

## Training and Technology Transfer by GeothermEx Technical Staff

| <b>Date</b>                       | <b>Place</b>                 | <b>Course Title ( *course given solely by GeothermEx personnel )</b>                                 | <b>Course Presented for</b>  | <b>Sponsor</b>  |
|-----------------------------------|------------------------------|--|--|---|
| September 1976                    | Snowbird, Utah               | Geothermal Energy and Electric Utilities: A Background for Decision                                  | Attendees from utilities, development companies, investment groups and government agencies | Geothermal Resources Council                              |
| May 1979                          | San Francisco, California    | An Introduction to the Exploration and Development of Geothermal Resources                           | Attendees from industry, government agencies and financial institutions                    | Geothermal Resources Council                              |
| April 1980                        | San Francisco, California    | An Introduction to the Exploration and Development of Geothermal Resources                           | Attendees from industry, government agencies and financial institutions                    | Geothermal Resources Council                              |
| November 1980                     | Sacramento, California       | Geothermal Reservoir Assessment: Single-and Two-Phase  | Attendees from industry, government agencies and financial institutions                    | Geothermal Resources Council                              |
| December 1980                     | Santa Cruz, Bolivia          | Introduction to Well Log Analysis (1 week course)*   | Selected Engineers from the Bolivian National Oil Company (YPFB)                           | Bolivian National Oil Company (YPFB)                      |
| April 1981                        | Reno, Nevada                 | Introduction to Geothermal Log Interpretation (2 day course)   | Attendees from industry, government agencies and financial institutions                    | Geothermal Resources Council                              |
| April 1981                        | Anchorage, Alaska            | Well Log Analysis (1 week course)*   | Graduate and undergraduate students  | Department of Petroleum Engineering, University of Alaska |
| June 1982                         | Long Beach, California       | Small-Scale Geothermal Power Plants (3 day course)   | Attendees from industry, government agencies and financial institutions                    | Geothermal Resources Council                              |
| June 1982                         | San Juan Province, Argentina | Training in Chemical Sampling of Ground Water (3 week course in Spanish)*                            | Selected geologists and engineers of the Government of San Juan Province, Argentina        | Government of San Juan Province, Argentina                |
| January 1982 through January 1985 | Manila, Philippines          | Geothermal Engineering (A series of courses given one 2 week course per quarter, 12 courses in all)* | Selected Engineers of the Philippines National Oil Company                                 | United Nations Development Program                        |
| April 1983                        | Reno, Nevada                 | Workshop on High-temperature Geothermal Wells: Planning, Drilling and Completion (3 day course)      | Attendees from industry, government agencies and financial institutions                    | Geothermal Resources Council                              |
| June 1983                         | Santa Cruz, Bolivia          | Gas Detection and Evaluation for Well Logs (1 week course)*  | Selected engineers from the Bolivian National Oil Company (YPFB)                           | Bolivian National Oil Company (YPFB)                      |
| October 1984                      | Millbrae, California         | Engineering and Economic Assessment of Geothermal Resources (2 day course)                           | Attendees from industry, government agencies and financial institutions                    | Geothermal Resources Council                              |

| <b>Date</b>                | <b>Place</b>              | <b>Course Title ( *course given solely by GeothermEx personnel )</b>                        | <b>Course Presented for</b>   | <b>Sponsor</b>                             |
|----------------------------|---------------------------|---|---|--|
| June 1985                  | Oro Preto, Brazil         | Advanced Well Log Analysis (3 week course)*   | Selected engineers from the Brazilian National Oil Company (Petrobras)  | Brazilian National Oil Company (Petrobras) |
| November 1985 - April 1986 | Richmond, California      | Geothermal Engineering (6 month training program in all aspects of geothermal engineering)* | One engineer selected for practical training with GeothermEx from the geothermal staff of the Italian National Oil Company (AGIP) | Italian National Oil Company (AGIP)        |
| September 1985             | Kailua-Kona, Hawaii       | Engineering and Economic Assessment of Geothermal Reservoirs (2 day course)                 | Attendees from industry, government agencies and financial institutions   | Geothermal Resources Council               |
| October 1986               | Palm Springs, California  | Testing Geothermal Wells (2 day course)   | Attendees from industry, government agencies and financial institutions   | Geothermal Resources Council               |
| February 1988              | San Francisco, California | Drilling of High-Temperature Geothermal Wells (3 day course)                                | Attendees from industry, government agencies and financial institutions   | Geothermal Resources Council               |
| October 1988               | San Diego, California     | Drilling, Sampling and Logging in Hot and Hostile Environments (2 day course)               | Attendees from industry, government agencies and financial institutions   | Geothermal Resources Council               |
| October 1988               | San Diego, California     | Geothermal Property Evaluation (2 day course)   | Attendees from industry, government agencies and financial institutions   | Geothermal Resources Council               |
| May 1989                   | Athens, Greece            | Geothermal Exploration and Engineering (2 week course)*                                     | Selected geologists and engineers from the Public Petroleum Corporation of Greece   | Public Petroleum Corporation of Greece     |
| June 1989                  | Berkeley, California      | Responses of a Geothermal Field During Exploitation (2 day course)                          | Attendees from industry, government agencies and financial institutions   | Geothermal Resources Council               |
| August 1990                | Kailua-Kona, Hawaii       | Assessment of Geothermal Reservoirs and Estimation of Reserves (2 day course)               | Attendees from industry, government agencies and financial institutions   | Geothermal Resources Council               |
| March 1990                 | San Francisco, California | An Introduction to Geothermal Resources (2 day course)                                      | Attendees from industry, government agencies and financial institutions   | Geothermal Resources Council               |
| June 1991                  | Sacramento, California    | Geothermal Energy - An Introduction to Risk Analysis (2 day course)                         | Attendees from industry, government agencies and financial institutions   | Geothermal Resources Council               |
| March 1992                 | San Francisco, California | An Introduction to Geothermal Resources (2 day course)                                      | Attendees from industry, government agencies and financial institutions   | National Geothermal Association            |
| May 1992                   | San Jose, Costa Rica      | Injection of Fluids into Geothermal Systems (3 day course in Spanish)                       | Attendees from government agencies of Latin American Countries  | United Nations                             |

