BLUE MOUNTAIN GEOTHERMAL PROJECT

PHASE I REPORT

U.S. DOE GRED II PROGRAM

Blue Mountain, Humboldt County,
Nevada, U.S.A.

Cooperative Agreement No: DE-FC04-2002AL68297
Geothermal Resource Exploration & Definition II (GRED II) Program

Prepared for:

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1.0 INTRODUCTION

1.1 Terms of Reference

Noramex Corporation Inc, a Nevada company, owns a 100% interest in geothermal leases at the Blue Mountain Geothermal Area, Humboldt County, Nevada. The company is exploring the site for a geothermal resource suitable for development for electric power generation or direct-use applications.

In the spring of 2002, Noramex drilled the first geothermal observation hole at Blue Mountain, under a cost-share program with the U.S Department of Energy (DOE), under the DOE's Geothermal Exploration and Resource Definition (GRED) program, (Cooperative Agreement No. DE-FC04-00AL66972). DEEP BLUE No.1 was drilled to a total depth of 672.1 meters (2205 feet) and recorded a maximum temperature of 144.7°C (292.5°F).

Noramex Corporation will now drill a second slim geothermal observation test hole at Blue Mountain, designated DEEP BLUE No.2. The hole will be drilled under a cost-share program with the DOE, under the DOE's Geothermal Exploration and Resource Definition II (GRED II) program, (Cooperative Agreement No. DE-FC04-2002AL68297).

This report comprises Phase I of Cooperative Agreement No. DE-FC04-2002AL68297 of the GRED II program. The report provides an update on the status of resource confirmation at the Blue Mountain Geothermal Area, incorporating the results from DEEP BLUE No.1, and provides the technical background for a second test hole. The report also outlines the proposed drilling program for slim geothermal observation test hole DEEP BLUE No.2.

Fairbank Engineering Ltd, on behalf of Noramex Corporation Inc, has prepared the report.

1.2 Project Location

The Blue Mountain Geothermal Project is located at the foot of the western flank of Blue Mountain, at the southeastern margin of Desert Valley, approximately 20 miles (32 km) west of Winnemucca, in Humboldt County, northern Nevada (Figure 1.1). The project is centred at Latitude 41° 00'N, Longitude 118° 7' 30"W, at an elevation of about 1350 meters (4400 ft) above sea level.

From Winnemucca the site is accessible year-round via Jungo Road, an improved gravel road that passes to the south of Blue Mountain. At a point just west of Blue Mountain, a dirt road off Jungo Road leads north, about 5.5km (3 ½ miles), to the site, (Figures 1.2).

The climate is semi-arid with an average annual precipitation of 150-to180 mm (6 to 7 inches), and an annual temperature averaging 10.5°C (51°F). The area also is occasionally subjected to strong winds. Local vegetation consists of desert plants such as sagebrush, bunch grass and other small shrubs.

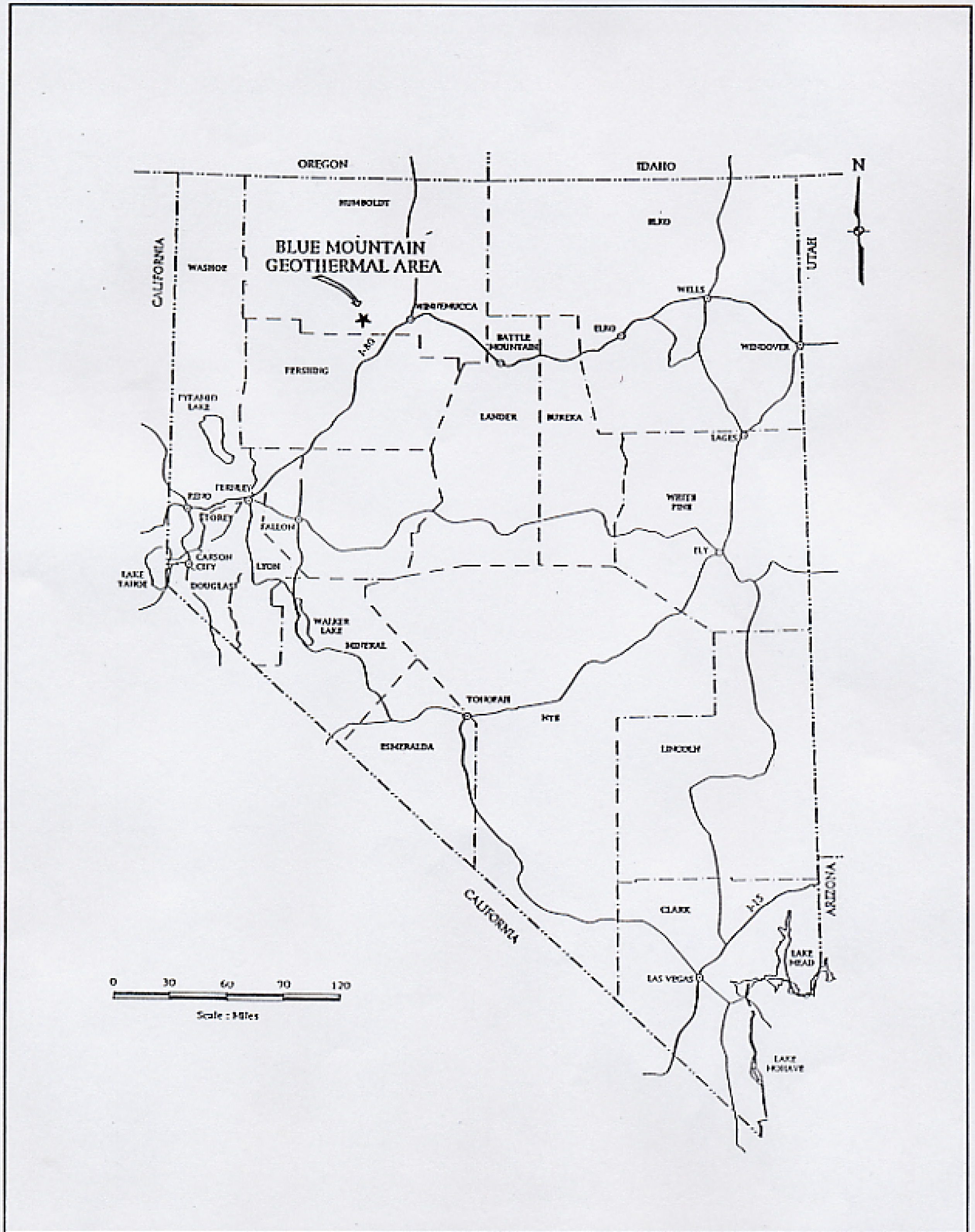
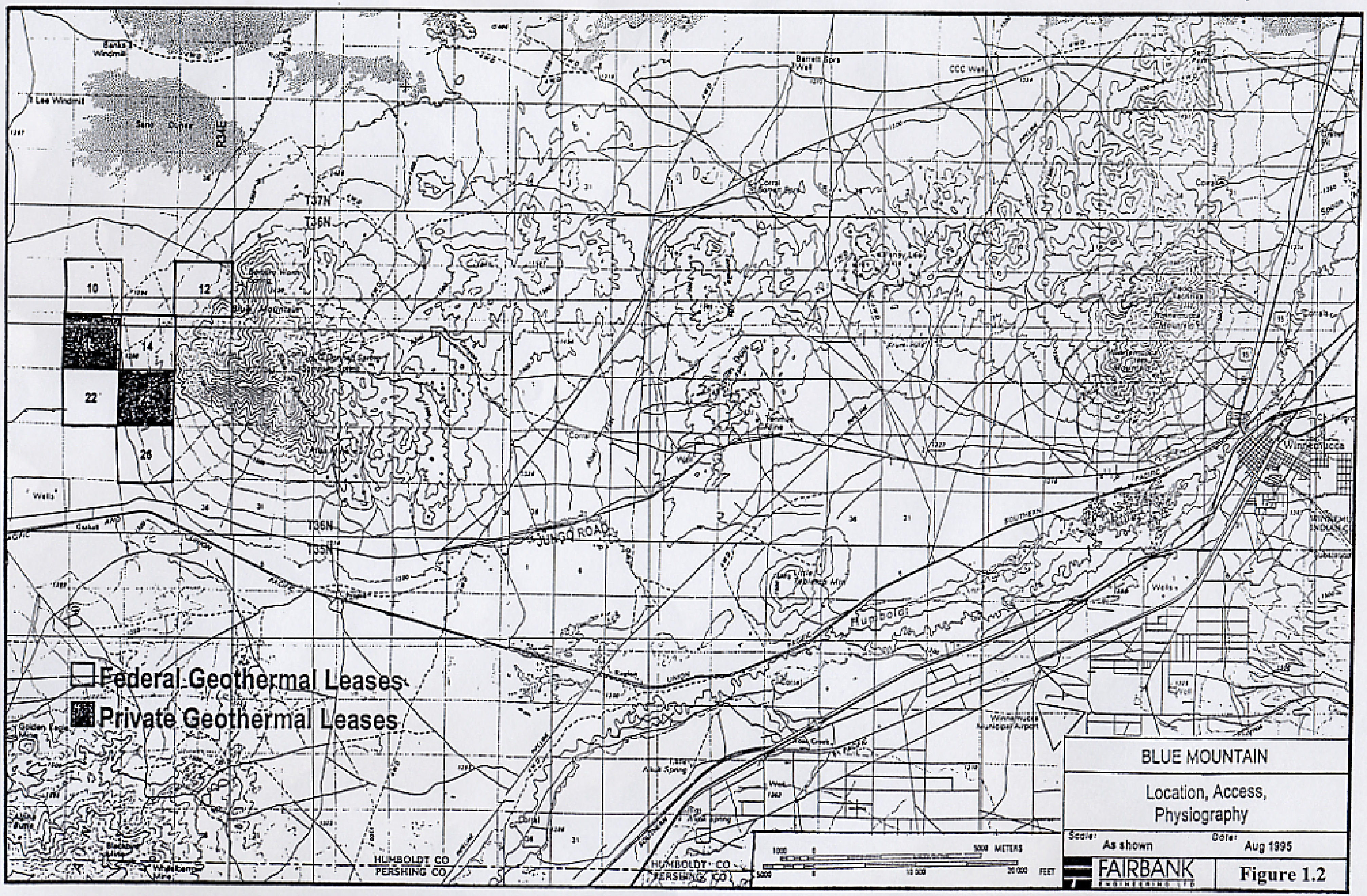


Figure1.1: Location map – Blue Mountain Geothermal Area


Federal Geothermal Leases
Private Geothermal Leases
BLUE MOUNTAIN
Location, Access, Physiography
Scale: As shown
Date: Aug 1995
FAIRBANK ENGINEERING LTD
Figure 1.2
JUNGO ROAD
Humboldt
Winnemucca
Winnemucca Municipal Airport
Blue Mountain
Sand Dunes
Lee Windmill
Banks Windmill
Barrett Sprs Well
CCC Well
HUMBOLDT CO
PERSHING CO
T37N
T36N
T35N
R34E
10
12
14
22
26
1000 0 5000 METERS
5000 0 10 000 20 000 FEET

1.2 History of Exploration

The geothermal potential of the Blue Mountain area was first recognized during shallow exploratory drilling for gold mineralization, on mineral claims staked in 1982 by Nassau Ltd, (Parr and Percival 1991).

A considerable amount of exploration work, for precious-metals, was carried out from 1984 to 1990, by Nassau and its joint venture partners, and by other mining companies on adjacent mineral claims immediately to the south, on land owned by the Santa Fe Railway Company, that included detailed geologic mapping, soil and rock geochemistry, geophysical surveying (aeromagnetic and airborne VLF-EM, ground magnetic, IP-electrical resistivity, gravity, and reflection seismic), and more than one hundred and thirty mineral exploration drill holes, typically to depths of less than 152 meters (500 feet). Mineral exploration work continued intermittently until 2001, with little work since then.

Although little useful information pertaining to the geothermal potential of the area was recorded, many of the mineral exploration drill holes encountered warm to hot water, at temperatures up to 81°C (178°F), and six holes reportedly encountered artesian flows of up to 1.3-1.9 liters/sec (20 - 30 gpm), indicating the presence of a significant, shallow thermal anomaly at Blue Mountain (Parr and Percival 1991).

In 1993/94, Noramex acquired geothermal leases to two Sections of land owned by Atchison, Topeka and the Santa Fe Railway Company (now Burlington Northern and Santa Fe Railway Company, BNSF), and five adjacent Sections of Bureau of Land Management (BLM) land, (Appendix A). A geothermal evaluation was completed, with further geologic mapping and a detailed interpretation of aerial photographs.

In 1994, Noramex commissioned Geothermal Development Associates (GDA), of Reno, Nevada, to recommend a program of further geothermal work at Blue Mountain. GDA recommended a three-stage program of exploratory drilling, comprising thirteen shallow temperature gradient drill holes, three intermediate depth holes, and two small diameter test holes, to 914 meters (3000 feet), targeted to intersect the geothermal reservoir (Booth 1994).

With funding support from the U.S. Department of Energy (DOE) Office of Geothermal Technology (DOE/OGT), Noramex conducted further exploration work between 1996 and 1998, in collaboration with The Energy & Geoscience Institute (EGI), University of Utah. Work included a self-potential (SP) survey, additional IP-electrical resistivity traversing, and detailed temperature measurements, to depths of 50 to 215 meters (164 to 705 feet), in eleven new mineral exploration drill holes (Fairbank and Ross, 1999). Several potential target areas for drilling were identified, to test coincident anomalies identified by the SP and the electrical resistivity surveys and areas of high temperature gradients. Geothermal consultants Nevin Sadlier-Brown Goodbrand Ltd (NSBG) of Vancouver, British Columbia, evaluated the results of the geothermal exploration program and recommended a 700-meter slim test well at Blue Mountain (Sadlier-Brown 1998).

In February 2000, Noramex was awarded a cost-share program to drill an intermediate depth (600 meter/nominal 2000 feet) geothermal observation hole at Blue Mountain, under the U.S. Department of Energy's (DOE) Geothermal Resource Exploration and Definition (GRED) program, (Cooperative Agreement No. DE-FC04-00AL66972).

Phase I of the GRED program was completed in October 2000, (Report on the Blue Mountain Geothermal Area, Humboldt County, Nevada, prepared by Fairbank Engineering Ltd, on behalf of Noramex, October 2000).

Phase II of the GRED program provided funding support for drilling the first geothermal test hole at Blue Mountain. The well, designated DEEP BLUE No.1, was spudded on April 27 June and completed to a total depth of 672.1 meters (2205 feet) on June 08, 2002. Dynatec Drilling Inc, of Salt Lake City, Utah, was the drilling contractor.

DOE initially provided US $360,000 towards the cost of the well. A further US $50,000 was approved in May 2002 when problems caused by severe losses of circulation delayed the drilling operations. An additional US $25,000 (unsolicited) was approved in June 2002 to complete the well. DOE also funded the logging (temperature; pressure; gamma) of the well at completion. A maximum temperature of 144.7°C (292.5°F) was recorded at 645 meters (2115 feet). Attempts to discharge the well failed when hot water airlifted from the well would not sustain a discharge. A report on the drilling of DEEP BLUE No.1 was submitted to the DOE in October 2002; (Blue Mountain Geothermal Project; DEEP BLUE No.1 Test Hole, Blue Mountain, Humboldt County, USA, prepared by Fairbank Engineering Ltd on behalf of Noramex, October 2002).

