233
10/3/84

① DR-0438-3
I-17259

LBL-17675
UC-66

Lawrence Berkeley Laboratory

UNIVERSITY OF CALIFORNIA

EARTH SCIENCES DIVISION

LISTING OF SCIENTIFIC DATA ON THE
BACA GEOTHERMAL FIELD

R.K. Spencer and C-F. Tsang

June 1984

MASTER

DO NOT MICROFILM
COVER

DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency Thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

DISCLAIMER

Portions of this document may be illegible in electronic image products. Images are produced from the best available original document.

DO NOT MICROFILM
THIS PAGE

LEGAL NOTICE

This book was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

Printed in the United States of America
Available from
National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Road
Springfield, VA 22161
Price Code: A07

LISTING OF SCIENTIFIC DATA ON
THE BACA GEOTHERMAL FIELD

A compilation of available geological, geophysical,
geochemical and reservoir engineering data

Robin K. Spencer and Chin-Fu Tsang

Earth Sciences Division
Lawrence Berkeley Laboratory
University of California
Berkeley, CA 94720

June 1984

DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

This work was supported by the Director, Office of Energy Research, Office of Basic Energy Sciences, Division of Engineering, Mathematics, and Geosciences of the U.S. Department of Energy under Contract No. DE-AC03-76SF00098.

Table of Contents

	Page
INTRODUCTION	2
1. GENERAL REFERENCE MATERIALS	5
1.1 Reports	6
1.2 Bibliographies	11
1.3 Viewgraph sets	12
1.4 Meetings, Report Plans, etc.	13
1.5 Proposals	14
2. FIELD REPORTS	15
2.1 Reports of operation	16
2.2 Plant activities and status reports	18
3. WELL LOGS	19
4. INDIVIDUAL WELL DATA ¹	23
4.1 Well #1 (no data available)	24
4.2 Well #2 (no data available)	25
4.3 Well #3 (no data available)	26
4.4 Well #4	27
4.5 Well #5-5A	35
4.6 Well #6	40
4.7 Well #7	45
4.8 Well #8	47
4.9 Well #9 (no data available)	49
4.10 Well #10	50

Table of Contents (cont.)

	Page
4.11 Well #11	52
4.12 Well #12	57
4.13 Well #13	66
4.14 Well #14	75
4.15 Well #15	79
4.16 Well #16	87
4.17 Well #17	89
4.18 Well #18	91
4.19 Well #19	96
4.20 Well #20	103
4.21 Well #21	116
4.22 Well #22	120
4.23 Well #23	124
4.24 Well #24	130

NOTES

1. Data are divided into one or more of the following units: Daily Testing Reports, Temperature and Pressure Gradient Records, Flowtests, Water Injection, Produced Fluids and Gas Analyses, Flowtest Production Data, Interference Pressure Data, Deepening, Redrill, Other.

INTRODUCTION

This document is a record of the available open-file technical data collected at the Baca Geothermal Field, New Mexico (Fig. 1). The data base is located at the Earth Sciences Division of the Lawrence Berkeley Laboratory, Berkeley, California.

The Baca cooperative geothermal project was jointly sponsored by the U.S. Department of Energy, Union Oil Company, and Public Service Company of New Mexico. Most of the data are from wells drilled by Union Geothermal Company, made available through the DOE-Union-PNM agreement.¹ Twenty-four deep geothermal wells have been completed at the Baca field (Fig. 2). Originally thought to have a potential capacity of at least 400 MWe for 30 years, the field was operated and tests were run until October 1982. In January 1982 it was recognized that under present conditions, the geothermal production capability of the field is much lower² and the DOE/Union cooperative project was terminated by mutual agreement.

The arrangement of the information in the Lawrence Berkeley Laboratory (LBL) Baca data base corresponds to the organization of this document, as shown in the Table of Contents. Accordingly, this document will serve as a handbook for using the data base. Section 1 includes general reference materials such as published reports, bibliographies, and proposals. Section 2 contains various types of progress reports. Sections 3 and 4 describe individual well data: Section 3 consists of well log data (retained in both the original and digitized forms) and Section 4 lists various tests carried out in the different wells. Data in both Sections are listed by test date.

Copies of the publications and well test data are available by writing
to:

Reservoir Engineering Group-Baca Data Base
Earth Sciences Division
Lawrence Berkeley Laboratory
Berkeley, CA 94720.

¹U.S. Department of Energy, 1979. Draft EIS: Geothermal Demonstration Program - 50MWe Power Plant - Baca Ranch, Sandoval and Rio Arriba Counties, New Mexico. USDOE/EIS-0049-D.

²Goldstein, N.E., Holman, W.R. and Molloy, M.W., 1982. Final report of the Department of Energy Reservoir Definition Review Team for the Baca Geothermal Demonstration Project. Lawrence Berkeley Laboratory Report LBL-14132.

XBL 823-2098

Figure 1. Location of Baca Geothermal Field, New Mexico, showing generalized regional geology.

XBL 812-2618

Figure 2. Location of Baca wells, Baca Geothermal Field, New Mexico.

1. GENERAL REFERENCE MATERIALS

BACA FILES

REPORTS ON HAND

- Allied Geophysics Inc., 1974. Mercury soil gas survey Baca Prospect.
- Atkinson, P. G., 1981. Reservoir engineering update-Redondo Creek Field, July 8, 1981, Union Oil Company, internal report.
- Behrman, P.B. and Knapp, R.B., 1980. Structure of the Redondo Creek Area, Baca Prospect: Implications concerning the nature of permeability and control of production, 43 pp. w/plates, Union Oil Company, internal report.
- Bodvarsson, G.S.; Vonder Haar, S.P.; Wilt, M.J. and Tsang, C.F., 1982. Preliminary studies of the reservoir capacity and the generating potential of the Baca geothermal field, New Mexico. Water Resources Research, Vol. 18, No. 6, p. 1713-1723, Lawrence Berkeley Laboratory Report LBL-10656.
- Bureau of Indian Affairs, 1980. Geothermal Hydrology at Jemez Mtns.- Ion Balance and Flow Depletion.
- Chasteen, A.J., Aug. 1974. Baca Project Interim Report of Test Results, Union Oil Company, internal report.
- Christensen, W. and Atkinson, P., 1981. Baca-20, Redondo Creek Field: Summary and analysis of flowtests 1 through 4; 8/80 to 1/81, Union Oil Company, internal report.
- Controls for Environmental Pollution, Inc., 1974. Baca Ranch Geothermal Site Geothermal Radiological Monitoring Program.
- Core Laboratories, Inc., 1975. Special Core Analysis Study for Union Oil Company Baca No. 13 Well, Redondo Creek Field, New Mexico.
- Dondanville, R.F., 1971. Hydrothermal Geology of the Valles Caldera, New Mexico, Union Oil Company, internal report.
- Earth Resources Operations, North American Rockwell Corp., 1972. Airborne infrared geothermal exploration--Valles Caldera, New Mexico.
- Energy Resources Exploration, Inc., 1980. Water: Occurrence, supply and application at Jemez Pueblo with assessment of geothermal activities, Baca location. Prepared for council of Energy Resource Tribes, Englewood, Colorado.
- Faust, C.R.; Mercer, J.W. and Thomas, S.D., 1983. Quantitative analysis of geothermal development in the Jemez Mountains-Final Report. Geotrans, Inc., Reston, VA. for the Bureau of Indian Affairs, Albuquerque, N.M.
- Fox, D.J., 1984. Hydrothermal alteration in Well Baca 22, Baca Geothermal Area, Valles Caldera, New Mexico Lawrence Berkeley Laboratory Report LBL-16883.
- Geonomics, 1976. Magnetotelluric-telluric profile survey, Valles Caldera prospect. (Reprocessed by QEB, Inc. 1978).

BACA FILES

REPORTS ON HAND

- Geothermal Resources Council, 1982. Fractures in geothermal reservoirs. Special Report no. 12. Proceedings of the Workshop on Fractures in Geothermal Reservoirs, Honolulu, Hawaii, August 27-28, 1982.
- Goldstein, N.E.; Holman, W.R. and Molloy, M.W., 1982. Final report of the Department of Energy Reservoir Definition Review Team for the Baca Geothermal Demonstration Project. Lawrence Berkeley Laboratory Report LBL-14132, 52 pp.
- Goldstein, N.E.; and Tsang, C.F., 1983. A review of lessons learned from the DOE/Union Baca Geothermal Project and their application to CDSP drilling in the Valles Caldera, New Mexico. Lawrence Berkeley Laboratory Report LBL-17084.
- Goupillaud, P.L., Rice L.F., and Mason, B.F., 1981. Baca geothermal demonstration project-geological and geophysical data file-topical report. Systems, Science and Software, La Jolla, CA. Report no. DOE/ET/27163-13.
- Grant, M.A. and Garg, S.K., 1981. Baca geothermal demonstration project: Interpretation of downhole data from the Baca geothermal field. Systems, Science and Software La Jolla, CA. Report DOE/ET/27163-12, 112 pp.
- Grant, M.A., Garg, S.K. and Riney, T.D., 1982. Interpretation of downhole data and development of a conceptual model for the Redondo Creek area of the Baca geothermal field. S-Cubed report, 70 pp.
- Group Seven, Inc., 1972. Electrical resistivity survey in Valles Caldera, New Mexico.
- Group Seven, Inc., 1972. Additional data--electrical resistivity survey in the Valles Caldera, New Mexico.
- Gulati, M.S., 1975. Baca reservoir studies, Union Oil Company, internal report.
- Gulati, M.S., 1975. The role of heat transfer in the pressure build-up in the hot water wells. Union Oil Company, internal report.
- Hartz, J.D., 1976. Geothermal reservoir evaluation of the Redondo Creek Area, Sandoval County, New Mexico, Union Oil Company, internal report.
- Hartz, J.D., 1977. Baca No. 5A - Pressure falloff and injection, Union Oil Company, internal report.
- Hartz, J.D., 1977. Baca No. 15 - Production test and reservoir evaluation, Union Oil Company, internal report.
- Hulen, J.B. and Nielson, D.L., 1983. Stratigraphy of the Bandelier Tuff and characterization of high-level clay alteration in borehole B-20, Redondo Creek Area, Valles Caldera, New Mexico. Trans., Geothermal Resources Council, Vol. 7, pp 163-168.
- Laughlin, A.W., 1981. The Geothermal System of the Jemez Mtns. NM and its Exploration, in Rybach, L., and Muffler, L.J.P., editors: Geothermal Systems, Principles, and Case Histories, Chapter 11, p. 295-320.