| <b>Date</b>                  | <b>Place</b>               | <b>Course Title ( *course given solely by GeothermEx personnel )</b>                                      | <b>Course Presented for</b>  | <b>Sponsor</b>  |
|------------------------------|----------------------------|---|--|---|
| August-October 1992          | Tokyo, Japan               | Theory and Mechanics of Numerical Simulation of Geothermal Reservoirs (2 month course)*                   | Engineers of Geothermal Research and Development Company of Tokyo                    | Geothermal Energy Research and Development Company, Tokyo and Government of Japan |
| October 1992                 | San Diego, California      | How to Make Your Project Financeable: Steps Towards a Financial Analysis (1 day course)                   | Attendees from industry and financial institutions                                   | Geothermal Resources Council  |
| December 1992                | Uenotai (Honshu I.), Japan | Geothermal Fluid Sampling and Analysis (3 day course)*  | Geochemists and engineers of Akita Geothermal Energy Company                         | Akita Geothermal Energy Co., Tokyo  |
| January 1992 - November 1993 | Quito, Ecuador             | Several Seminars, including preparation of manuals on drilling, well design and well testing (in Spanish) | Attendees from Latin American electric utilities                                     | OLADE (Organization for Energy Development in Latin America)                      |
| 1990-1993                    | Uenotai (Honshu I.), Japan | Several on-site training programs on drilling, well completion and blow out prevention and control.*      | Engineers and technicians of Akita Geothermal Energy Company and Dowa Mining Company | Akita Geothermal Company, Tokyo   |
| May 1993                     | Mexicali, Mexico           | The Injection of Geothermal Fluids (3 day Bilingual course)   | Attendees from industry and government agencies in Mexico and USA                    | Mexican National Utility (CFE) and Geothermal Resources Council                   |
| July 1993                    | San Jose, Costa Rica       | Central American Seminar in Geothermal Training: Drilling Technology (4 day course in Spanish)            | Staff members from the utility companies in Central America and Mexico               | National Geothermal Association   |
| July 1993                    | San Jose, Costa Rica       | Central American Seminar in Geothermal Training: Exploration Technology (3 day course in Spanish)         | Staff members from the utility companies in Central America and Mexico               | National Geothermal Association   |
| July 1993                    | San Jose, Costa Rica       | Central American Seminar in Geothermal Training: Environmental Assessment (3 day course in Spanish)       | Staff members from the utility companies in Central America and Mexico               | National Geothermal Association   |
| October 1993                 | Burlingame, California     | Tetrad Geothermal Reservoir Simulation Workshop (4 day course)  | Attendees from industry and government   | Geothermal Resources Council  |

