS/PS-75/201	Financing Urban Transportation. Part 2. Local Studies (95) 1970-Jan 75
NTIS/PS-75/231	Ice and Fog: Detection and Warning Systems (58) Dec 74
NTIS/PS-75/279	Urban Parking (82) Feb 75
NTIS/PS-75/286	Hazardous Materials Transportation (126) Dec 74 Excludes radioactive wastes
NTIS/PS-75/287	Dual Mode Transportation (77) Feb 75
NTIS/PS-75/309	Automobile Air Pollution. Part 1. Abatement Through Management and Planning (89) 1970-Jan 75
NTIS/PS-75/310	Automobile Air Pollution. Part 2. Exhaust Analysis (33) 1970-Dec 74

TRANSPORTATION (Cont.)

Order Number

NTIS/PS-75/311 Automobile Air Pollution. Part 3. Control Equipment (100) 1970-Dec 74
NTIS/PS-75/312 Automobile Air Pollution. Part 4. New Automotive Engines (60) 1970-Dec 74
NTIS/PS-75/313 Automobile Air Pollution. Part 5. Automotive Fuels (48) 1970-Dec 74
NTIS/PS-75/314 Automobile Air Pollution. Part 6. Atmospheric Motion (42) 1970-Dec 74

NTIS/PS-75/318 Aircraft Sonic Boom. Part 1. Studies on Aircraft Flight and Design (99) Feb 75
NTIS/PS-75/319 Aircraft Sonic Boom. Part 2. Effects on Buildings (60) Feb 75
NTIS/PS-75/320 Aircraft Sonic Boom. Part 3. Biological Effects (52) Feb 75
NTIS/PS-75/321 Railroad Management and Planning (139) Feb 75
NTIS/PS-75/322 Railroad Freight Transportation (98) Feb 75

NTIS/PS-75/333 Surface Effect Vehicles and Surface Effect: General Studies. Vol. 1. 1964-1971 (134) Jan 75 Does not include marine environments
NTIS/PS-75/334 Surface Effect Vehicles and Surface Effect: General Studies. Vol. 2. 1972-1974 (67) Jan 75 Does not include marine environments
NTIS/PS-75/342 Fuel Consumption. Part 2. Transportation (93) Feb 75
NTIS/PS-75/376 Air Traffic Congestion and Capacity (106) Apr 75
NTIS/PS-75/403 Urban Automated Traffic Control (114) May 75

NTIS/PS-75/417 Microwave Landing Systems (80) Apr 75
NTIS/PS-75/421 BART and METRO--Rapid Transit for the San Francisco and Washington D.C. Areas (168) May 75
NTIS/PS-75/436 Inertial Navigation and Guidance (208) Apr 74
NTIS/PS-75/444 Highway Traffic Noise (101) May 75
NTIS/PS-75/464 Natural Gas. Part 2. Marine Transportation (44) May 75

URBAN TECHNOLOGY

Order Number

COM-74-10100 Juvenile Delinquency Prevention Programs (100) Dec 73
COM-74-10887 Transportation for the Elderly and Physically Handicapped (25) Apr 74
COM-74-10982 Industrialized Housing (159) Jun 74
COM-74-11201 Flood Control (191) 1972-Jul 74
COM-74-11319 Urban Information Systems (196) 1970-Aug 74 Includes USAC reports

URBAN TECHNOLOGY (Cont.)

Order Number

COM-74-11360	Air Quality Monitoring (121) 1970-Jul 74
COM-74-11393	The Elderly (139) Sep 74
COM-74-11534	Building Fires (143) Sep 74
NTIS/PS-74/104	Urban Air Pollution (153) 1970-Nov 74
NTIS/PS-74/106	Urban Noise Pollution (66) 1970-Nov 74
NTIS/PS-74/107	Urban Sewage Treatment Planning (134) 1970-Nov 74
NTIS/PS-74/108	Urban Storm Sewers and Water Runoff (229) Nov 74
NTIS/PS-74/125	Quality of Life in the Urban Environment (131) 1970-Dec 74
NTIS/PS-74/132	Housing (121) 1970-Dec 74
NTIS/PS-75/003	Riots and Riot Control (110) Jan 75
NTIS/PS-75/005	Rehabilitation of Criminal and Public Offenders (100) 1967-Oct 74
NTIS/PS-75/006	Pedestrian Movement and Safety (70) 1968-Oct 74
NTIS/PS-75/007	Disasters (131) Dec 74
NTIS/PS-75/043	The Use of Dogs to Detect Explosives and Narcotics (24) Jan 75
NTIS/PS-75/047	Crime Prevention and Enforcement Through Community Relations (72) Jan 75
NTIS/PS-75/056	Behavior and Psychology as Related to Law Enforcement (103) Jan 75
NTIS/PS-75/061	De-icing Materials and Techniques for Roads and Runways (92) Jan 75
NTIS/PS-75/083	The Use of the Mass Media by Local and Regional Governments (58) Jan 75
NTIS/PS-75/104	Remote Sensing for Natural Resource, Environmental, and Regional Planning (91) 1973-Jan 75
NTIS/PS-75/114	Tracked Air Cushion Vehicles and Magnetic Levitation (70) Dec 74
NTIS/PS-75/119	Minority Business (71) Jan 75 Excludes regional and socioeconomic studies
NTIS/PS-75/120	Economic Development of Ethnic Minorities (86) Jan 75
NTIS/PS-75/141	Recreational Boating (71) Jan 75
NTIS/PS-75/148	Tourism and Travel in the United States (85) Jan 75
NTIS/PS-75/168	Ghettos (69) Jan 75
NTIS/PS-75/171	Emergency Medical Services and Care (87) Jan 75
NTIS/PS-75/180	Highway Beautification (46) Jan 75
NTIS/PS-75/184	Regional and Urban Solid Waste Disposal. Part 1. Management Planning (81) Jan 75
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