BACA FILES

REPORTS ON HAND

- Los Alamos Scientific Laboratory, September 1978. 1978 International Symposium on the Rio Grande Rift, Santa Fe, New Mexico, October 8-17, 1978, Program and Abstracts. Los Alamos Scientific Laboratory Report, LA-7487-C.
- McPhar, 1973. Reconnaissance Resistivity Survey Data Property, Union Oil Company, internal report.
- McPhar, 1973. Supplemental Report--Reconnaissance Resistivity and Schlumberger Depth Sounding Surveys Baca Property, Union Oil Company, internal report.
- Morrison, H.F.; Corwin R.F.; deMouilly, G. and Durand, D., 1978. Semi-annual technical progress report: Interpretation of self-potential data from geothermal areas. USGS Geothermal Research Project Contract 14-08-0001-16546, 35 pp.
- Neilson, D.L. and Hulen, J.B., 1984. Results of deep drilling in the Valles Caldera, New Mexico. Presented at the International Symposium on Observation of the Continental Crust through Drilling, Tarryton, New York, May 24, 1984.
- Nibert, G.J., 1979. An overview of the Baca Geothermal Demonstration Program in the Jemez Mountains, New Mexico, Union Oil Company, internal report.
- Pritchett; J.W.; Rice, M.H. and Riney, T.D., 1981. Equation-of-state for water-carbon dioxide mixtures: Implications for the Baca reservoir. S-Cubed for Westec Services, Inc. DOE/ET/27163-8, 53 pp.
- Public Service Company of New Mexico, 1983. The Baca Geothermal Demonstration Project: PNM's overview of project objectives, plant design, project completion of status, maintenance storage and marketing of equipment, site restoration, and project benefits. U.S. DOE Report DOE/ET/27163-T4.
- Republic Geothermal, Inc., 1981. Hydraulic fracture stimulation treatment of Well Baca 23: Geothermal Reservoir Well Stimulation Program, 74 pp.
- Republic Geothermal, Inc., 1983. Hydraulic fracture stimulation and acid treatment of Well Baca 20: Geothermal Reservoir Well Stimulation Program, 134 p.
- Rice, L.F., 1981. Baca geothermal demonstration project-reservoir data file: Status as of June 2, 1981, Systems, Science and Software, La Jolla, CA., Report no. DOE/ET/27163-15.
- Rice, L.F. and Garg, S.K., 1982. Interference tests data and analysis for Baca wells in the Redondo Creek area. S-Cubed Report SSS-R-82-5325, 81 pp.
- Riney, T.D. and Garg, S.K., 1982. Pressure tests for individual Baca wells in the Redondo Creek area. S-Cubed Report SSS-R-82-5258, 145 pp.
- Riney, T.D. and Garg, S.K., 1981. Analysis of flow data from several Baca wells. Lawrence Berkeley Laboratory Report, LBL-13782, 6 pp.
- Riney, T.D. and Garg, S.K., 1982. Updated conceptual model of Redondo Creek area reservoir. S-Cubed Report SSS-R-82-5561, 29 pp.

BACA FILES

REPORTS ON HAND

Segar, R.L., 1974. Quantitative gravity interpretation Valles Caldera Area, New Mexico, Union Oil Company, internal report.

Slodowski, T.R., 1976. Geothermal geology of the Redondo Creek Area Baca Location, Union Oil Company, internal report.

Slodowski, T.R., 1977. Geological resume of the Valles Caldera, Union Oil Company, internal report.

Southwest Environmental Research and Development Corporation, 1974. The biota of Redondo Creek Canyon, Sandoval County, New Mexico, with emphasis on big game species and rare, endangered or threatened species.

Stearns-Roger, Inc., 1975. Second Progress Report Meteorological and Hydrogen Sulfide Background Observations, Baca Location No. 1, New Mexico.

Stearns-Roger, Inc., 1975. Third Progress Report Meteorological and Hydrogen Sulfide Monitoring Programs, Baca Location No. 1, New Mexico.

Stearns-Roger, Inc. 1975. Preliminary Investigation Hydrogen Sulfide Background Levels, Baca Location No. 1, New Mexico.

Stearns-Roger, Inc., 1976. Annual report meteorological and air quality monitoring programs, Baca Location No. 1, New Mexico.

Union Geothermal Company. Temperature Gradient Hole Data 1970, 1972-1974 and Location Map, Union Oil Company, internal report.

Union Geothermal Company. Summary sheet for Baca wells no's 1-4, Union Oil Company, internal report.

Union Geothermal Company, 1979. Summary sheet for Baca wells no's 4-16, Union Oil Company, internal report.

Union Oil Company of California, 1975. Baca Well no. 11 - Scale evaluation, Union Oil Company, internal report.

Union Oil Company, 1982. Baca project geothermal demonstration power plant, Final Report, Union Oil Company, internal report.

U.S. Department of Energy, 1979. Draft EIS: Geothermal demonstration program - 50 MWe power plant - Baca Ranch, Sandoval and Rio Arriba Counties, New Mexico, USDOE/EIS-0049-D.

Water Resources Associates, 1977. Hydrology of the region surrounding the Valles Caldera.

Water Resources Associates, 1977. Appendices II and III to Hydrology of the region surrounding the Valles Caldera.

Water Resources Associates, Inc., 1977. Model of streamflow depletion of the Jemez River by geothermal development in the Valles Caldera, New Mexico - Addendum to Hydrology, Jemez Mountains, New Mexico, 1977.

BACA FILES

REPORTS ON HAND

Whitford Ecological Consultants, 1975(?). Studies of rare and/or endangered species on the Union-Baca geothermal lease and surrounding area with discussion on other species.

Whitford Ecological Consultants, 1975. Report on reconnaissance of Redondo Creek, Redondo Boarder, Sulfur Canyon, Alamo Canyon and Valle Seco Areas with proposals and budget estimates for biological baseline studies.

Whitford Ecological Consultants, 1975. Winter activity and habitat use by elk in the Redondo Creek Area with comments on activities and relative abundance of other species.

Whitford Ecological Consultants, 1975. The biota of the Baca geothermal site.

Wilt, M. and Vonder Haar, S., 1982. A geological and geophysical study of the Baca geothermal field, Valles Caldera, New Mexico. Lawrence Berkeley Laboratory Report LBL-12966.

Wilt, M. and Vonder Haar, S., 1984. A geological and geophysical appraisal of Valles Caldera, New Mexico. Lawrence Berkeley Laboratory Report LBL-17417.

BACA FILES
BIBLIOGRAPHIES

DOE-SAN Office: Reports Documented on Baca Project, 1982.

Lawrence Berkeley Laboratory: Listing of Scientific Data on the Baca
Geothermal Field, 1983.

Oak Ridge National Laboratory: Baca Repository Index, 1983.

Public Service Co. of New Mexico and Union Geothermal Co. of New Mexico:
Executive Summaries Reports 1-61.

Public Service Co. of New Mexico and Union Geothermal Co. of New Mexico:
Baca Geothermal Demonstration Project.

Science, Systems & Software: Baca Library Listing as of 1/4/83.

Union Geothermal Company: Bibliography of Baca Project Data and Reports.

University of Utah Research Institute: Baca Geothermal Demonstration
Power Plant Project Open-file Materials, 1983.

BACA FILES
VIEWGRAPH SETS

GEOPHYSICS

GEOLOGY

RESERVOIR ENGINEERING

FLUID CHEMISTRY

COST DATA

BACA FILES
MEETINGS, REPORT PLANS, ETC.

UNION-PUBLIC SERVICE NM-DOE COOPERATIVE AGREEMENT GEOTHERMAL DEMO POWER PLANT-

BACA TECHNICAL EXTRACT - 34 p.

DOE-UNION REVIEW MEETING, April 30 - MAY 1, 1981.

PLANS AND DECISIONS/PROJECT TASKS - JUNE 1981.

Tentative Time Schedule for Baca Interference Program - 1981.

BACA FILES

PROPOSALS

Systems, Science and Software, June 1981. Unsolicited Proposal for Independent Analysis of Baca Reservoir Data, prepared for LBL, vol. 1 - Technical SSS-P-8310252.

Westec Services, Inc., May 1979. Proposal to Provide Data Gathering, Reduction, Evaluation and Reporting Services for the Geothermal Demonstration Power Plant Project. Submitted to Public Service Co., NM - Union w/comments by many LBL staff.

2. FIELD REPORTS

BACA FILES

REPORTS OF OPERATIONS

AUTHOR, ORGANIZATION: J.D. Maddox TO: Public Service Co., N.M.

DEC 1980

JAN 1981

FEB 1981

MAR 1981

APR 1981

BACA FILES

REPORTS OF OPERATIONS

AUTHOR, ORGANIZATION: Engebretson TO: Wilbur

MAY 1980

JUNE 1981

JULY 1981

AUG 1981

SEPT 1981

OCT 1981

NOV 1981

BACA FILES

PLANT ACTIVITIES AND STATUS REPORTS

Received:

DECEMBER 1980

JANUARY 1981

APRIL 1981

3. WELL LOGS

BACA FILES

WELL LOGS

<u>Well</u>	<u>Logs</u>	<u>Date</u>
BACA #4	Drilling Logs (Lithology)	09-11-70
BACA #5A	Drilling Logs (Lithology)	08-13-71
BACA #6	Drilling Logs (Lithology)	07-08-72
BACA #8	Drilling Logs (Lithology)	08-16-72
BACA #9 and 9 REDRILL	Drilling Logs (Lithology)	09-15-72
BACA #10	Drilling Logs (Lithology)	07-05-73
	Gamma Ray	09-12-73
	Cement Bond Log	09-15-73
	Temperature Log	09-14-73, 09-15-73
BACA #11	Drilling Logs (Lithology)	09-09-73
BACA #12	Drilling Logs (Lithology)	06-27-81
	Casing Inspection Caliper Log	07-17-76
	Temperature Log	07-07-74
BACA #13	Perforating Depth Control	05-15-81
	Engineered Production Logging	05-15-81
	Fullbore Flowmeter	05-15-81
	Temperature Log	05-15-81
	Dual-Induction-SFL	
	w/Linear Correlation Log	09-18-74, 10-28-74
	Compensated Neutron-Formation Density	19-28-74
	Dual-Induction-Laterolog	
	w/Linear Correlation Log	09-18-74, 10-28-74
	Sonic Log	10-28-74
BACA #14	Drilling Logs	11-16-74
	Temperature Log	10-07-75, 02-10-75
	Compensated Neutron-Formation Density	02-10-75
BACA #15	Drilling Logs (Lithology)	04-29-75
BACA #16	Drilling Logs (Lithology)	06-19-75
BACA #17	Drilling Logs (Lithology)	08-13-78
	Dual-Induction-SFL	
	w/Linear Correlation Log	08-31-78
	Temperature	09-22-78, 10-12-78
	Induction-Gamma Ray Log	09-22-78, 10-12-78
	Dual-Induction-Laterolog	
	w/Linear Correlation Log	08-31-78
	Cement Bond Log (Gamma Ray)	09-29-79
	Borehole Geometry (Caliper)	09-22-78

BACA FILES

WELL LOGS

<u>Well</u>	<u>Logs</u>	<u>Date</u>
BACA #17		
REDRILL #1	Drilling Logs (Lithology)	08-13-78
	Induction-Gamma Ray Log	11-10-78
BACA #18	Drilling Logs (Lithology)	12-16-78
	Induction	03-09-79, 01-01-79
	Dual-Induction-Laterlog	
	w/Linear Correlation Log	12-19-78
	Temperature	01-01-79, 03-08-79
	Fracture ID Log	
	w/Correlation Log	01-01-79
BACA #19	Drilling Logs	09-23-79
	Dual-Induction-SFL	10-03-79, 10-12-79,
	w/Linear Correlation Log	10-30-79
	Temperature	10-12-79
BACA #20	Fracture ID Log	
	w/Correlation Log	07-15-80, 08-01-80
	Simultaneous Compensated	07-16-80, 08-10-80,
	Neutron-Formation Density	
	High Resolution Temperature	08-01-80
	Borehole Compensated	
	Sonic Log	07-16-80
REDRILL #1	Simultaneous Compensated	
	Neutron Formation Density	08-13-80
	Fracture ID Log	09-16-81
BACA #21	Fracture ID Log	
	w/Correlation Log	09-28-80
	Dual-Induction-SFL	
	w/Linear Correlation Log	09-18-80
	Simultaneous Dual Laterolog	09-28-80
	Simultaneous Compensated	
	Neutron-Formation Density	09-28-80, 10-03-80
	Temperature	09-27-80
BACA #22	Drilling Logs (Lithology)	10-12-80
	Temperature Log	10-30-80
	Induction-Gamma Ray Log	11-17-80
	Fracture ID Log	
	w/Correlation Log	07-15-80, 08-01-80,
	Dual Laterolog	10-21-80