| <b>Date</b>       | <b>Place</b>                                 | <b>Course Title ( *course given solely by GeothermEx personnel )</b>  | <b>Course Presented for</b>  | <b>Sponsor</b>  |
|-------------------|--|---|--|---|
| May 1994          | Morelia, Mexico                              | Financing of Geothermal and Wind Generation Projects (3 day Bilingual course)   | Attendees from industry, government agencies and financial institutions from Mexico and U.S. | Mexican National Utility (CFE), U.S. Department of Energy, Geothermal Resources Council. and American Wind Energy Association |
| May-June 1994     | Sendai, Japan                                | Geothermal Reservoir Engineering Training Course (5-day course)*  | Staff members from the utility company   | Tohoku Electric Power Company (Fourth largest utility company in Japan)   |
| July 1994         | San Jose, Costa Rica                         | Central American Seminar in Geothermal Training: Reservoir Engineering (3 day Bilingual course)   | Staff members from Central American utilities  | National Geothermal Association   |
| September 1994    | Sendai, Japan                                | History Matching and Forecasting Future Reservoir Performance Using Numerical Reservoir Simulation*   | Staff members from the utility company   | Tohoku Electric Power Company (Fourth largest utility company in Japan)   |
| February 1995     | Sendai, Japan                                | Impacts of Fluid Injection in Geothermal Reservoirs*  | Staff members from the utility company   | Tohoku Electric Power Company (Fourth largest utility company in Japan)   |
| May 1995          | Florence, Italy                              | Drafting a Geothermal Project for Funding (The Geothermal Resource: Data Requirements of the Fuel Supply)   | International Congress participants from industry and government                             | International School of Geothermics-World Geothermal Congress   |
| May 1995          | Florence, Italy                              | Data Management and Related Software in Geothermal Applications (Reservoir Simulation, Present Technology and Comparison with the Petroleum Industry) | International Congress participants from industry and government                             | International School of Geothermics-World Geothermal Congress   |
| June 1996         | Morelia, Mexico                              | Financial Features of Geothermal-Electric Projects  | Attendees from industry, government and financial institutions                               | Geothermal Resources Council  |
| February 1997     | Bali, Indonesia                              | Geothermal Power in Asia '97  | Attendees from industry, government and financial institutions                               | IBC Asia Limited  |
| May and July 1997 | Irvine, California and Klamath Falls, Oregon | Introduction to Geothermal Energy (Well Testing, Reservoir Engineering and Field Development)   | Attendees from industry, government and financial institutions                               | Geothermal Resources Council  |

| <b>Date</b>    | <b>Place</b>  | <b>Course Title ( *course given solely by GeothermEx personnel )</b>  | <b>Course Presented for</b>   | <b>Sponsor</b>                                    |
|----------------|---|---|---|---|
| September 1997 | Mexicali, Mexico  | Optimization of Geothermal Drilling and Field Performance (Matching of Power Plant Design with Well Characteristics; Production/Injection Strategies to Optimize Field Performance; Workover and Make-Up Well Drilling to Maintain Production | Geothermal Industry Professionals   | Geothermal Resource Council                       |
| April 1998     | Richmond, California  | Geothermal exploration techniques and reservoir management strategies (1 week course)*  | 3 Trainees from China   | United Nations                                    |
| July 1998      | San José, Costa Rica  | Fundamentals of Numerical Simulation for Geothermal Reservoirs (one month course)*  | Reservoir Engineers from Instituto Costarricense de Electricidad (ICE, the Costa Rican electric utility)) | ICE   |
| October 1999   | Reno, Nevada  | Computer Modeling of Geochemical Processes  | Geothermal Industry Professionals   | Geothermal Resource Council                       |
| May 2000       | Beppu, Japan  | Financing of Geothermal Projects  | Geothermal Industry Professionals; Government Officials   | World Geothermal Congress 2000                    |
| September 2000 | San Francisco, California   | Injection Technology  | Geothermal Industry Professionals   | Geothermal Resources Council                      |
| June 2001      | Richmond, California and various geothermal fields in California and Nevada | Geothermal Exploration, Drilling and Resource Assessment*   | Senior Generation Managers  | National Hydroelectric Power Company (India)      |
| 2004 - 2005    | San Francisco and Sacramento, California                                    | Geothermal Energy's Contribution to the Renewable Energy Portfolio of the State of California   | Public and Private Utility Companies  | California Energy Commission                      |
| June 2005      | New York  | Introduction to Geothermal Energy for Power Generation*   | Senior Portfolio Managers   | Goldman Sachs                                     |
| November 2005  | Los Angeles, California   | Geothermal Power Options for LADWP  | Senior Generation Managers  | Los Angeles Department of Water and Power (LADWP) |
| September 2006 | San Diego, California   | Geochemical Methods in Geothermal Exploration and Development   | Geothermal Industry Professionals   | Geothermal Resources Council                      |

| <b>Date</b>   | <b>Place</b>              | <b>Course Title ( *course given solely by GeothermEx personnel )</b> | <b>Course Presented for</b>                                 | <b>Sponsor</b>  |
|---------------|---------------------------|--|---|---|
| November 2006 | Amman, Jordan             | Geothermal Resource Exploration and Development                      | Senior Energy Managers and Resource Development Specialists | Ministry of Energy and Mineral Resources (National Resources Authority) |
| May 2007      | San Francisco, California | Ensuring Resource Adequacy in Geothermal Projects                    | Financiers and Investors                                    | Geothermal Energy Association   |