Phase III (Testing) has not yet been completed as funds budget for that component of the program were used to support completing the well. Further testing is planned (Fairbank 2003).

Following the success of DEEP BLUE No.1, Noramex applied for (May 2002) and was awarded (September 2002) a cost-share program for a second slim geothermal observation test hole, designated DEEP BLUE No.2, at Blue Mountain, under the DOE's Geothermal Exploration and Resource Definition II (GRED II) program, (Cooperative Agreement No. DE-FC04-2002AL68297).

DEEP BLUE No.2 will be drilled from the second of two sites that were selected based on the results of the geothermal exploration program conducted by Noramex, to test the most prospective areas of resource potential at Blue Mountain.

2.0 EXPLORATION OVERVIEW

2.1 Geothermal Setting

The Blue Mountain Geothermal Area is located in the northern Basin and Range Province in northern Nevada, within the Great Basin physiographic region of the Western United States.

The northern Basin and Range Province is characterized by high terrestrial heat flow related to widespread crustal extension and thinning resulting in Tertiary, Quaternary and recent lateral and normal (block and/or detachment) faulting. Faulting is generally characterized by moderate- to high-angle, north to north-northeasterly trending range-front normal faults, believed to be associated with predominantly northwesterly extension.

Geothermal systems in the Basin and Range Province are predominantly non-magmatic, extensional-type systems. Under favourable conditions, faulting and fracturing resulting from the regional crustal extension provides permeable pathways and conduits for deep circulating convecting fluids to transfer the high heat flow to comparatively shallow depths.

In northern Nevada, a northeast-southwest trending anomaly of high heat flow, the Battle Mountain heat flow high, coincides with a broad northeast-trending structural zone, the Humboldt structural zone, that is characterized by sub-parallel, east-northeast- to northeast-trending left-lateral and normal faults (Faulds et al, 2002).

Many of the geothermal fields in northern Nevada that are now in commercial production are located within the general area of the Battle Mountain heat flow high and the Humboldt structural zone. These include Beowawe, Steamboat, Brady's Hot Springs, Desert Peak, Soda Lake, Stillwater, Empire/San Emidio Desert, Dixie Valley, and Wabuska (Garside et al, 2002). In addition, the Rye Patch/Humboldt House geothermal area and the ten most prospective geothermal sites recently identified as favourable for possible future electric power generation in Nevada (Richards and Blackwell, 2002), including Blue Mountain, are located within the Battle Mountain Heat Flow High and the Humboldt structural zone, (Figure 2.1).

2.2 <u>Geology of the Blue Mountain Geothermal Area</u>

The following is a brief summary of the geology of the Blue Mountain Geothermal Area taken from reports by Willden (1964), Bybee (1988), Percival et al (1983), Parr and Percival (1991), Booth (1994), Sadlier-Brown (1998, 2001), Fairbank and Ross (1999) and Fairbank (2000).

(a) *Geology*

Willden (1964) assigned rock units exposed on the eastern flank of Blue Mountain to the Upper Triassic Raspberry Formation, and mapped an overriding thrust plate that makes up much of the peak area and the western slopes of Blue Mountain as Triassic (- Jurassic?) phyllite, slate and quartzite (Figure 2.2). Diagnostic fossils are absent but these units are broadly correlative with the Raspberry or Grass Valley Formations that together form part of a thick sequence of Triassic marine clastic and carbonate rocks of the Auld Lang Syne Group. These units were subjected to one or more episodes of deformation in the Mesozoic (Late Cretaceous) or Early Tertiary to a sub-greenschist facies assemblage.

Percival (1983) divided rock units exposed on the western flank of Blue Mountain to the Raspberry and Grass Valley Formations, based on lithology. The Grass Valley Formation comprise gray to black, thin bedded, non-calcareous, carbonaceous platy argillite and intercalated light gray, fine-grained, quartzites of variable thickness. Younger Raspberry

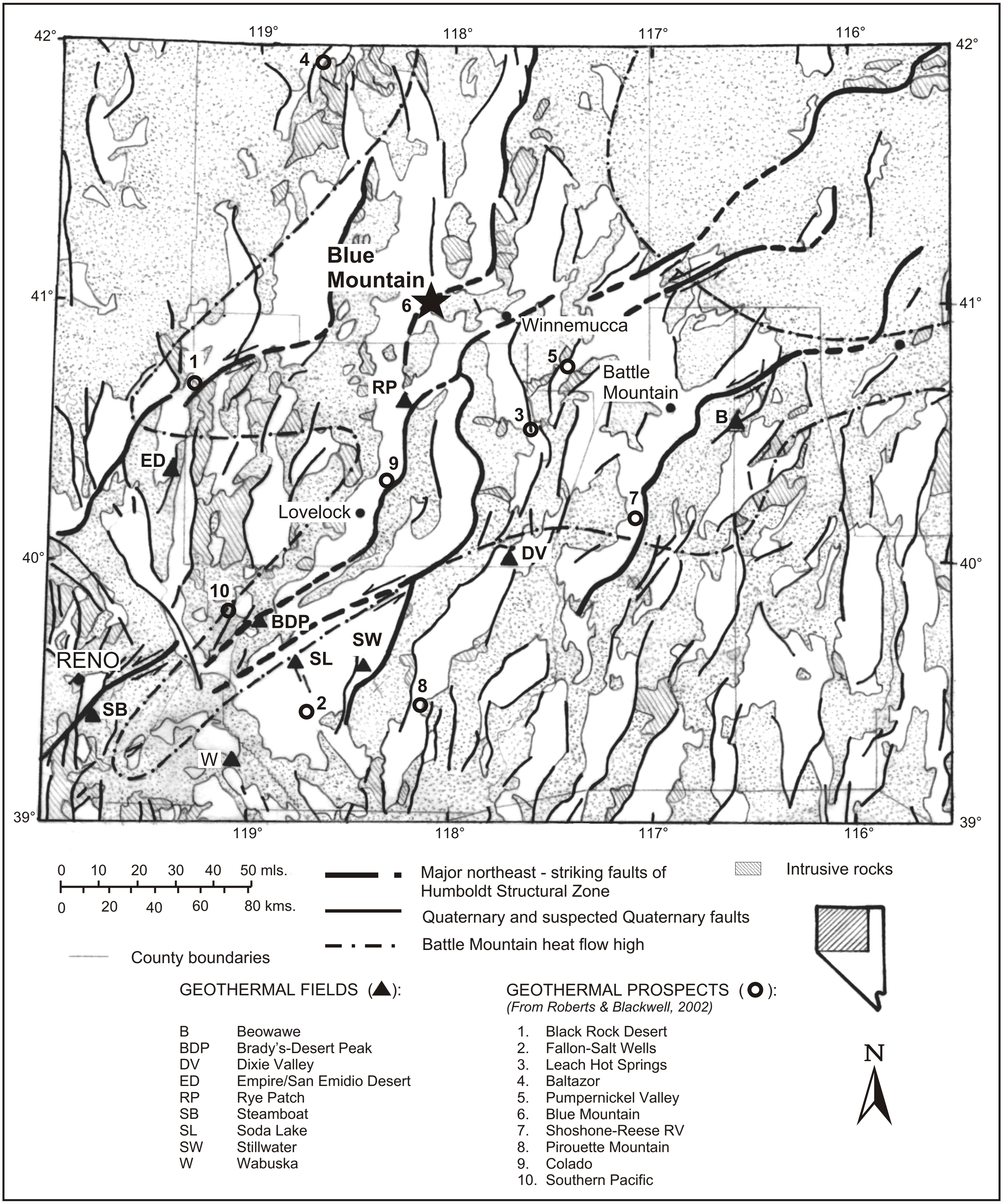
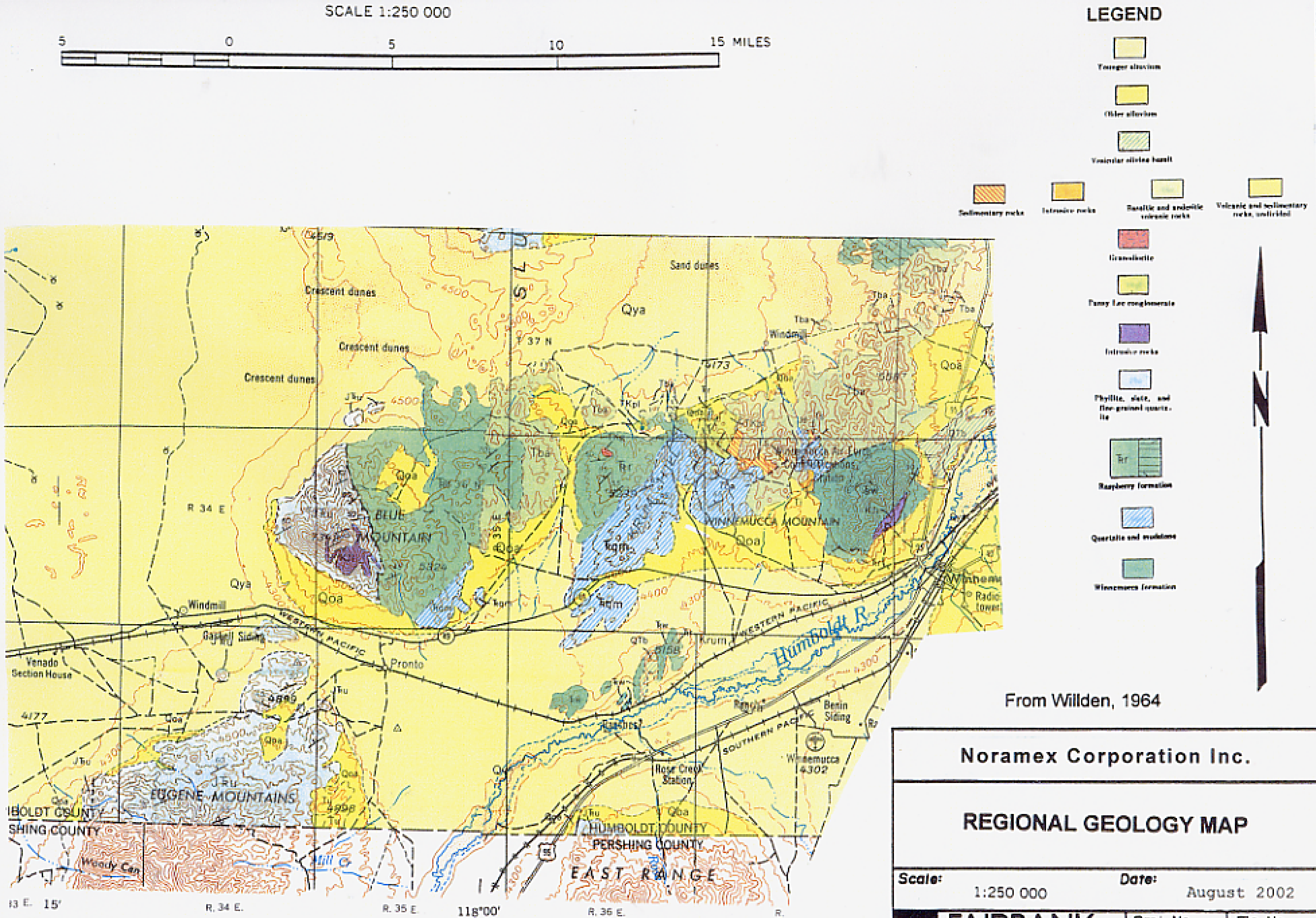


Figure 2.1: Generalized map of northern Nevada showing Basin and Range terrain, Quaternary faults, Humboldt Structural Zone, Battle Mountain heat flow high, geothermal fields, and ten most prospective geothermal sites in Nevada.



From Wilden, 1964

Noramex Corporation Inc.

REGIONAL GEOLOGY MAP

Scale: 1:250 000	Date: August 2002
FAIRBANK ENGINEERING LTD	Proj. No.	Fig. No. 2.2

Formation units comprise generally monotonous gray to gray-green, laminated, locally silty and occasionally sandy, phyllitic mudstone (Parr and Percival 1991).

Late Tertiary (?) diabase dykes form a major dike swarm on the west flank of Blue Mountain, intruding the meta-sedimentary units along steeply dipping north-trending structures. Younger (?) light gray, variably altered, rhyolite to quartz-feldspar, finely porphyritic, felsic dykes intersected in many drill holes but rare in surface outcrop, appear to have been intruded along high-angle northeast-trending faults (Bybee 1988). Where the felsic dykes do crop out at surface they are usually intensely altered.

Bedrock geology and structure in Desert Valley, immediately to the west of Blue Mountain, is masked by Pleistocene Lake Lahontan lacustrine deposits, and coalescing fans of younger pediment gravels and eolian sands.

There are no surface hot springs or other active geothermal manifestations (e.g. fumaroles, warm seeps) at Blue Mountain, but warm to hot water in shallow aquifers has been encountered in many of the mineral exploration holes drilled in the area. The system at Blue Mountain is therefore classified as a 'blind' geothermal system.

(b). *Structure*

The meta-sedimentary rocks at Blue Mountain strike generally east-northeast (N70°E), dip moderately to the northwest, and are cut by steeply dipping, normal faults of Tertiary to Recent age related to Basin and Range extensional faulting (Parr and Percival 1991).

Surface geologic mapping, analysis of aerial photographs, and interpretation of drill-sections have identified three distinct sets of high-angle normal faults (Figure 2.3). The most prominent, and possibly the oldest, is a major northwest-trending fault zone that forms the southwestern flank of Blue Mountain; faults within this zone have been observed to truncate diabase dykes.

Steeply dipping, northeast-trending normal faults are prominent along the northwestern flank of Blue Mountain and appear to have been the dominant structural control for much of the hydrothermal alteration exposed at surface.

Three north-striking, high-angle, west-dipping normal faults (Central, West, and Graben Faults) form prominent scarps at the western base of the range. These may be the youngest of the three fault sets although the age relationships between the northerly- and northeast-trending faults, is unclear. Faulting is believed to have continued through the Neogene and Quaternary and is possibly still active (Sadlier-Brown 2001).