BACA FILES

WELL LOGS

<u>Well</u>	<u>Logs</u>	<u>Date</u>
BACA #22		
	REDRILL #1	Compensated Neutron-Formation Density
		12-10-80,
	REDRILL #3	Dual Laterolog
		12-11-81
BACA #23	Drilling Logs (Lithology)	01-12-81,
	Fracture ID Log	
	w/Correlation Log	02-10-81
	Temperature Log	02-10-81
	Compensated Neutron-Formation Density	12-10-81, 02-18-81
	Induction-Gamma Ray Log	02-18-81
	Dual-Induction-SFL	
	w/Linear Correlation Log	01-23-81
BACA #24	Temperature Log	05-16-81
	Simultaneous Dual Laterolog	05-16-81
	Drilling Logs	04-23-81

4. INDIVIDUAL WELL DATA

BACA FILES

WELL IDENTIFICATION SHEET

WELL: BACA #1

COORDINATES:

COORDINATE SYSTEM:

ELEVATION:

MEASURED FROM:

DRILLING START DATE:

DRILLING COMPLETION DATE:

DEPTH: 3675'

ADDITIONAL INFORMATION: None

BACA FILES

WELL IDENTIFICATION SHEET

WELL: BACA #2

COORDINATES:

COORDINATE SYSTEM:

ELEVATION:

MEASURED FROM:

DRILLING START DATE:

DRILLING COMPLETION DATE:

DEPTH: 5658'

ADDITIONAL INFORMATION: None

BACA FILES

WELL IDENTIFICATION SHEET

WELL: BACA #3

COORDINATES:

COORDINATE SYSTEM:

ELEVATION:

MEASURED FROM:

DRILLING START DATE:

DRILLING COMPLETION DATE:

DEPTH: ~2200'

ADDITIONAL INFORMATION: None

BACA FILES

WELL IDENTIFICATION SHEET

WELL: BACA #4

COORDINATES:

COORDINATE SYSTEM:

ELEVATION: 8319'

MEASURED FROM:

DRILLING START DATE:

DRILLING COMPLETION DATE:

DEPTH: 6378'

ADDITIONAL INFORMATION: None

DAILY TESTING REPORTS

WELL #: 4

RECEIVED:

[illegible]

TEMPERATURE AND PRESSURE GRADIENT RECORDS

(T) = TEMPERATURE ONLY; (P) = PRESSURE ONLY

WELL #: 4

RECEIVED:

<u>10 - 05 - 72</u>	<u>03 - 08 - 74</u>	<u>11 - 08 - 75</u>
<u>10 - 13 - 72</u>	<u>07 - 23 - 74</u>	<u>11 - 13 - 75</u>
<u>10 - 29 - 72</u>	<u>10 - 17 - 74</u>	<u>11 - 18 - 75</u>
<u>12 - 02 - 72</u>	<u>11 - 07 - 74</u>	<u>11 - 25 - 75</u>
<u>12 - 13 - 72</u>	<u>11 - 11 - 74</u>	<u>12 - 04 - 75</u>
<u>01 - 10 - 73</u>	<u>01 - 10 - 75</u>	<u>12 - 13 - 75</u>
<u>05 - 28 - 73</u>	<u>02 - 12 - 75</u>	<u>12 - 17 - 75</u>
<u>08 - 08 - 73</u>	<u>03 - 05 - 75</u>	<u>12 - 22 - 75</u>
<u>08 - 09 - 73</u>	<u>05 - 06 - 75</u>	<u>01 - 06 - 76</u>
<u>09 - 7-8 - 73</u>	<u>09 - 10 - 75</u>	<u>01 - 20 - 76</u>
<u>11 - 13-15 - 73</u>	<u>09 - 15 - 75</u>	<u>01 - 25 - 76</u>
<u>11 - 16 - 73</u>	<u>10 - 06 - 75</u>	<u>02 - 03 - 76</u>
<u>11 - 17 - 73</u>	<u>10 - 13 - 75</u>	<u>02 - 13 - 76</u>
<u>11 - 19 - 73</u>	<u>10 - 20 - 75</u>	<u>02 - 26 - 76</u>
<u>12 - 03 - 73</u>	<u>10 - 28 - 75</u>	<u>03 - 06 - 76</u>
<u>12 - 17 - 73</u>	<u>11 - 03 - 75</u>	<u>03 - 12 - 76</u>

TEMPERATURE AND PRESSURE GRADIENT RECORDS
(T) = TEMPERATURE ONLY; (P) = PRESSURE ONLY

WELL #: 4 (cont.)

RECEIVED:

<u>03 - 19 - 76</u>	<u>10 -11-12 - 76</u>	<u>07 - 13 - 82</u>
<u>04 - 06 - 76</u>	<u>10 - 21 - 82</u>	<u>07 - 14 - 82</u>
<u>04 - 12 - 76</u>	<u>10 - 22 - 82</u>	<u>07 - 15 - 82</u>
<u>04 - 22 - 76</u>	<u>10 -22-23 - 82</u>	<u>07 - 16 - 82</u>
<u>04 - 27 - 76</u>	<u>10 - 25 - 82</u>	<u>07 - 19 - 82</u>
<u>05 - 03 - 76</u>	<u>10 - 27 - 82</u>	<u>07 - 21 - 82</u>
<u>05 - 06 - 76</u>	<u>06 - 07 - 82</u>	<u>07 - 27 - 82</u>
<u>05 - 11 - 76</u>	<u>06 - 14 - 82</u>	<u>08 - 03 - 82</u>
<u>05 - 17 - 76</u>	<u>06 - 15 - 82</u>	<u>- -</u>
<u>05 - 24 - 76</u>	<u>06 - 16 - 82</u>	<u>- -</u>
<u>06 - 22 - 76</u>	<u>06 - 17 - 82</u>	<u>- -</u>
<u>06 - 29 - 76</u>	<u>06 - 18 - 82</u>	<u>- -</u>
<u>07 - 02 - 76</u>	<u>06 - 21 - 82</u>	<u>- -</u>
<u>07 - 08 - 76</u>	<u>06 - 25 - 82</u>	<u>- -</u>
<u>09 - 20 - 76</u>	<u>06 - 29 - 82</u>	<u>- -</u>
<u>09 - 22 - 76</u>	<u>07 - 12 - 82</u>	<u>- -</u>

RECEIVED:

[illegible]

PRODUCED FLUIDS AND GAS ANALYSES

WELL # 4

RECEIVED:

COMPOSITIONAL ANALYSIS - 1-4-71

COMPOSITIONAL ANALYSIS - 8-16-73

COMPOSITIONAL ANALYSES - SEPT '73

COMPOSITIONAL ANALYSIS - 9-24-73

COMPOSITIONAL ANALYSIS - 10-3-73

COMPOSITIONAL ANALYSES - NOV '73

COMPOSITIONAL ANALYSIS - 11-5-73

COMPOSITIONAL ANALYSES - 5-6-81

OTHER Flowtest Production Data (Geochemistry)

WELL #: 4

RECEIVED:

<u>08 - 16 - 73</u>	<u>11 - 05 - 73</u>	<u>- -</u>
<u>09 - 13 - 73</u>	<u>11 - 09 - 73</u>	<u>- -</u>
<u>09 - 21 - 73</u>	<u>- -</u>	<u>- -</u>
<u>09 - 24 - 73</u>	<u>- -</u>	<u>- -</u>
<u>09 - 28 - 73</u>	<u>- -</u>	<u>- -</u>
<u>10 - 01 - 73</u>	<u>- -</u>	<u>- -</u>
<u>10 - 05 - 73</u>	<u>- -</u>	<u>- -</u>
<u>10 - 08 - 73</u>	<u>- -</u>	<u>- -</u>
<u>10 - 12 - 73</u>	<u>- -</u>	<u>- -</u>
<u>10 - 15 - 73</u>	<u>- -</u>	<u>- -</u>
<u>10 - 19 - 73</u>	<u>- -</u>	<u>- -</u>
<u>10 - 22 - 73</u>	<u>- -</u>	<u>- -</u>
<u>10 - 26 - 73</u>	<u>- -</u>	<u>- -</u>
<u>10 - 29 - 73</u>	<u>- -</u>	<u>- -</u>
<u>11 - 01 - 73</u>	<u>- -</u>	<u>- -</u>
<u>11 - 02 - 73</u>	<u>- -</u>	<u>- -</u>

BACA FILES

WELL IDENTIFICATION SHEET

WELL: BACA 5A

COORDINATES: 35.8777°N Latitude; 106.5783°W Longitude

COORDINATE SYSTEM:

ELEVATION: 9290'

MEASURED FROM: Kelly Bushing 18' from ground

DRILLING START DATE: 8-13-71

DRILLING COMPLETION DATE: 9-20-71

DEPTH: 6973'

ADDITIONAL INFORMATION:

RECEIVED:

- - to - -

 - to -

_____ to _____

 - to -

_____ to _____

_____ to _____

 - - to - -

_____ to _____

 - - to - -

_____ to _____

 - to -

 - to -

_____ to _____

_____ to _____

 - - to - -

 - to -

 - to -

- - to - -

 - to -

- - to - -

 - - to - -

- - to - -

 - to -

- - to - -

_____ to _____

- - - to - - -

_____ to _____

- - to - -

_____ to _____

- - - to - - -

- - to - -

TEMPERATURE AND PRESSURE GRADIENT RECORDS
(T) = TEMPERATURE ONLY; (P) = PRESSURE ONLY

WELL #: 5

RECEIVED:

<u>10 - 06 - 72</u>	<u>- -</u>	<u>- -</u>
<u>10 - 12 - 72</u>	<u>- -</u>	<u>- -</u>
<u>10 - 14 - 72</u>	<u>- -</u>	<u>- -</u>
<u>10 - 29 - 72</u>	<u>- -</u>	<u>- -</u>
<u>12 - 02 - 72</u>	<u>- -</u>	<u>- -</u>
<u>01 - 11 - 73</u>	<u>- -</u>	<u>- -</u>
<u>01 - 12 - 73</u>	<u>- -</u>	<u>- -</u>
<u>05 - 28 - 73</u>	<u>- -</u>	<u>- -</u>
<u>05 - 29 - 73</u>	<u>- -</u>	<u>- -</u>
<u>08 - 05 - 73</u>	<u>- -</u>	<u>- -</u>
<u>11 - 29 - 73</u>	<u>- -</u>	<u>- -</u>
<u>03 - 07 - 74</u>	<u>- -</u>	<u>- -</u>
<u>09 - 04 - 74</u>	<u>- -</u>	<u>- -</u>
<u>06 - 24 - 76</u>	<u>- -</u>	<u>- -</u>
<u>- -</u>	<u>- -</u>	<u>- -</u>
<u>- -</u>	<u>- -</u>	<u>- -</u>

INTERFERENCE PRESSURE DATA

WELL #: 5A

RECEIVED:

<u>05 - 12 - 81</u>	to	<u>09 - 25 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>09 - 28 - 81</u>	to	<u>10 - 01 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>10 - 05 - 81</u>	to	<u>10 - 09 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>10 - 12 - 81</u>	to	<u>10 - 16 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>10 - 19 - 81</u>	to	<u>10 - 30 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 02 - 81</u>	to	<u>11 - 06 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 09 - 81</u>	to	<u>11 - 13 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 16 - 81</u>	to	<u>11 - 20 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 23 - 81</u>	to	<u>11 - 25 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 30 - 81</u>	to	<u>12 - 04 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>12 - 07 - 81</u>	to	<u>12 - 14 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>12 - 14 - 81</u>	to	<u>01 - 08 - 82</u>	<u>- -</u>	to	<u>- -</u>
<u>01 - 11 - 82</u>	to	<u>01 - 29 - 82</u>	<u>- -</u>	to	<u>- -</u>
<u>- -</u>	to	<u>- -</u>	<u>- -</u>	to	<u>- -</u>
<u>- -</u>	to	<u>- -</u>	<u>- -</u>	to	<u>- -</u>
<u>- -</u>	to	<u>- -</u>	<u>- -</u>	to	<u>- -</u>

PRODUCED FLUIDS AND GAS ANALYSES

WELL # 5

RECEIVED:

COMPOSITIONAL ANALYSES 10-15-71

SUSPENDED SOLIDS TESTS 11-07-73

FLOW DATA 10-14-76

This image shows a single page of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper appears to be from a notebook or a standard ruled sheet of paper. There is no handwriting or other markings on the page.