(c). *Hydrothermal Alteration*

A prominent area of hydrothermal alteration occurs in the meta-sedimentary units at the base of the western slopes of Blue Mountain and was the focus of much of the precious-metals minerals exploration program. Alteration is characterized by pervasive silicification and argillic alteration that is most intense along or at the intersections of faults and fracture zones. Siliceous

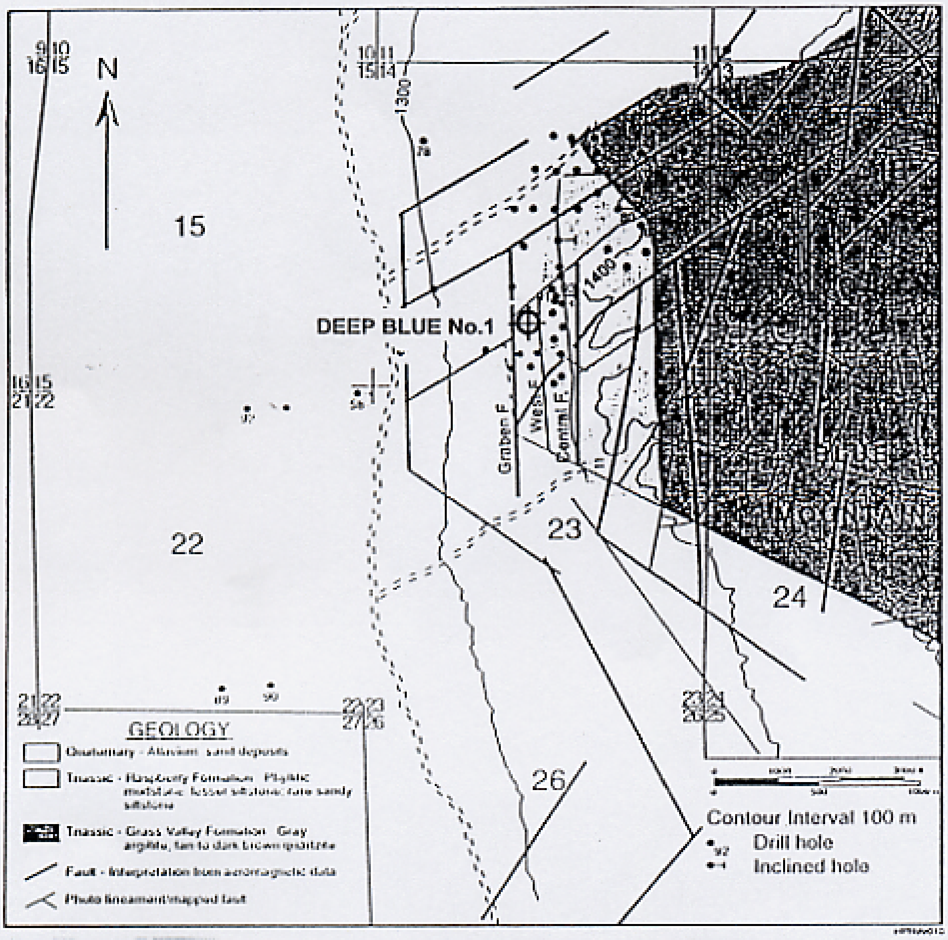


Figure 2.3:

Generalized structure Map, Blue Mountain Geothermal Area.

Faults/fractures Determined from Mapped features, photo linears, and aeromagnetic discontinuities.

(*After Fairbank and Ross, 1999*)

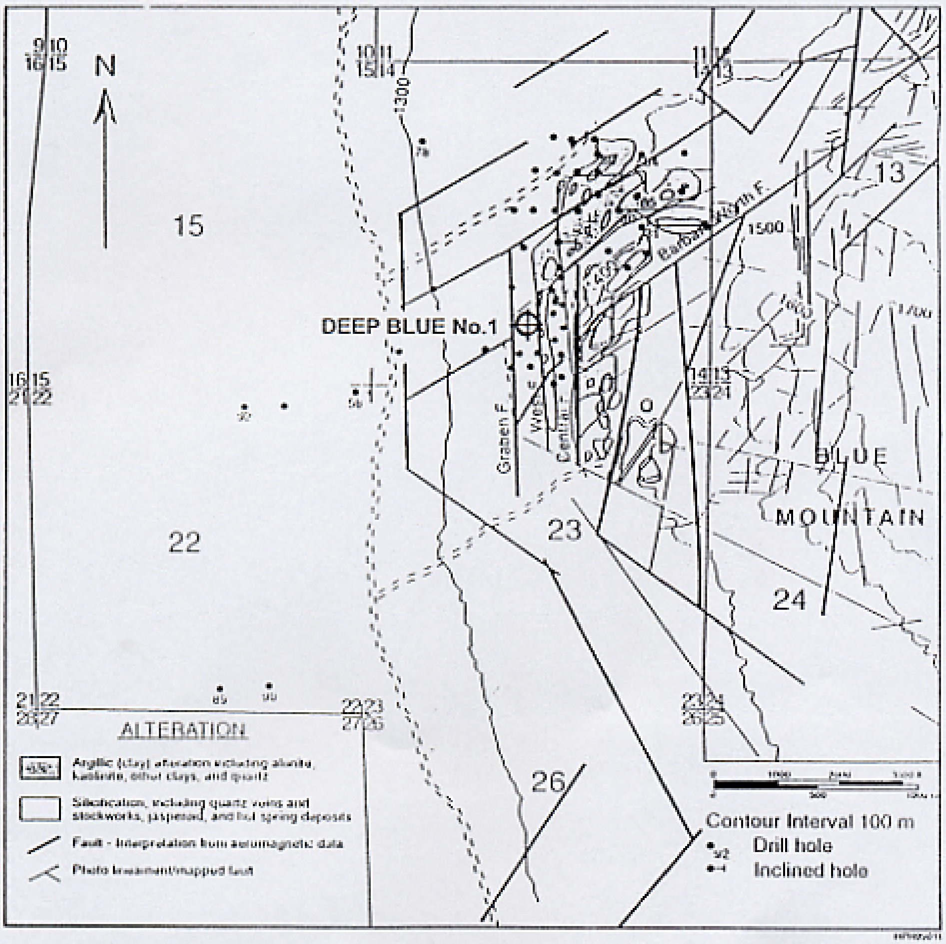


Figure 2.4:

Alteration map, Blue Mountain Geothermal Area.

(*After Fairbank and Ross, 1999*)

sinters and alteration products of near-surface hydrothermal activity also show a close special relationship with the major structures (Figure 2.4).

Alteration includes quartz veins and stockworks, intense silicification, chalcedonic and reddish-brown opaline silica hot springs deposits, moderate to advanced argillic alteration, alunite and quartz-alunite replacement and veining. Many of the silica-altered rocks show pervasive formation of hematite. Quartz, alunite, kaolinite and other clays are also developed, in association with barite, sulfur, cinnabar and iron oxide minerals.

Silicified, jasparoidal sedimentary rocks form resistant ridges and craggy outcrops along the north-south trending range front fault zone. Extensive areas of intense argillic alteration occur at the intersections of north- and northeast-trending faults and fractures. Hot spring deposits comprised of reddish-brown opal, white to light gray siliceous sinter and banded chalcedonic veins are common east of the Central Fault and the northeasterly Barbara Worth Fault.

Intervals of hydrothermal brecciation, and voids partially filled with drusy quartz, barite, fluorite, calcite, and silica pseudomorphs after calcite, occur in surface outcrop and in fracture zones intersected in many of the mineral exploration drill holes.

The intensity of the quartz flooding suggests a high degree of fracturing and former fluid flow, that probably coincided with the gold mineralizing event. The extent of silica deposition is such that many of the veins and fractures are now sealed or partially sealed. Later faulting and fracturing of the silicified units has continued, as indicated by displacement of the main gold mineralization zone by the major north-south normal faults (West, Central, and Graben Faults) and the northeasterly-trending Barbara Worth Fault.

Collectively, the nature and the extent of the hydrothermal alteration, the occurrence of sinter deposits, and the pronounced structural control indicated a possible hot spring-type epithermal precious metals deposit; gold mineralization, however, is sub-economic.

2.3 Geophysics

A variety of geophysical surveys were conducted at Blue Mountain as part of the extended program of gold exploration between 1984 and 1993. These included air-borne magnetic and VLF-EM, ground magnetic, IP/electrical resistivity, seismic reflection and gravity surveys. For the most part, these surveys were of limited extent and focused primarily on identifying and delineating potential areas of gold mineralization, investigating specific structural targets, or determining the depth to bedrock in the pediment west of the range front. The results from the aeromagnetic, seismic and IP/resistivity surveys, however, have provided useful information for the geothermal program, by aiding in the identification of faults and other possible structural controls on the hydrology of the geothermal system.

Geophysical surveys that have been conducted specifically for the geothermal program at Blue Mountain include a self-potential (SP) survey, and additional IP/electrical resistivity traversing. These surveys were conducted under a cooperative program between Noramex Corporation and the Energy and Geosciences Institute (EGI), University of Utah, with funding support from the DOE's Office of Geothermal Technology (DOE/OGT).

(a). *Aeromagnetic and VLF-EM Survey*

The airborne magnetometer and VLF-EM surveys carried out by Aerodat Limited, in 1988, covered the western flank of Blue Mountain including most of the geothermal lease area. The interpreted data (total field magnetic contours; calculated vertical magnetic gradient) indicate parallel sets of northerly, northeasterly, and northwesterly-trending structures that correspond well with the major fault sets identified from geologic mapping and interpreted drilling sections. Also, an elongate northerly-trending area of low magnetic gradient coincides closely with the area of intense hydrothermal alteration associated with the prominent north-south range front faults at the foot of the western flank of Blue Mountain and the intersection with northeasterly-trending structures, the eastern half of the artesian thermal anomaly identified by shallow drilling, and with a north-trending negative SP low anomaly of similar extent.

(b). *Seismic Survey*

A high-resolution seismic reflection survey was conducted by Utah Geophysical, Inc. (1990) along four widely spaced survey lines normal to range front fault sets. The survey was designed primarily to detect silicified zones or zones of argillic alteration, and faulting, to depths of about 300 meters (1000 feet), as part of the precious metals exploration program. One interpretation of the data showed discrete, high-angle faults that shallow in dip with increasing depth to about 610 meters (2000 feet) (reported in Sadlier-Brown 1998, 2001). This interpretation later contributed directly to the targeting of DEEP BLUE No.1, the first geothermal test hole at Blue Mountain (Fairbank 2000).

(c). *Self-Potential Survey*

The self-potential (SP) survey was conducted by EGI, University of Utah, in 1996, with some fill-in and repeat lines for data verification in 1998 (Ross et al, 1999). The survey covered much of the western flank of Blue Mountain and adjacent pediment areas to the west, with more than 44.3 line-km (145,480 line-ft) of SP profiles, covering an area of 11 km^2 (4.5 mi^2). The purpose of the survey was to define areas of near-surface geothermal activity that might be associated with faults acting as conduits for thermal fluids.

Interpreted results of the SP survey are shown in Figure 2.5. The survey delineated two broad, en-echelon, elongate north-south trending negative SP low anomalies with a minimum value of –268mV, with SP high amplitudes to +61mV in the area between the SP low anomalies (Sadlier-Brown 2001). The anomaly amplitudes are comparable to SP minimum of about -250mV recorded at Beowawe, north-central Nevada, (DeMoully and Corwin 1980).

Anomaly 'Al' (-254 mV) is associated with the highest measured temperature gradients in the shallow drill holes; SP anomaly 'A2' (-268 mV) occurs immediately east of the artesian thermal area (Fairbank and Ross, 1999). The entire anomaly, however, corresponds closely to the sulfide mineralization (1-10 weight percent pyrite) noted in the mineral exploration drill

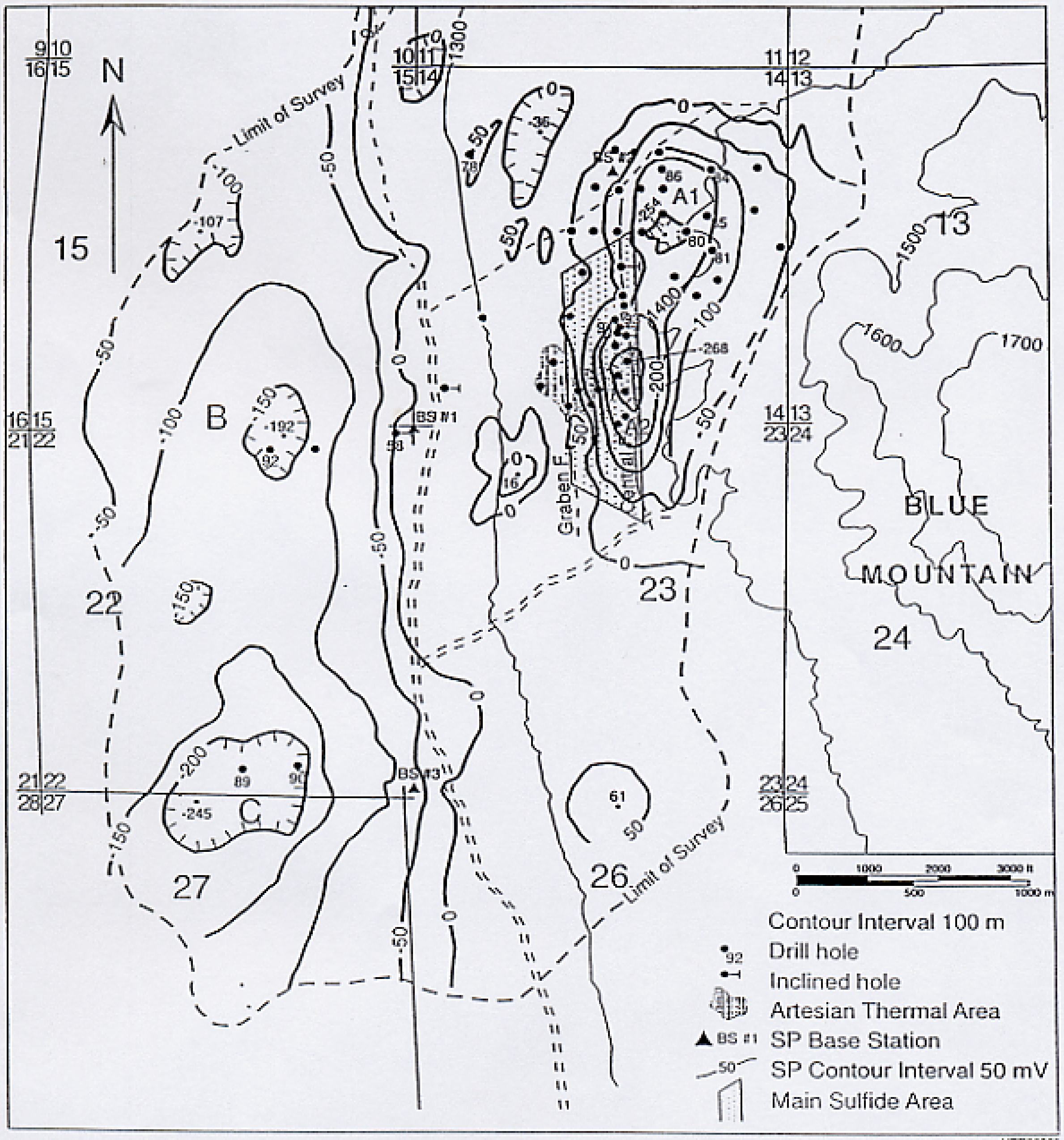


Figure 2.5: Interpreted Self-Potential anomalies, Blue Mountain Geothermal Area, (*After Ross et al, 1999*)

holes and with which the gold mineralization is associated. Simple depth estimates of 50 to100 meters (165 to 328 feet) correspond to the depths of both the sulfide mineralization and the thermal fluids as indicated by drilling (Fairbank and Ross, 1999). SP low anomalies 'B' and 'C', in pediment west of the range front faults, have similar amplitudes and extent as anomaly 'Al'. Temperature gradients measured in mineral exploration holes BM 89, BM 90, and BM 92 (Fairbank and Ross, 1999) drilled after the SP survey was conducted, are anomalous, but minor sulfides were also noted in bedrock.

(c). *Electrical Resistivity Surveys*

Most geothermal systems are characterized by low electrical resistivity because of the associated conductive mineralized, thermal fluids and hydrothermal clay (argillic) alteration.

IP/electrical resistivity (dipole-dipole) traversing conducted in 1988 as part of the precious metals exploration program covered the northwestern flank of Blue Mountain, including the northern part of the thermal anomaly identified by warm to hot water in shallow drill holes. Several areas of low apparent resistivity were identified but the cause of the anomalies was not clear; some may be associated with structures in the area.