BACA FILES

WELL IDENTIFICATION SHEET

WELL: BACA 6

COORDINATES: 35.8880°N Latitude; 106.5823°W Longitude

COORDINATE SYSTEM:

ELEVATION: 8726'

MEASURED FROM: ground surface

DRILLING START DATE: 03-01-75 (from 3715')

DRILLING COMPLETION DATE: 04-14-75 (Deepened)

DEPTH: 4810'

ADDITIONAL INFORMATION:

TEMPERATURE AND PRESSURE GRADIENT RECORDS
(T) = TEMPERATURE ONLY; (P) = PRESSURE ONLY

WELL #: 6

RECEIVED:

<u>10 - 15 - 72</u>	<u>08 - 03 - 73</u>	<u>08 - 19 - 75</u>
<u>10 - 16 - 72</u>	<u>09 - 19 - 20 - 73</u>	<u>08 - 20 - 75</u>
<u>10 - 24 - 72</u>	<u>10 - 04 - 73</u>	<u>08 - 21 - 75</u>
<u>11 - 03 - 72</u>	<u>10 - 14 - 73</u>	<u>08 - 27 - 75</u>
<u>11 - 05 - 72</u>	<u>10 - 24 - 73</u>	<u>09 - 30 - 75</u>
<u>11 - 06 - 72</u>	<u>11 - 02 - 73</u>	<u>06 - 25 - 76</u>
<u>01 - 14 - 73</u>	<u>11 - 08 - 73</u>	<u>- -</u>
<u>01 - 16 - 73</u>	<u>12 - 10 - 73</u>	<u>- -</u>
<u>01 - 17 - 73</u>	<u>12 - 19 - 73</u>	<u>- -</u>
<u>01 - 18 - 73</u>	<u>03 - 02 - 74</u>	<u>- -</u>
<u>01 - 19 - 73</u>	<u>07 - 17 - 74</u>	<u>- -</u>
<u>01 - 20 - 73</u>	<u>10 - 03 - 74</u>	<u>- -</u>
<u>01 - 17 - 20 - 73</u>	<u>10 - 04 - 74</u>	<u>- -</u>
<u>01 - 31 - 73</u>	<u>02 - 14 - 75</u>	<u>- -</u>
<u>02 - 01 - 73</u>	<u>05 - 27 - 75</u>	<u>- -</u>
<u>05 - 29 - 73</u>	<u>06 - 05 - 75</u>	<u>- -</u>

INTERFERENCE PRESSURE DATA

WELL #: 6

RECEIVED:

<u>05 - 15 - 81</u>	to	<u>09 - 25 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>09 - 28 - 81</u>	to	<u>10 - 01 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>10 - 05 - 81</u>	to	<u>10 - 09 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>10 - 12 - 81</u>	to	<u>10 - 16 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>10 - 19 - 81</u>	to	<u>10 - 30 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 02 - 81</u>	to	<u>11 - 06 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 09 - 81</u>	to	<u>11 - 13 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 16 - 81</u>	to	<u>11 - 20 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 23 - 81</u>	to	<u>11 - 25 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 30 - 81</u>	to	<u>12 - 04 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>12 - 07 - 81</u>	to	<u>12 - 11 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>12 - 14 - 81</u>	to	<u>01 - 08 - 82</u>	<u>- -</u>	to	<u>- -</u>
<u>12 - 28 - 81</u>	to	<u>06 - 02 - 82</u>	<u>- -</u>	to	<u>- -</u>
<u>05 - 21 - 82</u>	to	<u>09 - 01 - 82</u>	<u>- -</u>	to	<u>- -</u>
<u>08 - 20 - 82</u>	to	<u>10 - 04 - 82</u>	<u>- -</u>	to	<u>- -</u>
<u>09 - 25 - 82</u>	to	<u>11 - 03 - 82</u>	<u>- -</u>	to	<u>- -</u>

PRODUCED FLUIDS AND GAS ANALYSES

WELL # 6

RECEIVED:

NON-CONDENSABLE GASES ANALYSES -
10-14-72

COMPOSITIONAL ANALYSES - 10-20-72

COMPOSITIONAL ANALYSES - 10-26-27-72

COMPOSITIONAL ANALYSES - 11-09-72

COMPOSITIONAL ANALYSES - 12-20-72

COMPOSITIONAL ANALYSES - 01-13-73

COMPOSITIONAL ANALYSES - 08-13-75

COMPOSITIONAL ANALYSES - NOV '75

RECEIVED:

BACA FILES

WELL IDENTIFICATION SHEET

WELL: BACA #7

COORDINATES: 35.9372°N; 106.5912°W

COORDINATE SYSTEM: Lat./Long

ELEVATION: 8724'

MEASURED FROM: ground surface

DRILLING START DATE: 07-26-72

DRILLING COMPLETION DATE: 08-15-72

DEPTH: 5532' (from Kelly Bushing; 14' off ground)

ADDITIONAL INFORMATION:

[illegible]

BACA FILES

WELL IDENTIFICATION SHEET

WELL: BACA #8

COORDINATES: 35.9173°N°; 106.5898°W

COORDINATE SYSTEM: Lat./Long.

ELEVATION: 8631'

MEASURED FROM: Kelly bushing, 14' off ground

DRILLING START DATE: 08-16-72

DRILLING COMPLETION DATE: 09-13-72

DEPTH: 4384' (from Kelly bushing)

ADDITIONAL INFORMATION:

BACA FILES

WELL IDENTIFICATION SHEET

WELL: BACA #9

COORDINATES: 35.8825°N; 106.5868°W

COORDINATE SYSTEM: Lat./Long.

ELEVATION: 8605'

MEASURED FROM: ground surface

DRILLING START DATE: 09-16-72

DRILLING COMPLETION DATE: 11-22-72

DEPTH: 5303' (from Kelly bushing, 14')

ADDITIONAL INFORMATION:

BACA FILES

WELL IDENTIFICATION SHEET

WELL: BACA #10

COORDINATES: SEC10, T19N, R3E

COORDINATE SYSTEM:

ELEVATION: 8734'

MEASURED FROM:

DRILLING START DATE: 07-05-73

DRILLING COMPLETION DATE: 09-18-73

DEPTH: 6001'

ADDITIONAL INFORMATION:

TEMPERATURE AND PRESSURE GRADIENT RECORDS
(T) = TEMPERATURE ONLY; (P) = PRESSURE ONLY

WELL #: 10

RECEIVED:

<u>10 - 03 - 73</u>	<u>02 - 10 - 75</u>	<u>12 - 14 - 75</u>
<u>11 - 18 - 73</u>	<u>04 - 24 - 75</u>	<u>12 - 18 - 75</u>
<u>11 - 27 - 73</u>	<u>09 - 03 - 75</u>	<u>01 - 22 - 76</u>
<u>12 - 06 - 73</u>	<u>09 - 04 - 75</u>	<u>03 - 09 - 76</u>
<u>03 - 04 - 74</u>	<u>09 - 08 - 75</u>	<u>03 - 18 - 76</u>
<u>03 - 05 - 74</u>	<u>09 - 12 - 75</u>	<u>04 - 14 - 76</u>
<u>03 - 09 - 74</u>	<u>09 - 17 - 75</u>	<u>10 - 18 - 76</u>
<u>03 - 10 - 74</u>	<u>10 - 09 - 75</u>	<u>- -</u>
<u>03 - 11 - 74</u>	<u>10 - 21 - 75</u>	<u>- -</u>
<u>03 - 15 - 74</u>	<u>10 - 22 - 75</u>	<u>- -</u>
<u>03 - 21 - 74</u>	<u>10 - 30 - 75</u>	<u>- -</u>
<u>05 - 16 - 74</u>	<u>11 - 05 - 75</u>	<u>- -</u>
<u>07 - 26 - 74</u>	<u>11 - 10 - 75</u>	<u>- -</u>
<u>07 - 27 - 74</u>	<u>11 - 20 - 75</u>	<u>- -</u>
<u>08 - 06 - 74</u>	<u>11 - 26 - 75</u>	<u>- -</u>
<u>12 - 31 - 74</u>	<u>12 - 05 - 75</u>	<u>- -</u>

BACA FILES

WELL IDENTIFICATION SHEET

WELL: BACA #11

COORDINATES: 35.8950°N; 106.5760°W

COORDINATE SYSTEM: Lat./Long.

ELEVATION: 9065'

MEASURED FROM: ground surface

DRILLING START DATE: 09-26-73

DRILLING COMPLETION DATE: 11-13-73

DEPTH: 6924' (from Kelly bushing, 17')

ADDITIONAL INFORMATION:

TEMPERATURE AND PRESSURE GRADIENT RECORDS
(T) = TEMPERATURE ONLY; (P) = PRESSURE ONLY

WELL #: 11

RECEIVED:

12 - 07 - 73

03 - 13 - 74

05 - 01 - 74

12 - 13 - 73

03 - 14 - 74

05 - 02 - 74

12 - 22 - 73

03 - 15 - 74

05 - 07 - 74

12 - 23 - 73

03 - 16 - 74

05 - 10 - 74

12 - 29 - 73

03 - 20 - 74

05 - 14 - 74

12 - 30 - 73

03 - 26 - 74

05 - 22 - 74

12 - 31 - 73

03 - 27 - 74

09 - 19 - 74

01 - 24 - 74

03 - 28 - 74

10 - 16 - 74

01 - 25 - 74

03 - 30 - 74

11 - 17 - 74

01 - 26 - 74

04 - 04 - 74

11 - 18 - 74

02 - 25 - 74

04 - 08 - 74

11 - 19 - 74

02 - 26 - 74

04 - 11 - 74

11 - 21 - 74

02 - 27 - 74

04 - 18 - 74

12 - 09 - 74

02 - 28 - 74

04 - 21 - 74

12 - 16 - 74

03 - 09 - 74

04 - 22 - 74

12 - 18 - 74

03 - 12 - 74

04 - 26 - 74

12 - 19 - 74

TEMPERATURE AND PRESSURE GRADIENT RECORDS
(T) = TEMPERATURE ONLY; (P) = PRESSURE ONLY

WELL #: 11 (cont.)