A second IP/resistivity (dipole-dipole) survey, designed specifically as part of the geothermal exploration program, was carried out in June 1998, under the direction and supervision of EGI, University of Utah (Ross et al, 1999). The survey covered essentially the same area as that covered by the SP survey, and was conducted along five profiles lines: an east-northeast profile (BM-1) of dipole spacings of 300 meter to explore to depths of up to about 600 meters (2000 feet), and three north-south profiles (BM-2, -3 and –5) and an east-west profile (BM-4) of shorter (150 meter) dipole spacings, (Figure 2.6).

Induced polarization (IP) was recorded for all profiles (except BM-2) to further investigate the cause of the SP anomalies. Numerical modeling of selected data indicated low-resistivity and high chargeability associated with all the SP anomalies, suggesting that sulphide mineralization may be the primary cause of the SP anomalies.

The survey identified several areas of low apparent resistivity (4-10 ohm-m) that may be associated with a geothermal system at depth. An area of low apparent resistivity at a depth of about 300 meters (1000 feet) on profile BM-1, near an area of artesian thermal fluids and anomalous temperatures in shallow drill holes, was interpreted by EGI to indicate possible high temperature fluids of up to 200°C (Ross 1999). Low resistivities on profiles in an area of projected high temperatures at depth from measurements in drill holes BM 80, BM 81, BM 84, BM 85 and BM 86 also were attributed to possible deep geothermal activity (Ross 1999).

2.4 Temperature Logging in Mineral Exploration Drill Holes

More than one hundred mineral exploration holes, ranging in depth from 60 to 150 meters (197 to 492 feet), were drilled at Blue Mountain before the start of the geothermal exploration program implemented by Noramex in 1994.

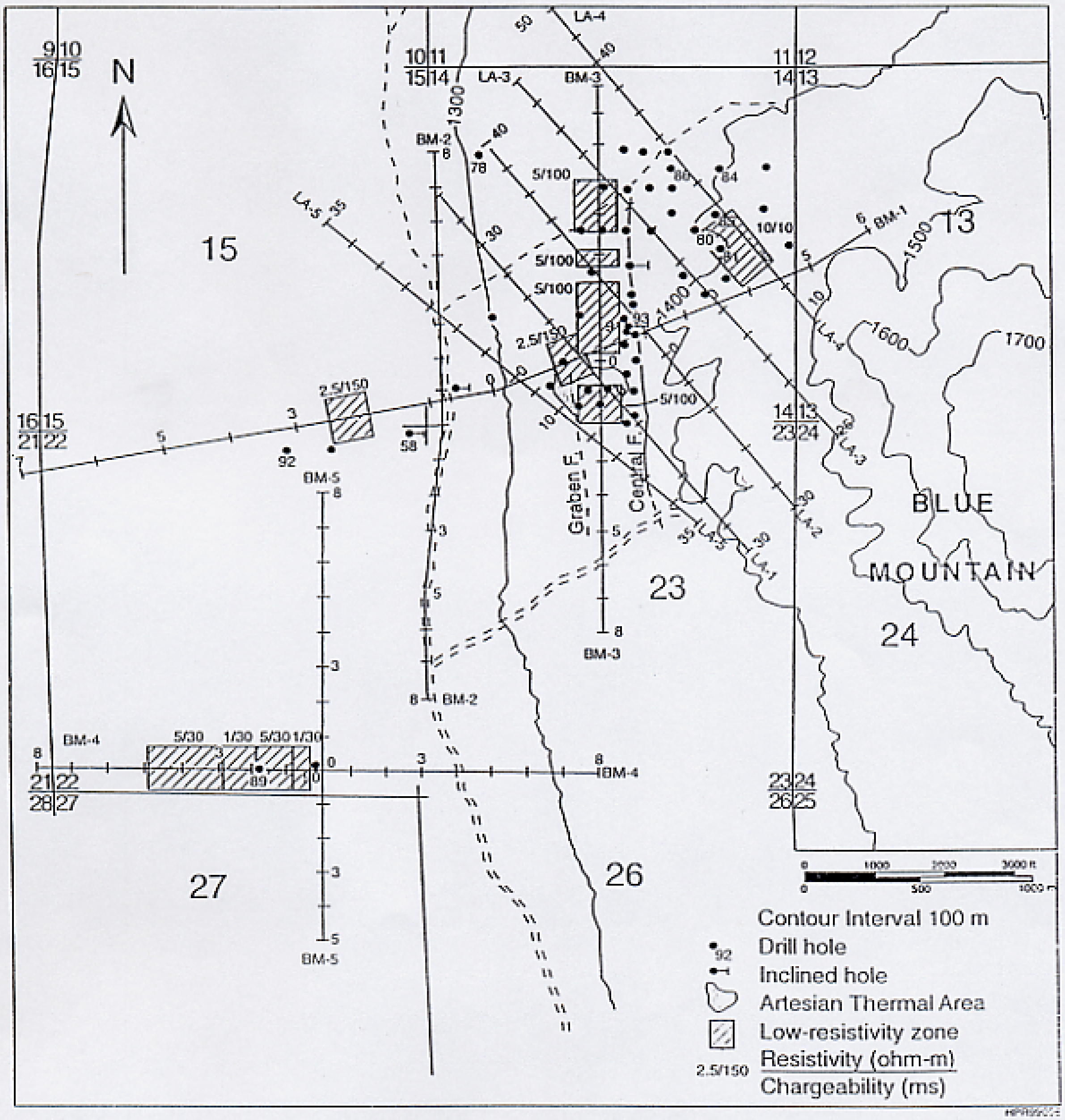


Figure 2.6: Dipole-dipole resistivity/IP survey, Blue Mountain Geothermal Area, showing location of survey profiles and anomalies of interpreted low apparent resistivity determined by numerical modeling of Lines LA-4, BM-1, -3, and –4; (*After Ross et al, 1999*).

Most of the holes were drilled in the central part of Section 14 to investigate gold mineralization in an area of intense hydrothermal alteration and silica sinters, associated with northerly and northeasterly-trending faults, interpreted as a possible epithermal gold deposit.

Many of the holes encountered difficult drilling conditions, including voids and massive losses of circulation associated with faults and intervals of fractured and brecciated rock, similar to conditions developed at shallow depths in high-temperature hydrothermal systems. Most of the holes encountered warm to hot water, some at temperatures up to 81°C (178°F), and six holes encountered artesian flows of thermal fluid (Parr and Percival 1991).

Little useful temperature data were recorded from the earlier mineral exploration drill holes as the primary focus of exploration was the gold mineralization, and no fluid samples were collected for geochemical analysis. Nevertheless, the warm to hot water encountered in many of the holes clearly indicated the presence of a significant shallow thermal anomaly.

The first reliable subsurface temperature data for the geothermal program at Blue Mountain were obtained in 1996 and 1997, as part of the DOE/Office of Geothermal Technology (OGT)-supported Cooperative Study Agreement between Noramex and The Energy & Geoscience Institute (EGI), University of Utah.

Using a precision thermistor probe, EGI, University of Utah, obtained detailed temperature logs of eleven new mineral exploration holes drilled at Blue Mountain. The holes, ranging in depth from 99 to 244 meters (325 to 800 feet), were drilled in areas to the northeast, northwest and southwest of, and up to distances of two kilometers from, the earlier mineral exploration drill holes that encountered hot artesian flows. Unfortunately, however, efforts to line the holes, for temperature logging, were frustrated by bridging and caving of loose material in the holes and in all cases the liners placed in the holes did not reach bottom. The holes were logged in April and May 1996; March and May 1997; and May 1998.

The measured temperature gradients for the shallow holes logged by EGI are highly anomalous, averaging 357°C/km to a depth of 215 meters (705 feet), or 399°C/km to 125 meters (410 feet) if holes drilled through thick overburden (BM 78; BM 92) are excluded. Preferred temperature data from these holes, and for other holes for which reliable temperature data are available, are discussed in Section 4.1 (below).

3.0 DOE / NORAMEX COST SHARED GRED DRILLING PROGRAM; DEEP BLUE No.1

DEEP BLUE No.1, the first slim geothermal observation test hole at Blue Mountain, was drilled under a cost-share program between the DOE and Noramex, under the DOE's Geothermal Resource Exploration and Definition (GRED) program, (Noramex Corp., 2002).

The hole was sited to test an area of projected high temperature at depth from gradients measured in shallow holes drilled in the central part of the lease area (Figure 3.1), and to test an area of low apparent resistivity interpreted to reflect possible permeable zones, at depth, associated with the Central Fault. Data for the well are summarized in Table 3.1.

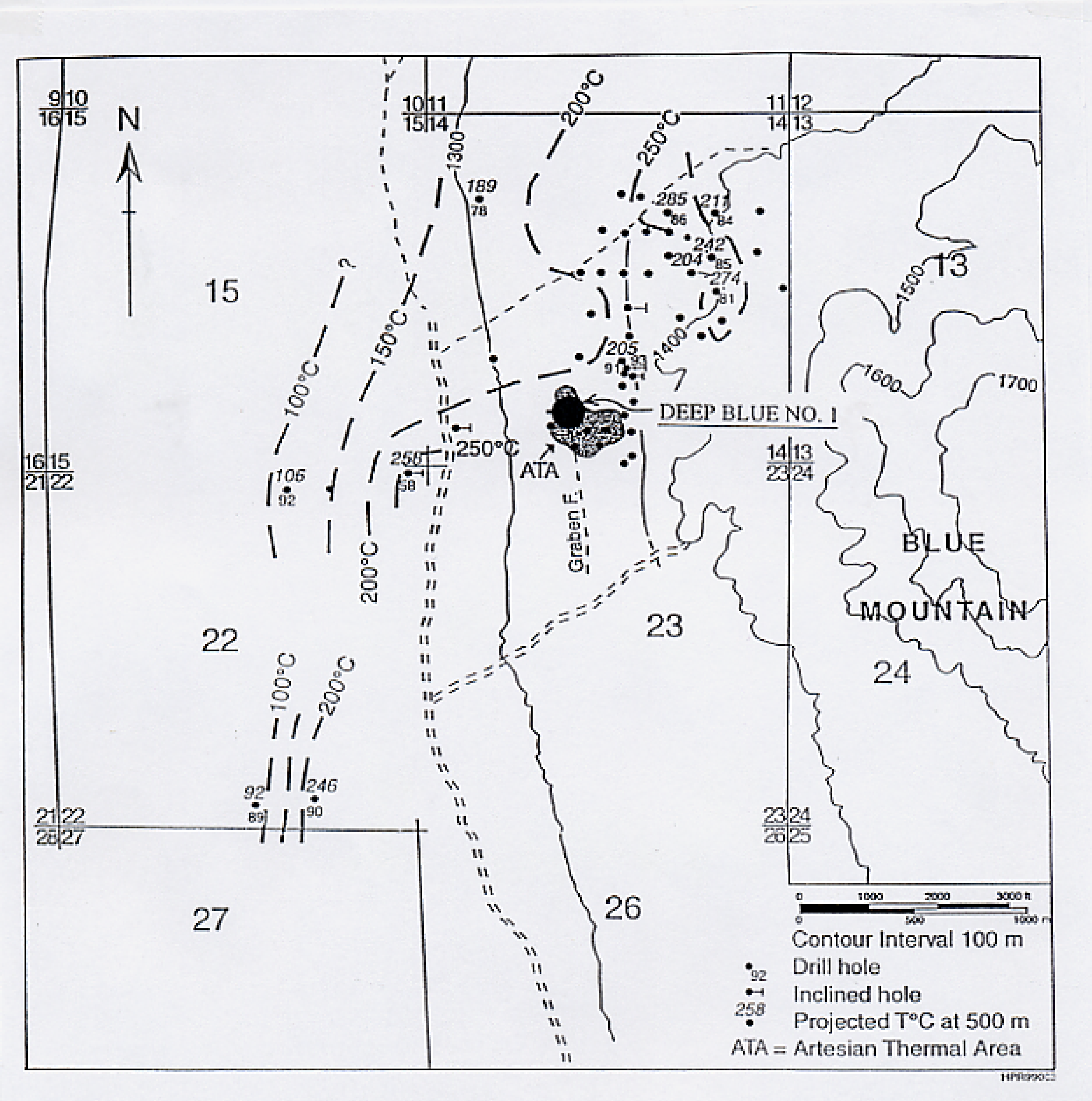


Figure 3.1: Well location – DEEP BLUE No.1, (*from Noramex Corp., 2002*).

TABLE 3.1: Summary of Well Data - DEEP BLUE No.1

Well Name:	DEEP BLUE No. 1
Location:	Humboldt County, Nevada, USA; T.36N R.34E, Section 14. Latitude 40° 59' 23"N; Longitude 118° 07' 50"W UTM Coordinates: 0404895mE; 4538120mN
Elevation:	4,347ft (1,325m)
Date spudded:	April 27, 2002
Date completed:	June 08, 2002
Date rig released:	June 12, 2002
Total days (spud/completion):	43 days
Total days (spud/rig release):	47 days
Maximum drilled depth:	2,205ft (672.1m) RKB.
Hole sizes:	
(a) Rotary drilling:	12 ¼" rotary hole; 0 to 53ft (0 to 16.2m) 9 7/8" rotary hole; 53 to 345ft (16.2 to 105.2m) 6 ¼" rotary hole; 345 to 367ft (105.2 to 111.9m)
(b) Continuous coring:	5.276" CHD 134 core hole; 367 to 579ft (111.9 to 176.5m) 3.782" HQ core hole; 579 to 2,205ftTD (176.5 to 672.1m)
Casing sizes:	10 ¾" buttress thread casing cemented, with shoe @ 51ft (15.5m) 7" buttress thread casing cemented, with shoe @ 321ft (97.8m) 4 ½" flush joint casing cemented, with shoe @ 573ft (174.7m)
Liner:	2.75" (OD) used NQ liner, set @ 2,165ft (659.9m); (*Blank & slotted intervals; max. clear depth inside liner 2,115ft./644.7m*)
Maximum temperature:	
(a) During drilling:	291°F (144°C) @ 1,785ft (544.1m); MRT* (3hrs, no circulation)
(b) Post drilling:	292.5°F (144.7°C) @ 2,114.6ft (644.5m); down-hole temperature log, (WELACO) following discharge attempt June 10, 2002. (*: *Maximum registering thermometer*)
Artesian flow at:	163ft (49.7m); estimated 30 gals./min (120L/min)
Well status:	Shut in June 12, 2002; (heating).

3.1. Drilling

DEEP BLUE No.1 was spudded on April 27, 2002 and completed to total depth of 672.1 meters (2205 feet) on June 08, 2002. Dynatec Drilling Inc, of Salt Lake City, Utah, drilled the hole using a truck-mounted UDR 1500 drilling rig, equipped for conventional rotary-drilling and wire-line continuous coring operations.

The well was rotary-drilled to 111.9 meters (367 feet) and continuously cored (3.782" HQ hole) from 111.9 meters to 671.2mTD (2205 feet). Severe losses of circulation encountered in the shallow subsurface caused considerable difficulty and delays with the rotary-drilled interval of the hole, and with the cementing of the 7" casing to 97.8 meters (321 feet) and 4 ½" casing to 175 meters (573 feet). An artesian flow of warm water was encountered at 49.7 meters (163 feet) but efforts to obtain an uncontaminated sample of the water for geochemical analysis were frustrated by unstable hole conditions.

The 3.782" HQ cored interval of the well was trouble-free and completed on schedule; for the most part, core recovery was excellent. The well was completed with a combination string of blank and slotted, used 2.75" NQ liner, landed at a depth of 659.9 meters (2165 feet).

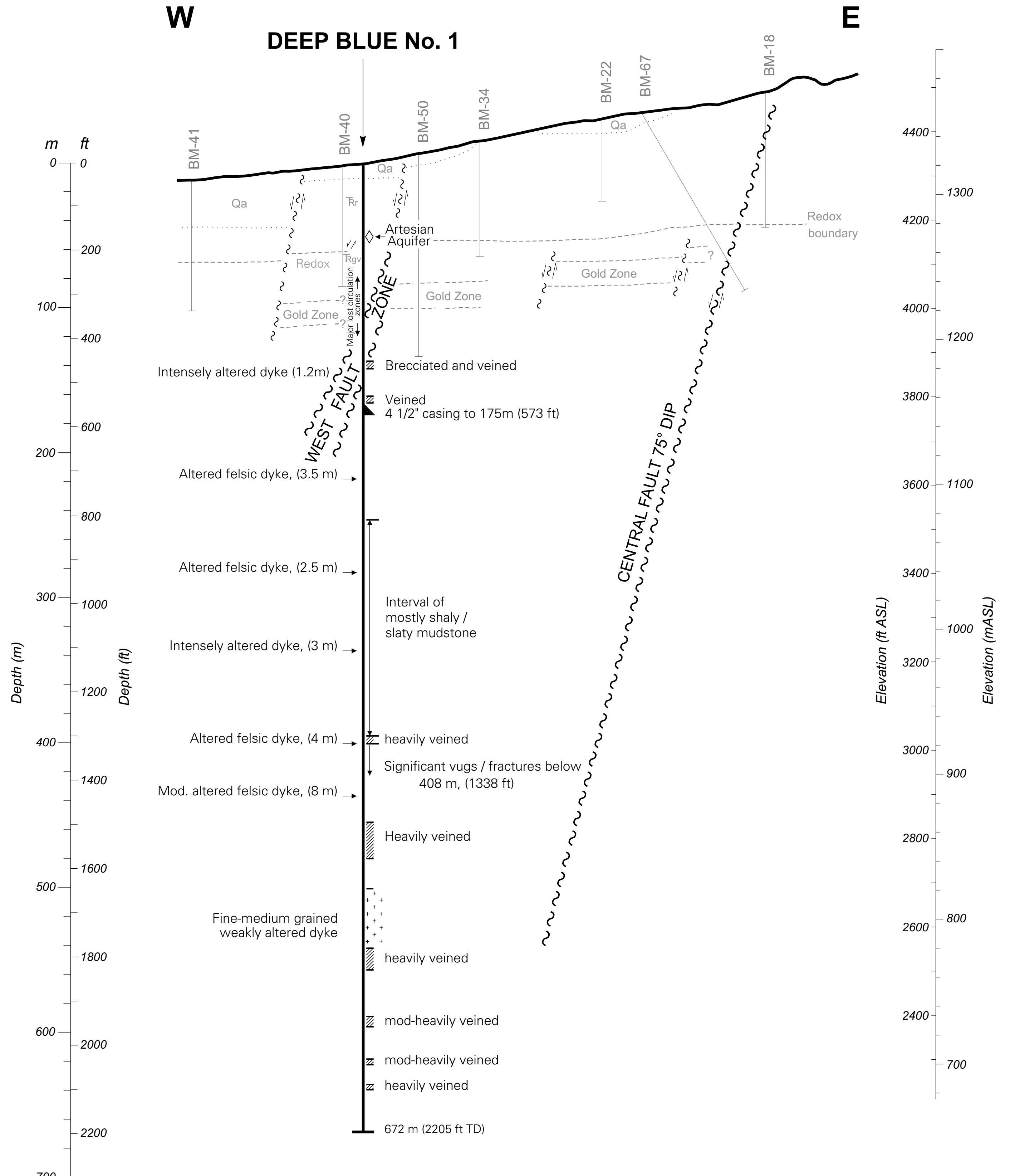
A final wellhead comprising a 7 1/16-inch to 6-inch x 300 RF cross-over spool with a 3-inch stainless steel ball valve mounted on the 6-inch x 300 RF flange was installed on the casing head flange (CHF). The wellhead was then secured with a 4ft x 16-inch diameter steel 'cap'.

3.2. Geology

The general geology of DEEP BLUE No.1 is shown in Figure 3.2; a summary graphic log of the well is presented in Figure 3.3.

DEEP BLUE No.1 encountered variably fractured and veined, fine-grained meta-sedimentary units of the Raspberry and Grass Valley Formations, intruded by a number of strongly-altered, fine-grained felsic dykes, up to 47 meters (155 feet) in thickness, and less altered, fine- to medium-grained, intermediate dykes to total depth at 672.1 meters (2205 feet) (Figure 3.3). Primary layering observed in the core (40 to 60 degrees to the vertical core axis) is consistent with the moderate dips (west to northwest) mapped by Willden (1964) and Percival (1983). Cleavage foliation and some small-scale folds are also evident in the core.

Pervasive silicification is the most widespread form of alteration observed in argillite and mudstone in core from DEEP BLUE No.1. Extensive quartz veining indicates a high degree of fracturing and flow of silica-rich thermal fluids at some time, at temperatures of at least 200°C (392°F). Some fractures are only partially sealed, displaying voids and drusy cavities; however, many fractures and silica-flooded brecciated intervals within the meta-sedimentary units observed in the core now appear to be sealed. Intervals of soft shaly mudstone, clay fault gouge, and intervals with few veins and fractures were noted over a significant interval from about 200 to 400 meters (650 to 1310 feet) and may form an effective 'cap' to the geothermal reservoir (Ritcey 2002).



BLUE MOUNTAIN GEOTHERMAL PROJECT
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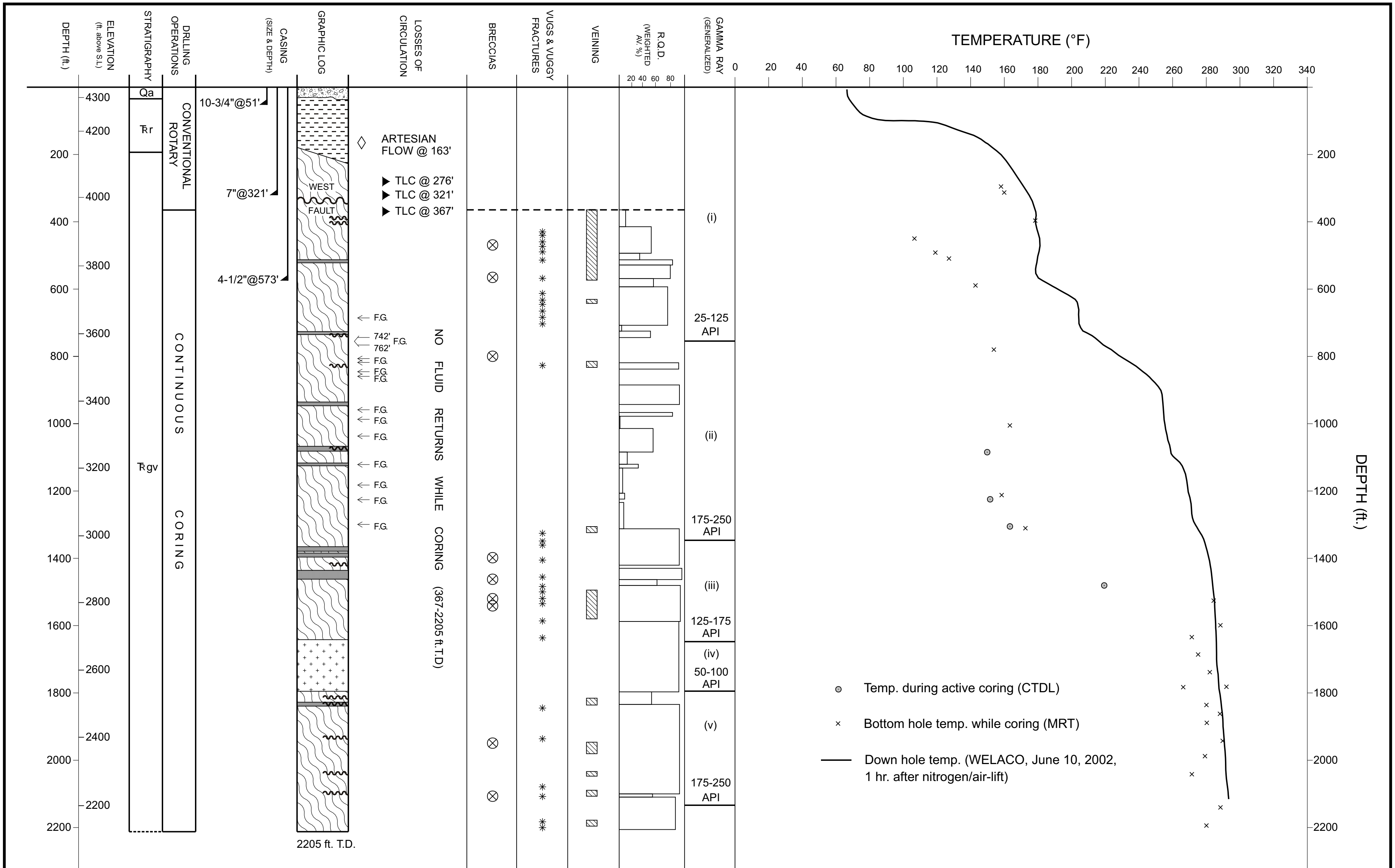
Figure 3.2: General Geology ~ Well DEEP BLUE No. 1

(Vertical section at UTM 4 538 120 N)

Date: Sept. 2002 Prepared by: D. RITCEY	US DOE Cooperative Agreement No. DE-FC04-00AL66972	FAIRBANK ENGINEERING LTD, **NORAMEX CORPORATION**



Stratigraphy

- Qa — Quatenary; alluvium
- Ŧr — Triassic / Raspberry Formation
- Ŧgv — Triassic / Grass Valley Formation

Lithologies

- Alluvium
- Mudstone
- Argillite
- Felsic dyke
- Fn-med. grnd dyke

Symbols

- Fault
- Shearing
- ← F.G. — Fault gouge
- ▶ TLC — Total loss of circulation
- RQD — Rock quality designation (ref. Appendix B for details)

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Humboldt County, Nevada, USA

US DOE Geothermal Resource Exploration and Definition Program

Figure 3.3: DEEP BLUE No. 1 ~ Summary Graphic Log,
(Lithology; structure; RQD; generalized gamma ray; and temperatures)

Date: Sept. 2002 Prepared by: A.J.D.R.	US DOE Cooperative Agreement No. DE-FC04-00AL66972	FAIRBANK ENGINEERING LTD, **NORAMEX CORPORATION**

DEEP BLUE No.1 penetrated the West Fault at 98 to 187 meters (320 to 615 feet), indicated by extensively broken rock and open cavities observed in the core, and massive losses of circulation during drilling. Anticipated fracture zones at depth associated with the Central Fault, were not intersected implying that the dip of the fault does not shallow with increasing depth, as suggested by one interpretation of the seismic data, but is a high angle structure with an average dip of about 75° and therefore passes below the bottom of the hole (Figure 3.2).

The zone of low apparent resistivity targeted by the well, interpreted as possibly due to thermal fluids in fractured rocks, appears instead to correspond to the 200 meter (650 feet) thick interval of largely (conductive) clay gouge material that probably forms an impermeable barrier or 'cap' to the system at DEEP BLUE No.1, impeding the flow of higher temperature reservoir fluids rising from depth, or moving laterally along major structures in the vicinity of the well.

Although it has not yet been quantified, the overall permeability of DEEP BLUE No.1 appears to be low, based on the nature of the lithologies drilled to 672.1 meters (2205 feet), and of silica-cemented breccia zones and sealed and partially sealed fractures observed in the core.

3.3. Logging and Testing

An electronic core tube data logger (CTDL), provided by DOE/Sandia National Laboratories, was used to record temperature and pressure data during active coring operation at DEEP BLUE No.1. The tool had an upper temperature limit of 100°C (212°F) so was used only for the upper section of the cored interval of the hole. Temperature data also were obtained, throughout the drilling operations, using maximum registering thermometers (MRTs). For the cored interval, the thermometers were run inside the core rods, on the rig wire-line, immediately after completing a core run and before recovering the core barrel.

Well Analysis Corporation (WELACO) of Bakersfield, California, logged the hole on June 09, (temperature; pressure; gamma), and again on June 10, 2002, following an initial attempt to flow the well. A maximum temperature of 144.7°C (292.5°F) was recorded at a depth of 644.5m (2114.6ft), the maximum clear depth for the WELACO survey tools inside the NQ liner, (Figure 3.3). Interpretation of the temperature logs suggests that the top of the geothermal reservoir is at a depth of about 450 meters (1475 feet). Temperature data from DEEP BLUE No.1 are discussed in more detail in Section 4.1 (below).

Two attempts were made to flow the well, using nitrogen and nitrogen and compressed air. During the first attempt (June 10) the well flowed hot, dirty water at zero wellhead pressure (WHP) and a flow-line temperature of 65.6C (150F); the discharge was not sustained. A second attempt was made on June 12 and the well flowed hot water at 0 WHP, with a flow-line temperature of 71.1C (160F), for about 20 minutes, but did not sustain a discharge.

Following the second discharge attempt, the well was shut-in for heat-up and recovery. No further logging or testing has been conducted on the well since June 12, 2002. The stabilized, static down-hole temperature and pressure conditions in the well are therefore unknown at this time. A request for additional funding support for a program of further testing of DEEP BLUE No.1 has been submitted to the DOE, (Noramex Corporation, 2003).

4.0 DISCUSSION

4.1 Thermal Regime

Subsurface temperature data for the Blue Mountain Geothermal Area are summarized in Table 4.1. The locations of the drill holes included in Table 4.1 are shown in Figure 4.1; temperature profiles for these holes are plotted in Figure 4.2, (relative to elevation above mean sea level). Included are data from (inclined) mineral exploration drill hole BM 58; data from ten of the eleven mineral exploration holes logged by EGI, University of Utah, in 1996 and 1997; and preliminary (unequilibrated) temperature data from geothermal observation test hole DEEP BLUE No.1.

The temperature data for BM 58 are based on five temperature measurements of fluid returns while drilling. For hole BM 90, the maximum temperature of 74°C (165°F) is a bottom hole temperature recorded during drilling, before the hole caved in deep overburden. The maximum temperatures recorded for the remaining mineral exploration drill holes listed in Table 4.1, however, do not correspond to bottom hole temperatures but are for the deepest point logged in the holes, because of the limited depths of the liners in the holes (as noted previously).