RECEIVED:

12 - 22 - 74	04 - 30 - 76	09 - 16 - 76
01 - 04 - 75	05 - 02 - 76	09 - 28 - 76
01 - 24 - 75	05 - 04 - 76	10 - 05 - 76
01 - 25 - 75	05 - 06 - 76	- -
02 - 11 - 75	05 - 10 - 76	- -
03 - 26 - 75	05 - 14 - 76	- -
04 - 01 - 75	05 - 18 - 76	- -
05 - 09 - 75	05 - 21 - 76	- -
09 - 26 - 75	05 - 22 - 76	- -
04 - 19 - 76	05 - 28 - 76	- -
04 - 20 - 76	06 - 01 - 76	- -
04 - 21 - 76	06 - 04 - 76	- -
04 - 22 - 76	06 - 07 - 76	- -
04 - 24 - 76	06 - 11 - 76	- -
04 - 27 - 76	06 - 15 - 76	- -
04 - 28 - 76	06 - 21 - 76	- -

PRODUCED FLUIDS AND GAS ANALYSES

WELL # 11

RECEIVED:

COMPOSITIONAL ANALYSES 01-23-74

COMPOSITIONAL ANALYSES 07-24-74

CONDENSATE TESTS 09-06-74

COMPOSITIONAL ANALYSES 09-16, 09-20-74

BETA RADIATION 11-04-74

STEAM CONDENSATE 11-11-74

COMPOSITIONAL ANALYSES NOV. 1975

COMPOSITIONAL ANALYSES JAN. 1976

PRODUCTION ANALYSES FEB. 1976

PRODUCTION ANALYSES APRIL 1976

RECEIVED:

[illegible]

BACA FILES

WELL IDENTIFICATION SHEET

WELL: BACA #12

COORDINATES: SEC14, T19N, R3E; 1,773,160'N; 399,360'E; 4,180' fnl, 2820'fel

COORDINATE SYSTEM: New Mexico State Coordinates

ELEVATION: 8427' (ground) 8451' (Kelly bushing)

MEASURED FROM:

DRILLING START DATE: 06-27-81

DRILLING COMPLETION DATE: 09-06-81

DEPTH: 10,637'

ADDITIONAL INFORMATION:

TEMPERATURE AND PRESSURE GRADIENT RECORDS
(T) = TEMPERATURE ONLY; (P) = PRESSURE ONLY

WELL #: 12

RECEIVED:

<u>07 - 07 - 74</u>	<u>08 - 24 - 76</u>	<u>06 - 09 - 80</u>
<u>09 - 20 - 74</u>	<u>09 - 07 - 76</u>	<u>07 - 07 - 81</u>
<u>09 - 23 - 74</u>	<u>09 - 11 - 76</u>	<u>08 - 03 - 81</u>
<u>09 - 24 - 74</u>	<u>11 - 30 - 76</u>	<u>09 - 01 - 81 (T)</u>
<u>09 - 28 - 74</u>	<u>12 - 15 - 76</u>	<u>01 - 08 - 82</u>
<u>10 - 02 - 74</u>	<u>12 - 22 - 76</u>	<u>06 - 04 - 82</u>
<u>10 - 03 - 74</u>	<u>03 - 31 - 77</u>	<u>- -</u>
<u>10 - 04 - 74</u>	<u>06 - 14 - 77</u>	<u>- -</u>
<u>10 - 09 - 74</u>	<u>12 - 17 - 77</u>	<u>- -</u>
<u>10 - 14 - 74</u>	<u>05 - 05 - 80 (P, P, T)</u>	<u>- -</u>
<u>10 - 15 - 74</u>	<u>05 - 06 - 80 (P)</u>	<u>- -</u>
<u>10 - 21 - 74</u>	<u>05 - 6-7 - 80</u>	<u>- -</u>
<u>05 - 01 - 75</u>	<u>05 - 08 - 80</u>	<u>- -</u>
<u>07 - 13 - 76</u>	<u>05 - 09 - 80</u>	<u>- -</u>
<u>07 - 14 - 76</u>	<u>05 - 12 - 80</u>	<u>- -</u>
<u>07 - 30 - 76</u>	<u>05 - 19 - 80</u>	<u>- -</u>

RECEIVED:

 - - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - - to - - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - - to - - -

- - to - -

to the

AVERAGE ANGLE METHOD

WELL #: 12

RECEIVED:

09 - 04 - 81

[illegible]

RECEIVED:

07 - 31 - 81 to 08 - 06 - 81

_____ to _____

08 - 07 - 81 to 08 - 13 - 81

- - to - -

08 - 14 - 81 to 08 - 20 - 81

- - to - -

08 - 21 - 81 to 08 - 27 - 81

- - to - -

08 - 28 - 81 to 09 - 03 - 81

- - to - -

09 - 04 - 81 to 09 - 24 - 81

- - - to - - -

_____ to _____

- - to - -

_____ to _____

- - to - -

_____ to _____

- - to - -

_____ to _____

- - to - -

_____ to _____

- - to - -

 to

- - to - -

 - to -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

— — — to — — —

RECEIVED:

1000

1000

PRODUCED FLUIDS AND GAS ANALYSES

WELL # 12

RECEIVED:

REINJECTION WATER COMPOSITION 01-22-76

PRODUCTION ANALYSES 02-25-76

PRODUCTION ANALYSES 04-07-76

BACA FILES

WELL IDENTIFICATION SHEET

WELL: BACA #13

COORDINATES: Sec 12, T19N, R3E

COORDINATE SYSTEM:

ELEVATION: 9292' (ground) 9314' (Kelly bushing)

MEASURED FROM:

DRILLING START DATE: 08-23-74

DRILLING COMPLETION DATE: 11-05-74

DEPTH: 8228'

ADDITIONAL INFORMATION:

RECEIVED:

[illegible]

TEMPERATURE AND PRESSURE GRADIENT RECORDS
(T) = TEMPERATURE ONLY; (P) = PRESSURE ONLY

WELL #: 13

RECEIVED:

<u>11 - 26 - 74</u>	<u>04 - 27 - 76</u>	<u>05 - 28 - 76</u>
<u>11 - 29 - 74</u>	<u>04 - 28 - 76</u>	<u>06 - 03 - 76</u>
<u>03 - 21 - 75</u>	<u>04 - 29 - 76</u>	<u>06 - 28 - 76</u>
<u>04 - 04 - 75</u>	<u>04 - 30 - 76</u>	<u>07 - 01 - 76</u>
<u>04 - 15 - 75</u>	<u>05 - 01 - 76</u>	<u>07 - 07 - 76 (T)</u>
<u>04 - 25 - 75</u>	<u>05 - 02 - 76</u>	<u>09 - 28 - 76</u>
<u>09 - 27 - 75</u>	<u>05 - 03 - 76</u>	<u>10 - 22 - 76 (T)</u>
<u>01 - 24 - 75</u>	<u>05 - 04 - 76</u>	<u>06 - 30 - 77</u>
<u>02 - 19 - 75</u>	<u>05 - 07 - 76 (T)</u>	<u>09 - 15 - 77</u>
<u>02 - 25 - 75</u>	<u>05 - 20 - 76</u>	<u>08 - 05 - 80</u>
<u>02 - 26 - 75</u>	<u>07 - 07 - 76 (T)</u>	<u>09 - 11 - 80</u>
<u>02 - 28 - 75</u>	<u>05 - 09 - 76</u>	<u>03 - 02 - 81</u>
<u>03 - 03 - 75</u>	<u>05 - 11 - 76</u>	<u>05 - 13 - 81</u>
<u>03 - 06 - 75</u>	<u>05 - 13 - 76</u>	<u>05 - 13-14 - 81</u>
<u>03 - 20 - 75</u>	<u>05 - 17 - 76</u>	<u>05 - 14 - 81</u>
<u>04 - 25 - 76</u>	<u>05 - 24 - 76</u>	<u>05 - 19 - 81</u>

TEMPERATURE AND PRESSURE GRADIENT RECORDS
(T) = TEMPERATURE ONLY; (P) = PRESSURE ONLY

WELL #: 13 (cont.)

RECEIVED:

05 - 20 - 81	06 - 23 - 82	- -
05 - 21 - 81	07 - 06 - 82	- -
02 - 09 - 82	07 - 07 - 82	- -
04 - 13-16 - 82	07 - 08 - 82	- -
04 - 19 - 82	07 - 09 - 82	- -
04 - 23 - 82	07 - 10 - 82	- -
05 - 03 - 82	07 - 12 - 82	- -
05 - 12 - 82	07 - 13 - 82	- -
06 - 01 - 82	07 - 14 - 82	- -
06 - 07 - 82	07 - 16 - 82	- -
06 - 08 - 82	07 - 22 - 82	- -
06 - 09 - 82	07 - 30 - 82	- -
06 - 10 - 82	- -	- -
06 - 11 - 82	- -	- -
06 - 14 - 82	- -	- -
06 - 18 - 82	- -	- -

FLOWTEST # 5

WELL #: 13

RECEIVED:

03 - 05 - 81 to 04 - 21 - 81

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

FLOWTEST # 6

WELL #: 13

RECEIVED:

07 - 21 - 81 to 09 - 25 - 81

- - to - -

09 - 26 - 81 to 10 - 02 - 81

- - to - -

10 - 03 - 81 to 10 - 09 - 81

- - to - -

10 - 10 - 81 to 10 - 16 - 81

- - to - -

10 - 17 - 81 to 10 - 30 - 81

- - to - -

10 - 31 - 81 to 11 - 06 - 81

- - - to - - -

11 - 07 - 81 to 11 - 20 - 81

- - to - -

11 - 21 - 81 to 11 - 27 - 81

- - to - -

11 - 28 - 81 to 12 - 04 - 81

_____ to _____

12 - 05 - 81 to 12 - 11 - 81

- - to - -

12 - 12 - 81 to 12 - 18 - 81

- - to - -

- - to - -

_____ to _____

_____ to _____

_____ to _____

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

RECEIVED:

[illegible]

PRODUCED FLUIDS AND GAS ANALYSES

WELL # 13

RECEIVED:

COMPOSITIONAL ANALYSES 12-07-74

COMPOSITIONAL ANALYSES 01-15-75

COMPOSITIONAL ANALYSES JUNE 1975

COMPOSITIONAL ANALYSES 06-19-75

COMPOSITIONAL ANALYSES 10-15-75

COMPOSITIONAL ANALYSES 11-07-75

COMPOSITIONAL ANALYSES 01-11-76

PRODUCTION ANALYSES 02-26-76

PRODUCTION ANALYSES 04-07-76

OTHER Flowtest Production Data (Geochemistry)

WELL #: 13

RECEIVED:

[illegible]

BACA FILES

WELL IDENTIFICATION SHEET

WELL: BACA #14

COORDINATES: 35.8825°N; 106.5868°W

COORDINATE SYSTEM: Lat./Long.

ELEVATION: 8605'

MEASURED FROM: ground surface

DRILLING START DATE: 11-15-75

DRILLING COMPLETION DATE: 02-24-76

DEPTH: 6824'

ADDITIONAL INFORMATION:

TEMPERATURE AND PRESSURE GRADIENT RECORDS
(T) = TEMPERATURE ONLY; (P) = PRESSURE ONLY

WELL #: 14

RECEIVED:

02 - 07 -75	- -	- -
02 - 20 -75	05 - 25 - 82	- -
02 - 21 -75	- -	- -
08 - 12 -76	- -	- -
08 - 13 -76	- -	- -
06 - 02 -80	- -	- -
06 - 03 -80	- -	- -
06 - 04 -80	- -	- -
06 - 05 -80	- -	- -
06 - 06 -80	- -	- -
06 - 07 -80	- -	- -
06 - 09 -80	- -	- -
06 - 16 -80	- -	- -
07 - 09 -80	- -	- -
05 - 15 -8]	- -	- -
06 - 17 -8]	- -	- -

INTERFERENCE PRESSURE DATA

WELL #: 14

RECEIVED:

<u>06 - 19 - 81</u>	to	<u>09 - 25 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>09 - 28 - 81</u>	to	<u>10 - 01 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>10 - 05 - 81</u>	to	<u>10 - 09 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>10 - 12 - 81</u>	to	<u>10 - 16 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>10 - 19 - 81</u>	to	<u>10 - 30 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 02 - 81</u>	to	<u>11 - 06 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 09 - 81</u>	to	<u>11 - 13 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 16 - 81</u>	to	<u>11 - 20 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 23 - 81</u>	to	<u>11 - 25 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 30 - 81</u>	to	<u>12 - 04 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>12 - 05 - 81</u>	to	<u>12 - 11 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>12 - 14 - 81</u>	to	<u>01 - 08 - 82</u>	<u>- -</u>	to	<u>- -</u>
<u>12 - 30 - 81</u>	to	<u>05 - 24 - 82</u>	<u>- -</u>	to	<u>- -</u>
<u>- -</u>	to	<u>- -</u>	<u>- -</u>	to	<u>- -</u>
<u>- -</u>	to	<u>- -</u>	<u>- -</u>	to	<u>- -</u>
<u>- -</u>	to	<u>- -</u>	<u>- -</u>	to	<u>- -</u>

WATER INJECTION

WELL #: 14

RECEIVED:

<u>06 - 02 - 80</u>	to	<u>06 - 05 - 80</u>	<u>- -</u>	to	<u>- -</u>
<u>09 - 24 - 80</u>	to	<u>01 - 06 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>03 - 05 - 81</u>	to	<u>03 - 31 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>07 - 01 - 81</u>	to	<u>07 - 07 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>07 - 17 - 81</u>	to	<u>07 - 31 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>08 - 01 - 81</u>	to	<u>08 - 31 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>09 - 01 - 81</u>	to	<u>09 - 15 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>10 - 09 - 81</u>	to	<u>10 - 31 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 01 - 81</u>	to	<u>11 - 30 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>12 - 01 - 81</u>	to	<u>12 - 18 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>01 - 11 - 82</u>	to	<u>02 - 03 - 82</u>	<u>- -</u>	to	<u>- -</u>
<u>06 - 02 - 82</u>	to	<u>06 - 25 - 82</u>	<u>- -</u>	to	<u>- -</u>
<u>06 - 30 - 82</u>	to	<u>08 - 30 - 82</u>	<u>- -</u>	to	<u>- -</u>
<u>08 - 30 - 82</u>	to	<u>09 - 27 - 82</u>	<u>- -</u>	to	<u>- -</u>
<u>10 - 07 - 82</u>	to	<u>10 - 18 - 82</u>	<u>- -</u>	to	<u>- -</u>
<u>- -</u>	to	<u>- -</u>	<u>- -</u>	to	<u>- -</u>

BACA FILES

WELL IDENTIFICATION SHEET

WELL: BACA #15

COORDINATES: 35.8946°N; 106.5803°W

COORDINATE SYSTEM: Lat./Long.

ELEVATION: 9117'

MEASURED FROM: ground surface

DRILLING START DATE: 04-29-75

DRILLING COMPLETION DATE: 06-12-75

DEPTH: 5505'

ADDITIONAL INFORMATION:

RECEIVED:

[illegible]

TEMPERATURE AND PRESSURE GRADIENT RECORDS
(T) = TEMPERATURE ONLY; (P) = PRESSURE ONLY

WELL #: 15

RECEIVED:

<u>06 - 26 - 75</u>	<u>11 - 09 - 75</u>	<u>05 - 05 - 76</u>
<u>07 - 03 - 75</u>	<u>12 - 02 - 75</u>	<u>05 - 12 - 76</u>
<u>07 - 14 - 75</u>	<u>12 - 08 - 75</u>	<u>05 - 19 - 76</u>
<u>07 - 15 - 75</u>	<u>12 - 15 - 75</u>	<u>06 - 22 - 76</u>
<u>07 - 16 - 75</u>	<u>12 - 19 - 75</u>	<u>06 - 29 - 76</u>
<u>07 - 18 - 75</u>	<u>02 - 12 - 76</u>	<u>07 - 01 - 76</u>
<u>07 - 23 - 75</u>	<u>02 - 04 - 76</u>	<u>07 - 08 - 76</u>
<u>07 - 25 - 75</u>	<u>02 - 23 - 76</u>	<u>09 - 03 - 76</u>
<u>07 - 31 - 75</u>	<u>03 - 03 - 76</u>	<u>09 - 28 - 76</u>
<u>08 - 14 - 75</u>	<u>03 - 10 - 76</u>	<u>10 - 05 - 76</u>
<u>09 - 18 - 75</u>	<u>03 - 18 - 76</u>	<u>06 - 24 - 82</u>
<u>09 - 19 - 75</u>	<u>04 - 02 - 76</u>	<u>06 - 25 - 82</u>
<u>10 - 08 - 75</u>	<u>04 - 05 - 76</u>	<u>06 - 30 - 82</u>
<u>10 - 23 - 75</u>	<u>04 - 06 - 76</u>	<u>07 - 01 - 82</u>
<u>10 - 24 - 75</u>	<u>04 - 23 - 76</u>	<u>07 - 02 - 82</u>
<u>11 - 04 - 75</u>	<u>04 - 27 - 76</u>	<u>07 - 06 - 82</u>

TEMPERATURE AND PRESSURE GRADIENT RECORDS
(T) = TEMPERATURE ONLY; (P) = PRESSURE ONLY

WELL #: 15 (cont.)

RECEIVED:

<u>07 - 14 - 82</u>	<u>09 - 16 - 82</u>	<u>- -</u>
<u>07 - 20 - 82</u>	<u>09 - 23 - 82</u>	<u>- -</u>
<u>07 - 26 - 82</u>	<u>- -</u>	<u>- -</u>
<u>07 - 27 - 82</u>	<u>- -</u>	<u>- -</u>
<u>07 - 28 - 82</u>	<u>- -</u>	<u>- -</u>
<u>07 - 29 - 82</u>	<u>- -</u>	<u>- -</u>
<u>07 - 30 - 82</u>	<u>- -</u>	<u>- -</u>
<u>08 - 02 - 82</u>	<u>- -</u>	<u>- -</u>
<u>08 - 05 - 82</u>	<u>- -</u>	<u>- -</u>
<u>08 - 10 - 82</u>	<u>- -</u>	<u>- -</u>
<u>08 - 27 - 82</u>	<u>- -</u>	<u>- -</u>
<u>09 - 08 - 82 (p)</u>	<u>- -</u>	<u>- -</u>
<u>09 - 09 - 82</u>	<u>- -</u>	<u>- -</u>
<u>09 - 10 - 82</u>	<u>- -</u>	<u>- -</u>
<u>09 - 11 - 82</u>	<u>- -</u>	<u>- -</u>
<u>09 - 13 - 82</u>	<u>- -</u>	<u>- -</u>

WATER INJECTION

WELL #: 15

RECEIVED:

[illegible]

PRODUCED FLUIDS AND GAS ANALYSES

WELL # 15

RECEIVED:

COMPOSITIONAL ANALYSES June 75

PRODUCTION ANALYSES Feb 76

COMPOSITIONAL ANALYSES 10-14-76

COMPOSITIONAL ANALYSES 11-04-76

COMPOSITIONAL ANALYSES 11-17, 11-22, 11-24-76

COMPOSITIONAL ANALYSES 01-04, 01-05-77

BACA FILES

WELL IDENTIFICATION SHEET

WELL: BACA #16

COORDINATES: 35.9037°N; 106.5688°W

COORDINATE SYSTEM: Lat./Long.

ELEVATION: 9622'

MEASURED FROM: ground surface

DRILLING START DATE: 06-19-75

DRILLING COMPLETION DATE: 08-21-75

DEPTH: 7002'

ADDITIONAL INFORMATION:

TEMPERATURE AND PRESSURE GRADIENT RECORDS
(T) = TEMPERATURE ONLY; (P) = PRESSURE ONLY

WELL #: 16

RECEIVED:

07 - 05 - 75	11 - 24 - 75	04 - 08 - 76
07 - 08 - 75	12 - 03 - 75	04 - 22 - 76
07 - 09 - 75	12 - 09 - 75	04 - 28 - 76
07 - 10 - 75	12 - 16 - 75	05 - 07 - 76
08 - 03 - 75	12 - 20 - 75	05 - 14 - 76
08 - 05 - 75	12 - 30 - 75	05 - 21 - 76
08 - 07 - 75	01 - 10 - 76	06 - 22 - 76
09 - 11 - 75	01 - 23 - 76	06 - 30 - 76
09 - 16 - 75	02 - 02 - 76	07 - 02 - 76
09 - 24 - 75	02 - 13 - 76	07 - 09 - 76
09 - 25 - 75	02 - 24 - 76	- -
10 - 07 - 75	03 - 03 - 76	- -
10 - 25 - 75	03 - 11 - 76	- -
10 - 31 - 75	03 - 19 - 76	- -
11 - 11 - 75	03 - 31 - 76	- -
11 - 17 - 75	04 - 07 - 76	- -

BACA FILES

WELL IDENTIFICATION SHEET

WELL: BACA #17

COORDINATES:

COORDINATE SYSTEM:

ELEVATION:

MEASURED FROM:

DRILLING START DATE:

DRILLING COMPLETION DATE:

DEPTH: 6254' (redrill)

ADDITIONAL INFORMATION: none

BACA FILES

WELL IDENTIFICATION SHEET

WELL: BACA #18

COORDINATES:

COORDINATE SYSTEM:

ELEVATION:

MEASURED FROM:

DRILLING START DATE:

DRILLING COMPLETION DATE:

DEPTH: 5250' (redrill 2)

ADDITIONAL INFORMATION: none

TEMPERATURE AND PRESSURE GRADIENT RECORDS
(T) = TEMPERATURE ONLY; (P) = PRESSURE ONLY

WELL #: 18

RECEIVED:

<u>06 - 22 - 81</u>	<u>05 - 12 - 82</u>	<u>- -</u>
<u>07 - 06 - 81</u>	<u>05 - 25 - 82</u>	<u>- -</u>
<u>01 - 26 - 82</u>	<u>08 - 09 - 82</u>	<u>- -</u>
<u>02 - 03 - 82</u>	<u>08 - 31 - 82</u>	<u>- -</u>
<u>03 - 09 - 82</u>	<u>09 - 01 - 82</u>	<u>- -</u>
<u>04 - 12 - 82</u>	<u>09 - 02 - 82</u>	<u>- -</u>
<u>04 - 13 - 82</u>	<u>09 - 03 - 82 T/Spin.</u>	<u>- -</u>
<u>04 - ¹³⁻¹⁴ 14 - 82</u>	<u>09 - 07 - 82 (p)</u>	<u>- -</u>
<u>04 - 15 - 82</u>	<u>7-8 (p)</u>	<u>- -</u>
<u>04 - 16 - 82</u>	<u>09 - 08 - 82</u>	<u>- -</u>
<u>04 - 19 - 82</u>	<u>09 - 8-9 - 82 (p)</u>	<u>- -</u>
<u>04 - 21 - 82</u>	<u>09 - 09 - 82</u>	<u>- -</u>
<u>04 - 23 - 82</u>	<u>09 - 10 - 82</u>	<u>- -</u>
<u>05 - 03 - 82</u>	<u>09 - 13 - 82</u>	<u>- -</u>
<u>05 - 04 - 82</u>	<u>09 - 17 - 82</u>	<u>- -</u>
<u>05 - 05 - 82</u>	<u>09 - 29 - 82</u>	<u>- -</u>
<u>05 - 05 - 82</u>	<u>- -</u>	<u>- -</u>