TABLE 4.1: Summary of Temperature Data, Blue Mountain Geothermal Area

Hole Number	Cellar Elevation (masl)	Drilled Depth, m (ft)	Max. Temp.[1]		Temp Gradient (°C/km)	Depth of Overburden (m)	Comments
			T (°C)	m.			
DEEP BLUE No.1	1325	671.2 (2205)	144.7	644.5	339 (10-320m) 196 (10-645m)	9	Logged by WELACO, (June 10, 2002)
BM 58[2]	1282.5	132.0 (433)	(73. 9)	132	410 (31-132m)	30	Inclined hole (60°/090°)
BM 78	1303	152.4 (500)	44.8	54	321 (40-54m)	72	Logged by EGI, 03/20/97
BM 80	1396	102.1 (335)	67.8	90	344 (80-90m)	17	Logged by EGI, 04/17/96
BM 81	1397	108.2 (355)	62.3	80	436 (40-80m)	15	Logged by EGI, 05/02/96
BM 84	1400	138.7 (455)	66.5	110	370 (80-110m)	11	Logged by EGI, 05/01/96
BM 85	1405	126.5 (415)	70.1	114	443 (70-114m)	3	Logged by EGI, 03/20/97
BM 86	1376	99.1 (325)	69.8	89	485 (60-89m)	3	Logged by EGI, 04/17/97
BM 89	1260	126.5 (415)	55.6	80	86 (50-80m)	>127	Logged by EGI, 05/06/97
BM 90	1274	167.6 (550)	(74.0)	167	431 (30-49m)	134	Tmax. BHT while drilling
BM 92	1278	243.8 (800)	65.1	215	142 (120-215m)	101 (?)	Logged by EGI, 05/06/97
BM 93	1352	125.0 (410)	81.2	108	313 (100-125m)	3	Logged by EGI; Incl Hole

Notes:
[1]: Recorded at deepest point logged in drill hole, unless otherwise noted.
[2]: Data from five temperature measurements of drilling fluid returns

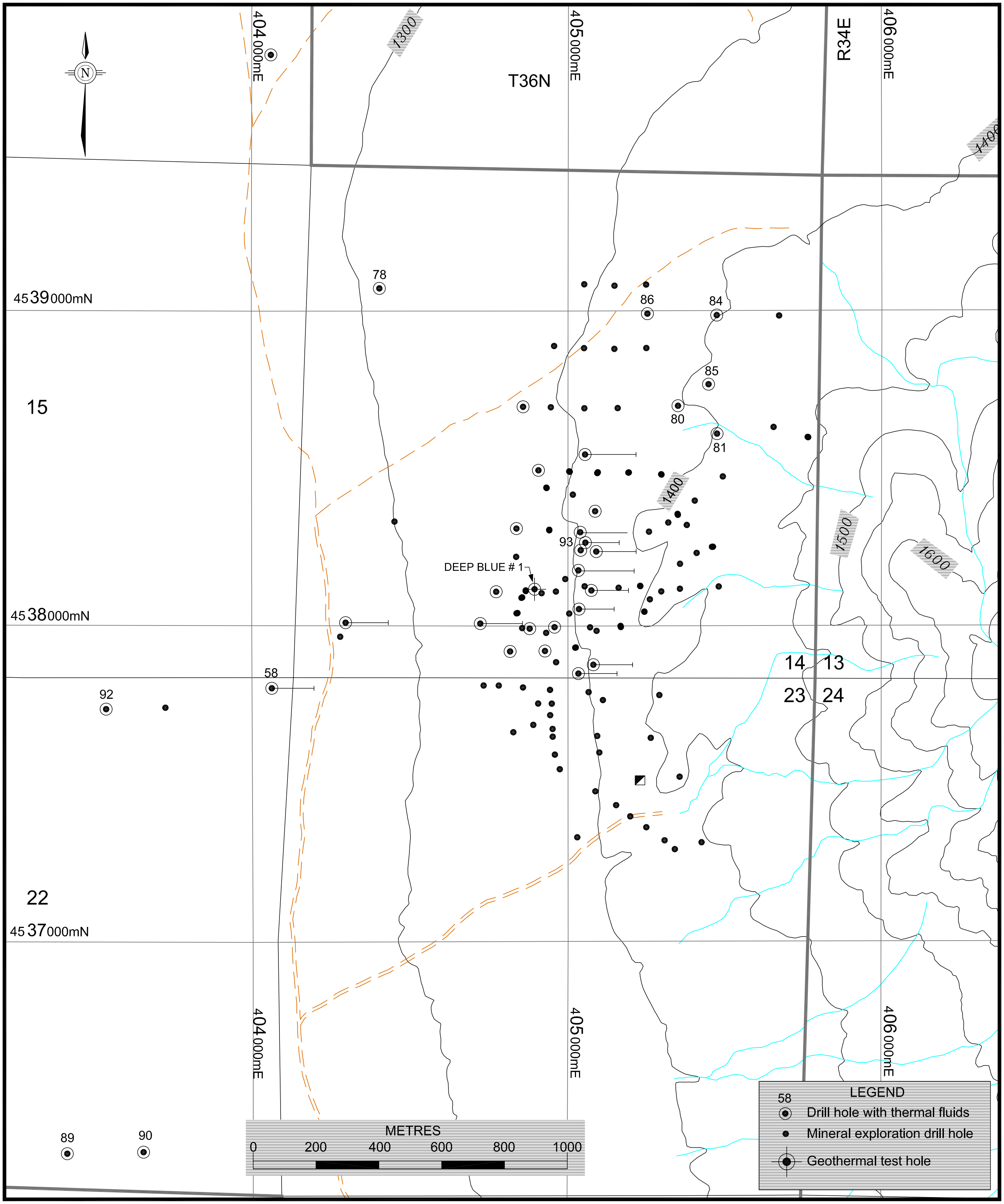


Figure 4.1: Location Map - Drill Holes with Temperature Data

Temperature data from BM 91 (logged by EGI) are not included in Table 4.1; the hole was drilled to a depth of only 35 meters (115 feet) and was later duplicated by inclined hole BM 93, completed to a true vertical depth of 108 meters (354 feet). Also, temperature data from BM 89 suggest a possible down-flow in the hole, below a depth of about 44 meters (144 feet), masking the true temperature profile of the hole (Sadlier-Brown 1998; Appendix A); data for hole BM 89 are not plotted in Figure 4.2.

It is clear from Figure 4.2 that temperatures recorded to date at Blue Mountain are very encouraging. No temperature reversals have been recorded in any of the logged mineral exploration drill holes, or in observation hole DEEP BLUE No.1 to a maximum drilled depth at 672.1 meters (2205 feet). A maximum temperature of 144.7°C (292.5°F) at 645 meters (2115 feet) in DEEP BLUE No.1 was recorded shortly after the well was completed.

The measured temperature gradients for all holes included in Table 4.1 also are clearly anomalous. For the logged mineral exploration holes, gradients range from 142°C/km at BM 92, the most westerly of the holes for which reliable data are available, to a high of 485°C/km for BM 86, one of the most northerly of the shallow drill holes for which reliable temperature data are available, (Figure 4.1). The high temperature gradient observed at BM 86, and for other holes drilled in the northeast (Table 4.1: BM 80; 81; 84; and 85), closely match the steep temperature gradient (339°C/km) recorded in the upper section of DEEP BLUE No.1, to a depth of about 320 meters (1050 feet). All of these holes were collared in bedrock or drilled through a short interval of overburden.

Holes BM 58, BM 78, and BM 90 to a depth of 50 meters (164 feet), drilled 0.9 km. to the west-southwest, 1.0 km. north-northwest, and 2.2 km. to the southwest of DEEP BLUE No.1 (Figure 4.1), also have high gradients of 410°C/km, 321°C/km, and 431°C/km, respectively, similar to the high gradient (339°C/km) in the upper section of DEEP BLUE No.1.

BM 90, located more than two kilometers to the southwest of DEEP BLUE No.1, was drilled through 134 meters (440 feet) of overburden to a total depth of 168 meters (550 feet). A bottom hole temperature of 74°C (165°F) recorded during drilling is probably low and likely not the true temperature at that depth. This is supported by geothermometry of three fluid samples obtained from the hole (April 1997) that yielded consistent geothermometer temperatures of 94°C to 119°C (201°F to 246°F) for three different chemical geothermometers (quartz, no stream loss; Mg-corrected Na-K-Ca; and Na/Li). The quartz (no steam loss) geothermometer temperatures of 103° to 111°C (average 107°C) are likely the most valid, yielding temperatures in the near wellbore environment (Moore 1997), and are in good agreement with measured (unequilibrated) temperatures at similar depth in DEEP BLUE No.1 (Figure 4.2). BM 90 is located at the southern limit of the drilled area so fluids encountered in the hole may represent well-mixed or secondary reservoir fluids rather than the main high-temperature reservoir.

Hole BM 92, the most westerly of the holes plotted in Figure 4.2, also drilled through a thick sequence of poorly consolidated sediments, has the lowest temperature gradient at 142°C/km. but this is still significantly above regional background gradients of 30° to 60°C/km (Garside and Schilling 1979).

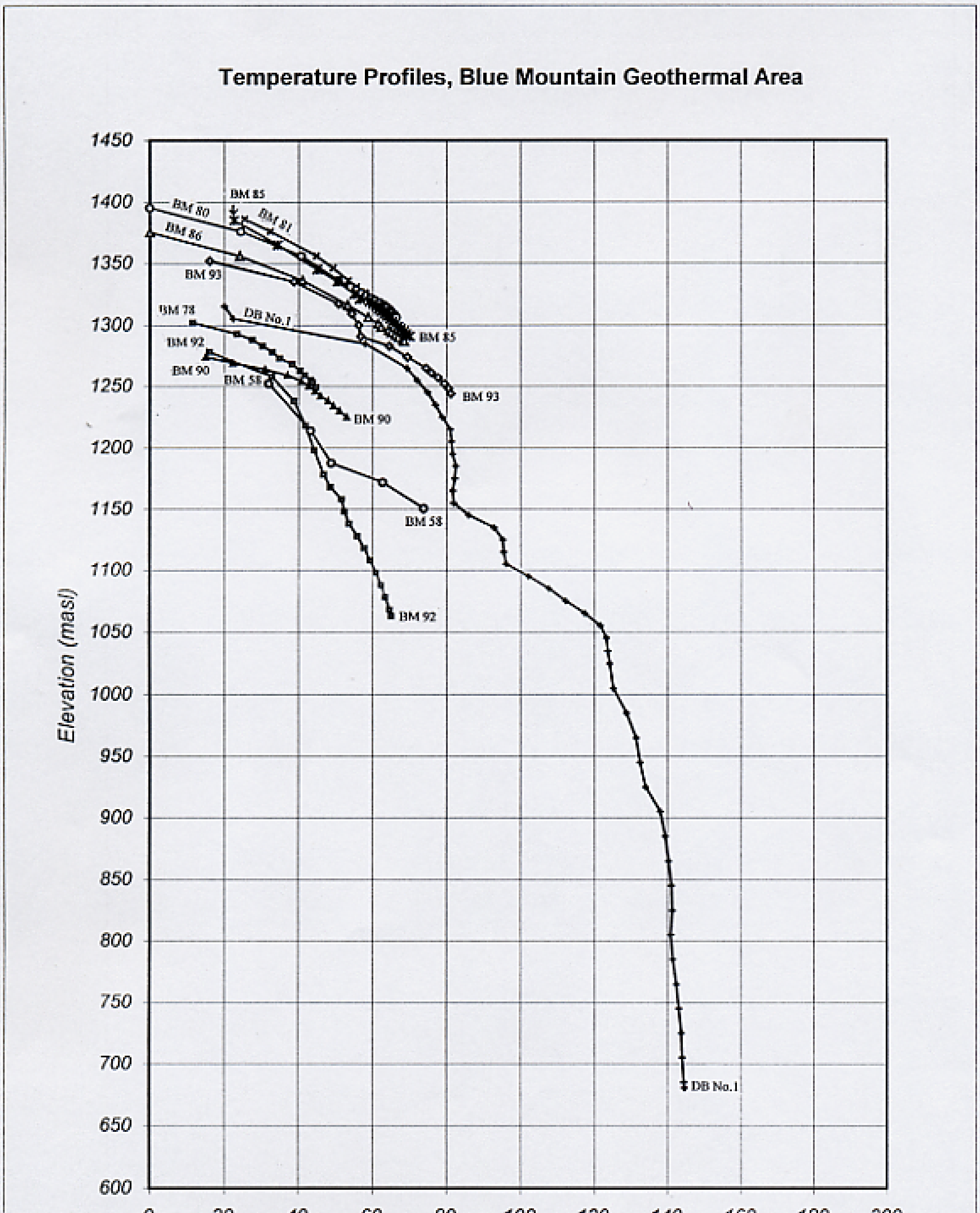


Figure 4.2: Temperature profiles, Blue Mountain Geothermal Area.

The results from DEEP BLUE No.1 provide the first unequivocal data on temperature conditions at depth at Blue Mountain. It is now clear that, for the area tested by DEEP BLUE No.1, projected high temperatures of greater than 137°C (279°F) at 300 meters (984 feet) and of over 200°C (392°F) at a depth of 500 meters (1640 feet) from gradients recorded in nearby shallow mineral exploration drill holes, reported earlier and qualified correctly at the time as speculative (Ross, 1998), are unrealistically high. The currently measured (unequilibrated) temperatures at these depths in DEEP BLUE No.1 are 124.1°C (255°F) at 300 meters (984 feet), and 141.4°C (287°F) at 500 meters (1640 feet).

The overall temperature gradient for DEEP BLUE No.1 (interval from 10 to 645 meters; 33 to 2116 feet) is 196°C/km. In the upper section of the well, to a depth of about 320 meters (1050 feet) the gradient is strongly anomalous at 339°C/km (Table 3.1). For the interval from 320 to about 460 meters (1050 to 1509 feet) the gradient declines to 108.6°C/km; and over the bottom interval of the hole from about 460 meters (1509 feet) to the maximum clear depth in the hole at 645 meters (2116 feet) the gradient is 23.2°C/km (Figure 3.1). Deepening the hole, therefore, is unlikely to yield significantly higher temperatures within a reasonable depth.

A preliminary analysis of the temperature data from DEEP BLUE No.1 by David Blackwell (W.B. Hamilton Professor of Geophysics, Southern Methodist University, Dallas TX) suggests two possible large-scale scenarios for the thermal regime at Blue Mountain.

One scenario envisages a single, major flow path, that might correspond to the Central Fault, lies to the east of DEEP BLUE No.1 and temperatures in the well would be equal to or less than those along the fault. If fluid circulation from depth is confined to a fault to the east of the well, the ‘system’ temperatures are unconstrained by the current temperatures recorded from DEEP BLUE No.1 and could be significantly higher than the temperatures measured in the well.

Alternatively, there could be multiple flow-paths along an extensive and more complex system of faults and fractures at depth between the range front (western scarp of Blue Mountain) and Desert Valley, to the west. Additional faults channeling hot fluids from depth may therefore be present to the west of the well. In this case, the temperatures recorded in DEEP BLUE No.1 may more closely represent the ‘system’ temperatures, but the size (*i.e.* extent) of the potential high temperature resource could be much larger than in the case of a system supplied by a single fault (Blackwell 2002).

4.2 Resource Potential

The combined geologic, self-potential and IP/resistivity traversing, and temperature gradient data from the geothermal exploration program, coupled with relevant geologic, and geophysical data from the earlier precious metals mineral exploration program where hot water was encountered in many of the shallow mineral exploration drill holes, have identified a large, shallow thermal anomaly at Blue Mountain, of at least 4.5km^2.

The thermal anomaly has now been explored to a maximum-drilled depth of 672.1 meters (2205 feet), albeit by a single test hole (DEEP BLUE No.1). No temperature reversals have been observed in any of the logged mineral exploration drill holes, or in DEEP BLUE No.1.