RECEIVED:

[illegible]

INTERFERENCE PRESSURE DATA

WELL #: 18

RECEIVED:

<u>07 - 22 - 81</u>	to	<u>07 - 29 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>07 - 23 - 81</u>	to	<u>09 - 25 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>09 - 28 - 81</u>	to	<u>10 - 01 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>10 - 05 - 81</u>	to	<u>10 - 09 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>10 - 12 - 81</u>	to	<u>10 - 16 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>10 - 19 - 81</u>	to	<u>10 - 30 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 02 - 81</u>	to	<u>11 - 06 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 09 - 81</u>	to	<u>11 - 13 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 16 - 81</u>	to	<u>11 - 20 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 23 - 81</u>	to	<u>11 - 25 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 30 - 81</u>	to	<u>12 - 04 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>12 - 07 - 81</u>	to	<u>12 - 11 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>12 - 14 - 81</u>	to	<u>01 - 08 - 82</u>	<u>- -</u>	to	<u>- -</u>
<u>12 - 31 - 81</u>	to	<u>01 - 25 - 82</u>	<u>- -</u>	to	<u>- -</u>
<u>- -</u>	to	<u>- -</u>	<u>- -</u>	to	<u>- -</u>
<u>- -</u>	to	<u>- -</u>	<u>- -</u>	to	<u>- -</u>

RECEIVED:

[illegible]

BACA FILES

WELL IDENTIFICATION SHEET

WELL: BACA #19

COORDINATES:

COORDINATE SYSTEM:

ELEVATION:

MEASURED FROM:

DRILLING START DATE:

DRILLING COMPLETION DATE:

DEPTH: 5610'

ADDITIONAL INFORMATION:

DAILY TESTING REPORTS

WELL #: 19

RECEIVED:

[illegible]

TEMPERATURE AND PRESSURE GRADIENT RECORDS
(T) = TEMPERATURE ONLY; (P) = PRESSURE ONLY

WELL #: 19

RECEIVED:

11 - 15 - 79	12 - 14 - 79	09 - 27-28 - 82 (P)
11 - 26 - 79	12 - 17 - 79	09 - 28 - 82
11 - 27 - 79	12 - 27 - 79	09 - 29 - 82
11 - 28 - 79	01 - 03 - 80	09 - 30 - 82
11 - 29 - 79	01 - 14 - 80	10 - 01 - 82
11 - 30 - 79	01 - 23 - 80	10 - 04 - 82
12 - 03 - 79	01 - 24 - 80	10 - 06 - 82
12 - 04 - 79	02 - 13 - 80	10 - 18 - 82
12 - 05 - 79	02 - 21 - 80	10 - 18-19 - 82
12 - 06 - 79	02 - 27 - 80	10 - 19 - 82
12 - 08 - 79	03 - 05 - 80	10 - 19-20 - 82
12 - 09 - 79	03 - 13 - 80	10 - 20 - 82
12 - 9-10 - 79	03 - 26 - 80	10 - 21 - 82
12 - 10 - 79	05 - 14 - 80	10 - 22 - 82
12 - 11 - 79	09 - 22 - 82	10 - 26 - 82
12 - 12 - 79	09 - 27 - 82	10 - 28 - 82

TEMPERATURE AND PRESSURE GRADIENT RECORDS
(T) = TEMPERATURE ONLY; (P) = PRESSURE ONLY

WELL #: 19 (cont.)

RECEIVED:

05 - 15 - 80	- -	- -
05 - 16 - 80	- -	- -
05 - 17 - 80	- -	- -
05 - 18 - 80	- -	- -
05 - 20 - 80	- -	- -
05 - 22 - 80	- -	- -
05 - 29 - 80	- -	- -
06 - 10 - 80	- -	- -
06 - 17 - 80	- -	- -
06 - 25 - 80	- -	- -
07 - 09 - 80	- -	- -
07 - 28 - 80	- -	- -
- -	- -	- -
- -	- -	- -
- -	- -	- -
- -	- -	- -

OTHER 20 TEST

WELL #: 19

RECEIVED:

11 - 15 - 79 to 11 - 27 - 79

_____ to _____

03 - 26 - 80 to 05 - 14 - 80

 - to -

 - to -

 - to -

_____ to _____

_____ to _____

_____ to _____

_____ to _____

_____ to _____

 - to -

_____ to _____

_____ to _____

_____ to _____

 to

_____ to _____

_____ to _____

_____ to _____

_____ to _____

_____ to _____

_____ to _____

_____ to _____

 - to -

_____ to _____

_____ to _____

_____ to _____

 to

_____ to _____

 - to -

_____ to _____

 to

WATER INJECTION

WELL #: 19

RECEIVED:

06 - 21 - 81 to 07 - 01 - 81

_____ to _____

07 - 01 - 81 to 07 - 31 - 81

 - to -

08 - 01 - 81 to 08 - 31 - 81

- - to - -

09 - 01 - 81 to 09 - 30 - 81

- - to - -

10 - 01 - 81 to 10 - 19 - 81

- - to - -

_____ to _____

_____ to _____

- - to - -

- - to - -

- - to - -

 - - to - -

_____ to _____

_____ to _____

_____ to _____

_____ to _____

_____ - _____ to _____ - _____

_____ to _____

_____ to _____

 - - to - -

- - to - -

_____ - _____ to _____ - _____

- - to - -

_____ - _____ to _____ - _____

- - - to - - -

_____ to _____

- - to - -

_____ to _____

INTERFERENCE PRESSURE DATA

WELL # : 19

RECEIVED:

[illegible]

BACA FILES

WELL IDENTIFICATION SHEET

WELL: BACA #20

COORDINATES: SEC 12, T19N, R3E; 1280'fwl, 1495'fnl

COORDINATE SYSTEM: New Mexico State Coordinates

ELEVATION: 9065' (ground) 9089' (Kelly bushing)

MEASURED FROM:

DRILLING START DATE: 06-27-80

DRILLING COMPLETION DATE: 08-30-80

DEPTH: 6374' (redrill)

ADDITIONAL INFORMATION:

DAILY TESTING REPORTS

WELL #: 20

RECEIVED:

<u>08 - 03 - 82</u>	to	<u>- -</u>	<u>- -</u>	to	<u>- -</u>
<u>08 - 04 - 82</u>	to	<u>- -</u>	<u>- -</u>	to	<u>- -</u>
<u>08 - 05 - 82</u>	to	<u>- -</u>	<u>- -</u>	to	<u>- -</u>
<u>08 - 26 - 82</u>	to	<u>- -</u>	<u>- -</u>	to	<u>- -</u>
<u>08 - 27 - 82</u>	to	<u>- -</u>	<u>- -</u>	to	<u>- -</u>
<u>08 - 28 - 82</u>	to	<u>- -</u>	<u>- -</u>	to	<u>- -</u>
<u>08 - 29 - 82</u>	to	<u>- -</u>	<u>- -</u>	to	<u>- -</u>
<u>08 - 30 - 82</u>	to	<u>- -</u>	<u>- -</u>	to	<u>- -</u>
<u>09 - 17 - 80</u>	to	<u>- -</u>	<u>- -</u>	to	<u>- -</u>
<u>09 - 24 - 80</u>	to	<u>01 - 06 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>- -</u>	to	<u>- -</u>	<u>- -</u>	to	<u>- -</u>
<u>10 - 27 - 81</u>	to	<u>11 - 09 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>- -</u>	to	<u>- -</u>	<u>- -</u>	to	<u>- -</u>
<u>- -</u>	to	<u>- -</u>	<u>- -</u>	to	<u>- -</u>
<u>- -</u>	to	<u>- -</u>	<u>- -</u>	to	<u>- -</u>
<u>- -</u>	to	<u>- -</u>	<u>- -</u>	to	<u>- -</u>

TEMPERATURE AND PRESSURE GRADIENT RECORDS
(T) = TEMPERATURE ONLY; (P) = PRESSURE ONLY

WELL #: 20

RECEIVED:

09 - 14 - 80	07 - 27 - 81	08 - 30 - 82 (P)
09 - 23 - 80	07 - 28 - 81	08 - 30-31 - 82 (P)
01 - 06 - 81	07 - 29 - 81	08 - 31 - 82
01 - 07 - 81	07 - 30 - 81	08 31 82 09 - 01 - 82
01 - 08 - 81	08 - 01 - 81	09 - 01 - 82
01 - 10 - 81	08 - 03 - 81	09 - 03 - 82
01 - 13 - 81	08 - 04 - 81	09 - 07 - 82
01 - 20 - 81	10 - 23 - 81	09 - 14 - 82
01 - 29 - 81	11 - 09 - 81	09 - 28 - 82
02 - 06 - 81	11 - 17 - 81	- -
02 - 18 - 81	08 - 01 - 82	- -
05 - 07 - 81	08 - 05 - 82	- -
05 - 26 - 81	08 - 06 - 82	- -
07 - 24 - 81	08 - 07 - 82	- -
07 - 25 - 81	08 - 13 - 82	- -
07 - 26 - 81	08 - 25 - 82	- -

INTERFERENCE PRESSURE DATA

WELL #: 20

RECEIVED:

05 - 12 - 81 to 07 - 21 - 81

_____ to _____

05 - 28 - 81 to 08 - 01 - 81

_____ to _____

05 - 28 - 82 to 06 - 02 - 82

 - to -

- - to - -

 - to -

 to

_____ to _____

- - to - -

 - - to - -

- - - to - - -

 - to -

_____ to _____

_____ to _____

- - - to - - -

_____ to _____

- - to - -

- - to - -

- - to - -

- - - to - - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - - to - - -

- - - + - - -

- - - to - - -

- - - - -

- - - to - - -

RECEIVED:

07 - 28 - 81

[illegible]

RECEIVED:

[illegible]

WATER INJECTION

WELL # : 20

RECEIVED:

07-25-81 to 07-29-81

_____ to _____

_____ to _____

_____ to _____

_____ to _____

- - to - -

- - to - -

- - to - -

- - - to - - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - - to - - -

- - to - -

- - to - -

- - to - -

- - - to - - -

- - to - -

- - to - -

- - to - -

— — — to — — —

- - - to - - -

- - - - -

[illegible]

RECEIVED:

[illegible]

RECEIVED:

RECEIVED:

10 - 26 - 81 to - -

_____ to _____

 - - to - -

 - - to - -

_____ to _____

 - to -

- - to - -

_____ to _____

- - to - -

 - to -

_____ to _____

 - to -

- - to - -

_____ to _____

- - - to - - -

 - - to - -

- - to - -

_____ to _____

- - to - -

 - - to - -

- - to - -

_____ to _____

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

OTHER Multiple Orifice Metering Test

WELL #: 20

RECEIVED:

<u>11 - 19 - 80</u>	<u>- -</u>	<u>- -</u>
<u>11 - 20 - 80</u>	<u>- -</u>	<u>- -</u>
<u>11 - 21 - 80</u>	<u>- -</u>	<u>- -</u>
<u>11 - 22 - 80</u>	<u>- -</u>	<u>- -</u>
<u>11 - 23 - 80</u>	<u>- -</u>	<u>- -</u>
<u>11 - 24 - 80</u>	<u>- -</u>	<u>- -</u>
<u>11 - 25 - 80</u>	<u>- -</u>	<u>- -</u>
<u>11 - 26 - 80</u>	<u>- -</u>	<u>- -</u>
<u>11 - 27 - 80</u>	<u>- -</u>	<u>- -</u>
<u>11 - 28 - 80</u>	<u>- -</u>	<u>- -</u>
<u>11 - 29 - 80</u>	<u>- -</u>	<u>- -</u>
<u>11 - 30 - 80</u>	<u>- -</u>	<u>- -</u>
<u>12 - 01 - 80</u>	<u>- -</u>	<u>- -</u>
<u>- -</u>	<u>- -</u>	<u>- -</u>
<u>- -</u>	<u>- -</u>	<u>- -</u>
<u>- -</u>	<u>- -</u>	<u>- -</u>

PRODUCED FLUIDS AND GAS ANALYSES

WELL # 20

RECEIVED:

COMPOSITIONAL ANALYSES 10-23-80

COMPOSITIONAL ANALYSES 11-10-80

BACA FILES

WELL IDENTIFICATION SHEET

WELL: BACA #21

COORDINATES: (projected) SEC 1, T19N, R3E; 55'fnl, 725'fel of SW corner.

COORDINATE SYSTEM: New Mexico State Coordinates

ELEVATION: 9361'

MEASURED FROM: ground surface

DRILLING START DATE: 09-09-80

DRILLING COMPLETION DATE: 10-05-80

DEPTH: 3000'

ADDITIONAL INFORMATION:

RECEIVED:

[illegible]

TEMPERATURE AND PRESSURE GRADIENT RECORDS
(T) = TEMPERATURE ONLY; (P) = PRESSURE ONLY

WELL #: 21

RECEIVED:

10 - 01 - 80	- -	- -
11 - 12 - 80	- -	- -
03 - 13 - 81	- -	- -
03 - 21 - 81	- -	- -
03 - 22 - 81	- -	- -
03 - 23 - 81	- -	- -
03 - 23 - 81 (P)	- -	- -
03 - 24 - 81	- -	- -
03 - 25 - 81	- -	- -
03 - 26 - 81	- -	- -
03 - 27 - 81	- -	- -
03 - 30 - 81	- -	- -
04 - 01 - 81	- -	- -
04 - 06 - 81	- -	- -
04 - 23 - 81	- -	- -
05 - 05 - 81	- -	- -

FLOWTEST # 5

WELL #: 21

RECEIVED:

02 - 03 - 81 to 02 - 10 - 81

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

BACA FILES

WELL IDENTIFICATION SHEET

WELL: BACA #22

COORDINATES: SEC12, T19N, R3E; 1,781,851°N, 403.519°E, 770'fnl, 1300'fwl

COORDINATE SYSTEM: New Mexico State Coordinates

ELEVATION: 9270' (ground) 9294' (Kelly bushing)

MEASURED FROM:

DRILLING START DATE: 10-12-80

DRILLING COMPLETION DATE: 01-3-81

DEPTH: 6017' (O.H.)
6485' (redrill 1)
6006' (redrill 2)

ADDITIONAL INFORMATION:

(T) = TEMPERATURE ONLY; (P) = PRESSURE ONLY

RECEIVED:

[illegible]

DEEPENING

WELL # : 22

RECEIVED:

10 - 27 - 81 to 11 - 05 - 81

_____ to _____

11 - 06 - 81 to 11 - 12 - 81

 - to -

11 - 13 - 81 to 11 - 19 - 81

_____ to _____

11 - 20 - 81 to 12 - 03 - 81

 - to -

12 - 04 - 81 to 12 - 10 - 81

- - to - -

12 - 11 - 81 to 12 - 17 - 81

 - to -

10 - 18 - 81 to 10 - 26 - 81
(remedial)

 - - to - -

_____ to _____

 - to -

- - to - -

_____ to _____

- - to - -

_____ to _____

- - to - -

 - to -

- - to - -

 - to -

- - to - -

- - to - -

- - to - -

- - to - -

- - - to - - -

_____ to _____

- - to - -

- - - to - - -

PRODUCED FLUIDS AND GAS ANALYSES

WELL # 22

RECEIVED:

COMPOSITIONAL ANALYSES 02-09-81

[illegible]

BACA FILES

WELL IDENTIFICATION SHEET

WELL: BACA #23

COORDINATES: SEC 11, T19N, R3E

COORDINATE SYSTEM:

ELEVATION: 8735'

MEASURED FROM: ground surface

DRILLING START DATE: 01-12-81

DRILLING COMPLETION DATE: 02-23-81

DEPTH: 5746'

ADDITIONAL INFORMATION:

(T) = TEMPERATURE ONLY; (P) = PRESSURE ONLY

WELL #: 23

RECEIVED:

1. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971) using a Shimadzu 1601 UV-Visible Spectrophotometer. The concentration of chlorophyll was expressed in $\mu\text{g mL}^{-1}$.

 

RECEIVED:

_____ to _____

_____ to _____

 - - to - -

_____ to _____

_____ to _____

_____ to _____

_____ to _____

 to

_____ to _____

 - to -

- - to - -

- - to - -

- - to - -

to

- - to - -

- - to - -

INTERFERENCE PRESSURE DATA

WELL #: 23

RECEIVED:

<u>06 - 19 - 81</u>	to	<u>09 - 25 - 81</u>	<u>10 - 15 - 82</u>	to	<u>03 - 31 - 83</u>
<u>09 - 28 - 81</u>	to	<u>10 - 01 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>10 - 05 - 81</u>	to	<u>10 - 09 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>10 - 12 - 81</u>	to	<u>10 - 16 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>10 - 19 - 81</u>	to	<u>10 - 30 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 02 - 81</u>	to	<u>11 - 06 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 09 - 81</u>	to	<u>11 - 13 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 16 - 81</u>	to	<u>11 - 20 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 23 - 81</u>	to	<u>11 - 25 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>11 - 30 - 81</u>	to	<u>12 - 04 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>12 - 07 - 81</u>	to	<u>12 - 11 - 81</u>	<u>- -</u>	to	<u>- -</u>
<u>12 - 14 - 81</u>	to	<u>01 - 08 - 82</u>	<u>- -</u>	to	<u>- -</u>
<u>12 - 22 - 81</u>	to	<u>06 - 02 - 82</u>	<u>- -</u>	to	<u>- -</u>
<u>05 - 23 - 82</u>	to	<u>09 - 01 - 82</u>	<u>- -</u>	to	<u>- -</u>
<u>08 - 22 - 82</u>	to	<u>10 - 04 - 82</u>	<u>- -</u>	to	<u>- -</u>
<u>09 - 27 - 82</u>	to	<u>11 - 03 - 82</u>	<u>- -</u>	to	<u>- -</u>

PRODUCED FLUIDS AND GAS ANALYSES

WELL # 23

RECEIVED:

COMPOSITIONAL ANALYSES, 05-05-81

[illegible]

BACA FILES

WELL IDENTIFICATION SHEET

WELL: BACA #24

COORDINATES: SEC11, T19N, R3E; 350'fsl, 350'fel

COORDINATE SYSTEM: New Mexico State Coordinates

ELEVATION: 8740'

MEASURED FROM: ground surface

DRILLING START DATE: 04-23-81

DRILLING COMPLETION DATE: 06-03-81

DEPTH: 5502'

ADDITIONAL INFORMATION:

DAILY TESTING REPORTS

WELL # : 24

RECEIVED:

07 - 03 - 81 to 07 - 29 - 81 - - to - -

06 - 16 - 82 to 06 - 21 - 82 - - to - -

07 - 08 - 82 to 07 - 19 - 82 - - to - -

_____ to _____ to _____

_____ to _____ to _____

_____ to _____ to _____

_____ to _____ to _____

_____ to _____ to _____

_____ to _____ to _____

_____ to _____ to _____

_____ to _____ to _____

_____ to _____ to _____

_____ to _____ to _____

- - to - - - - - to - -

- - to - - - - to - -

- - to - - to - -

TEMPERATURE AND PRESSURE GRADIENT RECORDS
 (T) = TEMPERATURE ONLY; (P) = PRESSURE ONLY

WELL #: 24

RECEIVED:

<u>06 - 26 - 81</u>	<u>06 - 22 - 82</u>	<u>09 - 17 - 82 T-Spin.</u>
<u>06 - 30 - 81</u>	<u>06 - 23 - 82</u>	<u>09 - 20 - 82 (P)</u>
<u>07 - 07 - 81</u>	<u>06 - 25 - 82</u>	<u>09 - 20-21 - 82 (P)</u>
<u>07 - 08 - 81</u>	<u>06 - 28 - 82</u>	<u>09 - 21 - 82</u>
<u>07 - 09 - 81</u>	<u>07 - 02 - 82</u>	<u>09 - 21-22 - 82</u>
<u>07 - 17 - 81</u>	<u>07 - 07 - 82</u>	<u>09 - 22 - 82</u>
<u>09 - 15 - 81</u> to	<u>07 - 19 - 82</u>	<u>09 - 24 - 82</u>
<u>09 - 22 - 81</u>	<u>07 - 20 - 82</u>	<u>09 - 27 - 82</u>
<u>09 - 29 - 81</u>	<u>07 - 21 - 82</u>	<u>10 - 04 - 84</u>
<u>10 - 06 - 81</u>	<u>07 - 22 - 82</u>	<u>- -</u>
<u>10 - 19 - 81</u>	<u>07 - 23 - 82</u>	<u>- -</u>
<u>10 - 20 - 81</u> to	<u>07 - 26 - 82</u>	<u>- -</u>
<u>10 - 24 - 81</u>	<u>07 - 29 - 82</u>	<u>- -</u>
<u>01 - 29 - 82</u>	<u>08 - 09 - 82</u>	<u>- -</u>
<u>06 - 15 - 82</u>	<u>09 - 14 - 82</u>	<u>- -</u>
<u>06 - 21 - 82</u>	<u>09 - 15 - 82</u>	<u>- -</u>

INTERFERENCE PRESSURE DATA

WELL #: 24

RECEIVED:

02 - 02 - 82 to 05 - 27 - 82

 - to -

- - to - -

- - to - -

_____ to _____

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - - to - - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - - to - - -

- - to - -

- - to - -

- - to - -

- - - to - - -

- - to - -

- - - to - - -

- - to - -

- - - to - - -

- - - to - - -

— — — — —

- - - to - - -

FLOWTEST # 1

WELL #: 24

RECEIVED:

06 - 29 - 81 to 0920 - 1115

06 - 29 - 81 to 1230 - 1500

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

FLOWTEST # 3

WELL #: 24

RECEIVED:

07 - 18 - 81 to 09 - 15 - 81

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

WATER INJECTION

WELL #: 24

RECEIVED:

10 - 19 - 81 to 10 - 24 - 81

08 - 18 - 82 to 08 - 19 - 82

09 - 15 - 82 to 09 - 20 - 82

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

- - to - -

This report was done with support from the Department of Energy. Any conclusions or opinions expressed in this report represent solely those of the author(s) and not necessarily those of The Regents of the University of California, the Lawrence Berkeley Laboratory or the Department of Energy.

Reference to a company or product name does not imply approval or recommendation of the product by the University of California or the U.S. Department of Energy to the exclusion of others that may be suitable.