The average gradient for DEEP BLUE No.1, based on temperatures recorded immediately after the well was completed, is 196°C/km, but it is not unreasonable to expect that the well has since heated up and the stabilized maximum temperature may now be on the order of 150°C (300°F), giving an average gradient for the well of about 200°C/km, four times the average regional gradient of about 50°C/km.

The temperatures recorded at DEEP BLUE No.1, however, may not reflect the system temperatures as a whole because the permeability of the well appears to be somewhat limited, based on sealed and partially sealed fractures noted in the core and the results of the initial attempts to flow the well immediately after it was completed; the well, therefore, may not be in direct communication with hotter reservoir fluids elsewhere in the system.

The thick sequence of fine-grained meta-sedimentary units drilled to date appear to have low intrinsic permeability, with little coarse-grained material within the interval drilled to 672.1 meters (2205 feet). The influence on the hydrology of the system, of the numerous felsic dykes, many of which are extensively altered, that intrude the meta-sedimentary sequence at Blue Mountain, is also unclear. That they are altered suggests that they were associated with some degree of permeability at some time, either cooling joints in the dykes or secondary fracture permeability induced during the emplacement of the dykes, in which case the contacts of the dykes may provide some degree of vertical (and lateral?) permeability within the meta-sedimentary sequence. Although the lithological permeability for the system as a whole is probably low, certain intervals within the meta-sedimentary sequence may have sufficient secondary permeability to act as aquifers for thermal fluids.

Where major faults have acted as conduits for high temperature fluids within the meta-sedimentary sequence, pervasive silicification has rendered these units susceptible to fracturing and brecciation, creating intervals of excellent secondary permeability locally within the sequence, as evidenced by drusy and vuggy veins and fractures and breccias (since sealed or partially sealed) noted in core from DEEP BLUE No.1. Similar structural (fault) control undoubtedly provided conduits for the thermal fluids responsible for the hot spring type epithermal gold mineralization at Blue Mountain. Nevertheless, there is no direct evidence to indicate that the structures that were active during the earlier gold mineralization are the principal conduits for high temperature thermal fluids within the present hydrothermal system (Sadlier-Brown, 2001).

Overall, the results to date at this early stage of the resource confirmation-drilling program are very encouraging, when compared to production temperatures and production well depths for geothermal fields now in commercial production elsewhere in Nevada.

Currently there are nine geothermal fields in Nevada that have been developed for electric power generation (Table 4.2; modified from Garside et al, 2002). Excluding the Wabuska area, where the drilled temperature is 107°C (225°F) and shallow wells produce low-temperature fluids at 104°C from Quaternary sands and gravels, the drilled temperatures for the remaining eight fields range from 151°C (304°F) at Empire/San Emidio Desert, to a high of 250°C (482°F) at Dixie Valley, with an average drilled temperature for the eight fields of 193°C

(379°F). The average production temperature of these eight fields is 157°C (315°F), from an average production well depth of 1196 meters (3924 feet).

TABLE 4.2: Operating Geothermal Power Plants in Nevada, 2001
(Modified from Garside, Shevenell, Snow and Hess, GRC *Trans*. Vol. 26.)

Plant Name (Year on line)	Prod. Capacity MW[1] (MW)	Plant type[2]	Approx. Drilled Temp. (°C)	Prod. Fluid Temp. (°C)[3]	Av. Prod. Well Depth m. (number)	Plant Operator
Beowawe (1985)	16.7 (16.6)	DF	199	143	2518 (3)	Beowawe Power, LLC
Brady's Hot Springs (1992)	21.1 (26.0)	DF	186	156	932 (6)	Brady Power Partners
Desert Peak (1985)	9..9 (11.0)	DF	205	156	1123 (2)	Brady Power Partners
Dixie Valley (1988)	66.0 (62.0)	DF	250	171	2825 (7)	Caithness Dixie Valley, LLC
Empire (1987)	4.6 (4.8)	WCB	151	149	540 (3)	Empire Energy, LLC
Soda Lake No.1 (1987) Soda Lake No.2 (1991)	16.6 (26.0)	ACB	182	177	795 (5)	Constellation Operating Serv.
Steamboat I, I-A (1986) Steamboat II, III (1992)	53.0 (58.7)	ACB	170	157	331 (12)	SB Geo, Inc
Steamboat Hills (1988)	14.44 (14.44)	SF	236	158	790 (3)	Yankee Caithness J.V.L.P.
Stillwater (1989)	13.0 (21.0)	ACB	158	146	909 (4)	Constellation Operating Serv.
Wabuska (1984)	1.2 (1.45)	WCB	107	104	131 (2)	Homestretch Geothermal

Notes:
[1]: Production (Prod.) capacity from currently developed geothermal resources (equipment capacity in parenthesis)
[2]: Plant type – DF, dual flash; SF, single flash; ACB, air-cooled binary; WCB, water-cooled binary
[3]: As reported to Nevada Division of Minerals. Temperature drop not representative of energy extracted for flash systems.

If Steamboat and Steamboat Hills are excluded, as they differ geologically (*i.e.* production is from relatively shallow depth from reservoir rocks of fractured granodiorite) from the other operating geothermal fields in Nevada, then the average drilled temperature and production temperature for the seven remaining fields are 190°C (374°F) and 157°C (315°F), respectively, from an average production well depth of 1377 meters (4519 feet).

DEEP BLUE No.1 recorded an unequilibrated maximum temperature of 144.7°C (295°F), at a comparatively shallow depth of 645 meters (2116 feet), and stabilized temperatures may have since heated to about 150°C (300°F). If better permeability can be located elsewhere in the system, it should be possible to confirm resource temperatures of 180°C (356°F), or higher, at depths of 1000 to 1500 meters (3300 to 4900 feet) at Blue Mountain.

Locating adequate permeability at depth therefore remains a key objective for further resource confirmation drilling and for the successful development of a commercial geothermal resource at Blue Mountain. The hydrological controls on the distribution of thermal fluids at depth have not yet been clearly established. Further drilling is needed to test whether the major faults and fracture zones alone provide sufficient permeability for commercial production, or whether other models that include production from hot water aquifers possibly within the meta-sedimentary sequence, in either the hanging walls or the foot walls of the major faults, also may be appropriate.

4.3 Further Drilling

Following the success of DEEP BLUE No.1, a logical approach to delineating the resource at Blue Mountain is to drill additional intermediate depth resource confirmation test holes as 'step-out' holes from the discovery well.

The combined results of the geothermal exploration program executed by Noramex, in collaboration with EGI, (Section 2), identified three main areas of interest for testing by intermediate depth drilling (Fairbank and Ross 1999). Later, two test holes were proposed, and suitable drill sites identified, to test the two most prospective areas (Fairbank 2000), *i.e.*

a) An area of interpreted low apparent resistivity close to the artesian thermal area, with favourable temperatures and gradients in shallow drill holes, in the vicinity of the Central Fault; - DEEP BLUE No.1 tested this area. And,

b) An area of projected high temperatures at depth, from temperature gradients measured in shallow drill holes BM 80, -81, -84, -85 and –86, associated with a broad zone of low apparent resistivity (10 ohm-m); - this area has not yet been tested at depth.

The positive results from DEEP BLUE No.1 provide justification for a second resource confirmation test hole at Blue Mountain, to obtain critical information on temperature conditions at depth elsewhere in the system. The previously identified area of high anomalous temperatures and gradients measured in shallow drill holes to the northeast of DEEP BLUE No.1, at the intersection of the prominent north-south and northeast-trending faults, remains a reasonable next target for further resource confirmation drilling.

The proposed site for the second test hole is located on the elevated bench area between the Central Fault and the main western slope of Blue Mountain, approximately 1 km (0.62 ml) to the north-northeast of DEEP BLUE No.1 (Fairbank 2000). A hole at this location will test whether the area of shallow artesian thermal waters is sited directly over the main upflow of the system or whether there is flow further to the east and northeast (Blackwell, 2002).

The second hole will test the northeast-trending high angle normal faults mapped at surface and interpreted from aerial photographs and air-borne magnetic/VLF-EM data, on the northwestern flank of Blue Mountain. High temperatures and anomalous gradients in shallow drill holes in the area strongly suggest that the fractures are active conduits for higher temperature fluids from depth (Fairbank and Ross 1999). The northeasterly faults may be the dominant structural control on the deep hydrology of the system in this area. If they are younger and, therefore, possibly more permeable than the northerly trending range front faults, they might be in communication with higher temperature reservoir fluids at depth; this can only be tested by drilling.

In addition to obtaining 'step-out' information on the geology, temperature, and permeability conditions at depth to the northeast of DEEP BLUE No.1, a key objective for the second intermediate depth test hole at Blue Mountain is to obtain a suite of samples of the deep reservoir fluid, for detailed geochemical analysis and geothermometry, to get an estimate of the maximum temperature that is likely in the system. This information is critical for determining meaningful estimates of the resource potential of the area. The geochemical data also will provide information on the extent of any mixing of the reservoir fluids with local meteoric (*i.e.* non-thermal) waters and the possible source of the reservoir fluids.

5.0 DOE/NORAMEX COST-SHARED GRED II DRILLING PROGRAM; SLIM GEOTHERMAL OBSERVATION TEST HOLE DEEP BLUE No.2

5.1 Objectives

The second slim geothermal observation test hole at Blue Mountain, designated DEEP BLUE No.2, will be drilled as a 'step-out' hole from DEEP BLUE No.1, to further evaluate the commercial potential of the geothermal resource.

DEEP BLUE No.2 is designed as a vertical, slim observation test hole to a nominal target depth of 1000 meters (nominal 3400 feet). The hole is sited to test an area of projected high temperatures at depth, from temperature gradients measured in a group of shallow drill holes located approximately one kilometer to the northeast of observation hole DEEP BLUE No.1. The well is not intended for, or designed as, a commercial well or a production well. A brief flow-test and/or injection test, however, may be conducted at completion to determine basic reservoir parameters and obtain fluid samples.

The specific objectives of DEEP BLUE No.2 are to:

- Obtain detailed temperature and pressure profile data to a depth of 1000 meters (3400 feet).
- Obtain a continuous core sample from about 200 meters (650 feet) to 1000 meters TD (3400 feet), to characterize subsurface lithologies, examine the nature and extent of hydrothermal alteration, and evaluate possible controls on reservoir permeability.
- Test whether northeast-trending structures, at depth, are active conduits for high temperature geothermal fluids.
- Obtain samples of reservoir fluids for geochemical analysis and geothermometry.
- Conduct a brief flow-test and/or an injection test to obtain basic data on reservoir characteristics; and
- Provide information that will assist in designing future development wells.

Most of the well-documented geothermal sites in Nevada are associated with active surface manifestations (fumaroles, hot springs, or seeps), and many of these sites have been investigated extensively. In contrast, 'blind' systems, such as Blue Mountain, are, understandably, less well understood. The information obtained from DEEP BLUE No. 2, in conjunction with the results from DEEP BLUE No.1 and earlier exploration data, will be used to refine the geologic model of the 'blind' geothermal system at Blue Mountain. This will help guide further resource confirmation work and reduce the risks for future development drilling at Blue Mountain. It also will assist exploration at other geothermal systems under investigation in similar geologic settings elsewhere in the Great Basin.

5.2 Well Location and Site Preparation

The proposed location of DEEP BLUE No.2 is shown in Figure 5.1. The well will be drilled in the SW1/4 of the NE1/4 of Section 14, T.36N, R.34E, Humboldt County, Nevada, at a site located about one kilometer (0.62 miles) to the north-northeast of DEEP BLUE No.1.

The site has been selected to minimize surface disturbance and is close to an existing dirt access road. A small amount of surface material may be removed to provide a level site for the rig; minor upgrading of the access road may also be required. A 6 x 6 x 2-meter drilling reserve pit will be excavated at the drill site, with a capacity of about five times the hole volume. Water for drilling will be trucked from a County well, located approximately 8 kilometers (5 miles) from the well site.

5.3 Permitting

DEEP BLUE No.2 is the second of two sites that were originally identified for permitting in 2000. It is located on the same federal lands (Federal lease N-58196, Humboldt County, Nevada) and in the same general vicinity as observation hole DEEP BLUE No.1. It is anticipated that the Archeological (Cultural Resources) Survey, and the Environmental Assessment completed for permitting DEEP BLUE No.1 will be sufficient for permitting DEEP BLUE No.2, and that extensive new studies or surveys will not be required.

The permits required for DEEP BLUE No.2 include:

- Application for Permit to Drill (APD) and the Plan of Operation (POO); (Federal Bureau of Land Management, BLM).
- Geothermal Resource Development Permit Application; (State of Nevada, Commission on Mineral Resources, Division of Minerals, NDOM).
- Waiver for Temporary Use of Water; (State of Nevada, Division of Water Resources).

Geothermal Development Associates (GDA), of Reno, Nevada, will conduct permitting in support of the project.

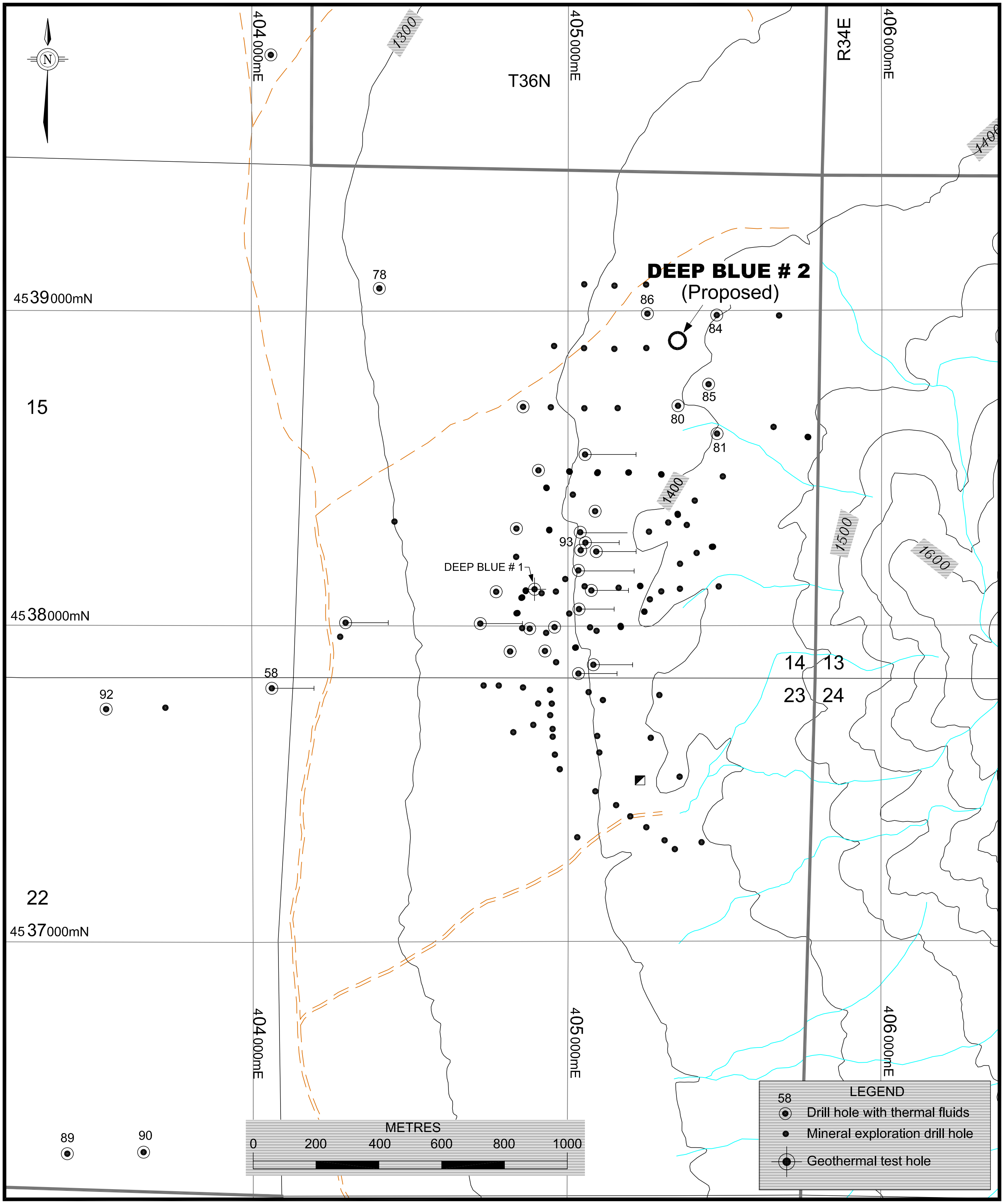


Figure 5.1: Proposed well location - DEEP BLUE No. 2

5.4 Anticipated Drilling Conditions

Geologic control for DEEP BLUE No.2, to a depth of 139 meters (455 feet), is provided by shallow drill holes BM 80, BM 84, BM 85 and BM 86 that bracket the site, (Figure 5.1).

The hole will be collared in weakly altered, phyllite (Raspberry Formation), and should pass into weak to variably altered, silicified (?), argillite and quartzite of the Grass Valley Formation below a depth of about 137 meters (450 feet). Moderately dipping (40 to 60 degrees), fine-grained, grey-black, variably fractured/veined meta-sedimentary rocks of the Grass Valley Formation, similar to the lithologies cored at DEEP BLUE No.1 (Ritcey, 2002), are expected to total depth (nominal 1000 meters/3400 feet). Silicification may be widespread but should not adversely affect drilling; clay alteration and clay gouge (possibly intense locally) may be encountered where faults are intersected, or the formations are extensively fractured.

Diabase dykes, and high-angle (?), moderate to strongly altered, fine-grained felsic dykes ranging in thickness from about a meter (3 feet) to over a 47 meters (155 feet) (DEEP BLUE No.1, Ritcey, 2002), intrude both the Raspberry Formation phyllite encountered in the shallow mineral exploration drill holes, and the Grass Valley Formation argillite drilled at DEEP BLUE No.1, and also will likely be encountered in DEEP BLUE No.2.

Because of the structural complexity of the Blue Mountain area, losses of circulation can be expected at any time during drilling. These may be especially severe where faults, or fractured and brecciated formations are encountered. Many of the mineral exploration drill holes experienced difficult drilling conditions at shallow depth. Severe losses of circulation encountered in DEEP BLUE No.1, where the well penetrated the West Fault, caused considerable difficulties during the early stages of drilling (rotary) and with the cementing of the 7-inch and 4 ½-inch casing strings.

DEEP BLUE No.2 is located to the east of the West- and Central Faults, and is targeted to intersect northeast-trending structures below a depth of about 800 meters 2625 feet), in the cored interval of the hole. Losses of circulation, however, can still be expected in the shallow subsurface. If unexpectedly severe problems due to losses of circulation are encountered, Noramex may seek technical assistance from DOE/Sandia National Laboratories in using specialized cementing materials such as epoxy or polyurethane cements, and related cementing procedures, to deal with troublesome formations or conditions in the hole.

From temperatures measured in the nearby drill holes and in DEEP BLUE No.1, temperatures of 100°C (212°F) may be encountered at a depth of about 213 meters (700 feet); bottom-hole temperatures could exceed 160° to 180°C (320° to 356°F) at 1000 meters (3400 feet).

5.5 Drilling Equipment

DEEP BLUE No.2 will be drilled using rotary drilling and diamond drill coring methods. Continuously cored slim holes have cost and technical advantages over conventional rotary-drilled wells, maximizing the amount of geological information obtained while minimizing the environmental impact of the drilling operations. Rig operating costs are lower because of the smaller equipment and machinery used for drilling.

Because DEEP BLUE No.1 was the first slim observation hole drilled at Blue Mountain a conservative well design was adopted, with three fully cemented strings of casing. ‘Class A’ blow out prevention equipment (BOPE), including blind rams, pipe rams and a Hydril annular preventor, was used for well control for drilling below the cemented 4 ½” casing shoe. The hole was drilled using a hybrid-drilling rig (UDR 1500) capable of both rotary drilling and coring operations, with an elevated drilling platform to accommodate the large BOP stack and a rotating head.

From the experienced gained drilling DEEP BLUE No.1, the well design for DEEP BLUE No.2 has been modified to provide further cost savings, without compromising the objectives of the well or jeopardizing safety while drilling. The hole will be completed with two cemented casing strings (10” conductor, and 4 ½” surface casing), eliminating the intermediate casing string. A smaller, 4” Regan-type annular BOP will be installed on the cemented 4 ½” surface casing and used for coring operations below the 4 ½” casing shoe, eliminating the need for an elevated drilling platform or large substructure to accommodate a ‘Class A’ BOPE stack.

Boart-Longyear Company, of Salt Lake City, Utah, has been selected as the drilling contractor, based on a lower overall estimated cost for drilling the hole. Boart-Longyear also offer advantages regarding cementing procedures for the 4 ½” casing.

Initially, Noramex obtained a bid for drilling DEEP BLUE No.2 from Dynatec Drilling Inc., of Salt Lake City, Utah, the drilling contractor for DEEP BLUE No.1. Dynatec, however, subsequently revised and increased their bid to a level that, in Noramex’s opinion, was unacceptably high for a slim observation hole. Noramex therefore requested and obtained a bid from a second drilling contractor (Boart-Longyear). The bids were evaluated and, after consulting with both contractors to refine the well plan to reduce the well costs further, revised bids were obtained. In Noramex’s opinion, both contractors were felt to be equally capable of drilling DEEP BLUE No.2; Boart-Longyear, however, was consistently the lower bidder.

Two smaller drilling rigs will be used to drill DEEP BLUE No.2, rather than the single, larger hybrid drilling rig used to complete DEEP BLUE No.1; this provides savings in rig operating costs and improved efficiencies for the drilling and coring operations. A truck-mounted Lang DH series Tophead Rotary Drill 1995 will be used to complete the upper, cased section of the hole, using a flooded-reverse system. The flooded-reverse system has been used successfully in other geothermal areas in Nevada (Rye Patch; Soda Lake) where difficult drilling conditions similar to those encountered at Blue Mountain exist in the shallow subsurface. After the rotary rig has installed and cemented the 4 ½” casing it will be demobilized. A separate, LS-244EC (Electronic controlled) truck mounted coring rig will then be used to complete the cored interval of the hole to the planned target depth of 1000 meters (3400 feet).

A diverter will be used for flow control for the rotary-drilled section of the well to a depth of about 200 meters (650 feet). A 4” Regan-type annular BOP (1500 psi WP) will be used for drilling below the 4 ½” casing shoe.

An H_2S Safety Plan will be implemented for drilling DEEP BLUE No.2; H_2S gas monitoring and detection equipment will be installed at the drill site and on the rig for all drilling operations below the 4 ½” casing shoe. Similar equipment was used at DEEP BLUE No.1. Although no problems with H_2S were encountered on that hole, it is felt prudent to adopt similar precautions for DEEP BLUE No.2, as the hole will test different structures at depth in a different part of the geothermal system at Blue Mountain.

5.6 Well Plan and Drilling Operations

The well plan for slim observation test hole DEEP BLUE No.2 is shown in Figure 5.2.

A 14 ¾-inch hole will be air-rotary drilled into bedrock to about 18 to 21 meters (60-70 feet), cased with 10” K-55 casing, and cemented. A diverter will be installed on the 10-inch casing for flow control for rotary drilling below the 10-inch casing shoe, to direct fluid returns from the centre tube to a cyclone, separating the air from the fluids, and returning the mud to the tanks and mud cleaning system.

A 9 7/8-inch hole will be air-rotary drilled, using a flooded-reverse circulation system, to a depth of about 200 meters (650 feet), cased with 4 ½-inch flush-joint casing and cemented back to surface. Hole angle (deviation) will be surveyed at 100 meters (300 feet) and prior to running the casing at 200 meters (650 feet).

The 9 7/8-inch hole is larger than would typically be used for cementing the 4 ½-inch casing. The larger hole-to-casing annulus provides more flexibility for cementing the casing, particularly where losses of circulation are encountered or anticipated. With a larger annulus the casing can be cemented more rigorously, using a tremmie line to place cement down inside the annulus. The larger cemented annulus also improves the overall integrity of the cemented casing string.

The bottom 30 meters (100 feet) of the casing string will be centralized to ensure that the 4 ½-inch casing shoe is properly cemented. Portland ‘Class G’ oil well cement, with 30-35% silica flour to provide added strength at elevated temperatures, HR-12 retarder and CFR-3 friction reducer, will be used to cement the 4 ½” casing. The temperature at the bottom of the 9 7/8-inch hole will be measured before cementing the casing to finalize the cementing program. Depending on the severity of any losses of circulation encountered during drilling, the use of lightweight cement or other specialty cement blends may be considered.

The casing will be cemented initially using a standard displacement method, pumping cement down through the casing and around the casing shoe up into the annulus. Approximately 15 meters (50 feet) of cement will be left inside the casing, above the casing shoe, to ensure that the casing shoe is properly cemented. An excess volume of cement will be used to counter any losses of circulation. It is doubtful, however, that cement returns to surface will be achieved in the annulus using the displacement method. To complete the cementing operation, a tremmie line will be run down inside the annulus to back-fill the annulus with cement to ensure that the 4 ½-inch casing string is properly cemented.

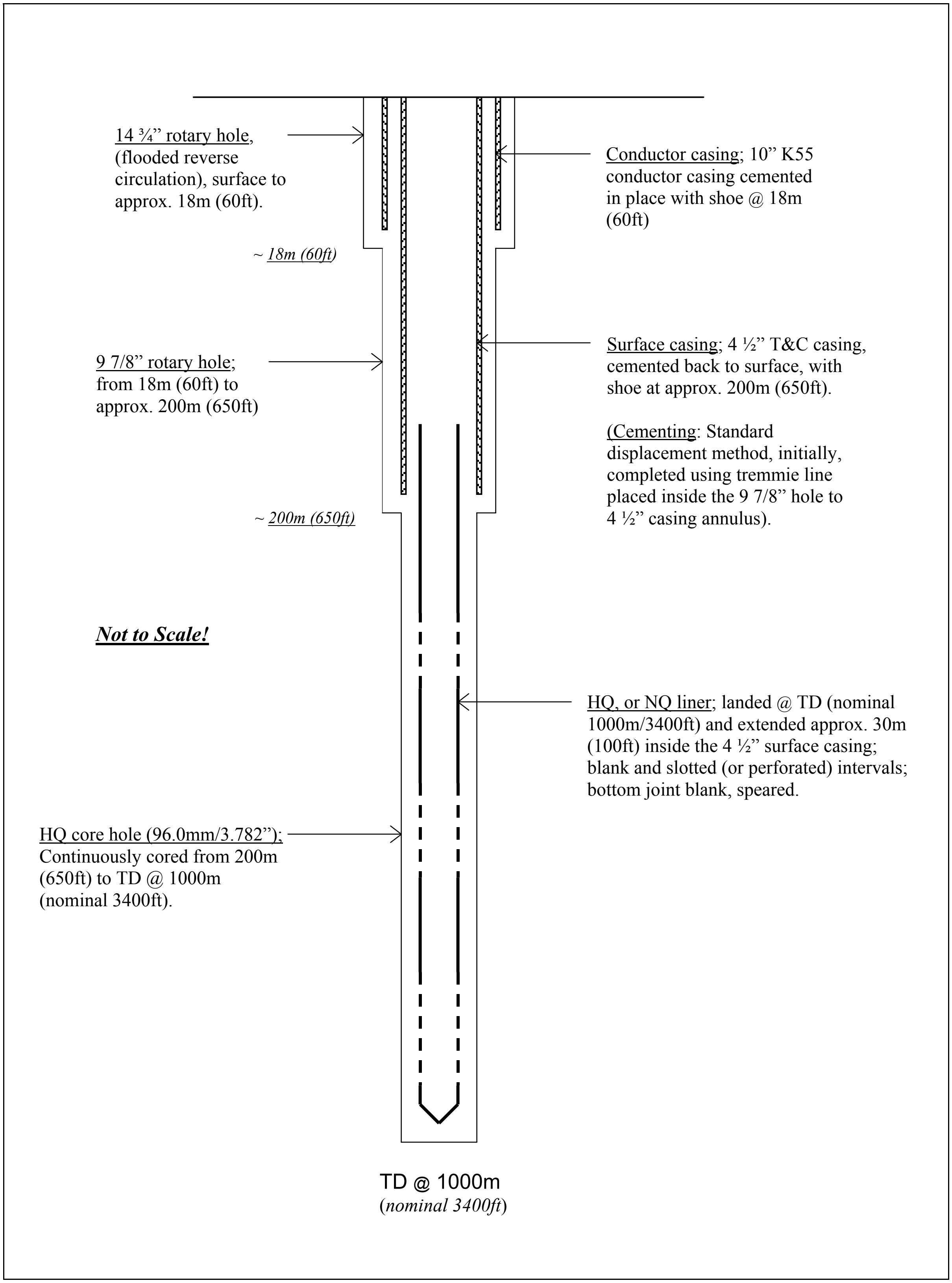


Figure 5.2: Schematic of Well Profile ~ DEEP BLUE No.2

A 4-inch x 1500 psi Regan-type annular BOP, and full-opening ball valve, will be rigged up on a casing head flange (CHF) installed on the 4 ½-inch casing. The casing shoe will be pressure-tested before the rotary rig is released and coring operations commence.

A 3.782-inch (HQ) hole will be continuously cored below the 4 ½-inch casing shoe to 1000 meters TD (3400 feet). A standard 3-meter (10 foot) wire-line recovery core barrel will be used to recover the 2.50-inch dia. core. If the 3.782-inch HQ hole cannot be completed to total depth, the hole size will be reduced to 2.98-inch NQ hole. A lubricator will be used for all wire-line core recovery operations in the 3.782" HQ core hole (and 2.98-inch NQ hole, if required).

At completion, a short (4 to 6 hour) rig test and/or injection test may be conducted, prior to installing the liner, if conditions will allow. Any fluids produced will be contained in the drilling reserve pit, and used for the injection test.

After testing, the hole will be completed with used blank and slotted (or perforated) 3.782-inch HQ (or 2.75-inch NQ) liner, landed on bottom and overlapped approximately 30 meters (100 feet) inside the 4 ½-inch casing. The hole will then be logged (temperature; pressure; gamma), the wellhead installed, and the hole will be shut-in for heat-up and recovery.

A Drilling Engineer will be available full-time to supervise the drilling operations and coordinate with the drilling contractor. Daily reports of the drilling operations will be filed with the DOE, and the Federal (BLM –Nevada State Office) and State regulatory agencies (Nevada Commission on Mineral Resources, Division of Minerals). Other information (casing programs; cementing programs) will be filed as required.

A geologist will be on site throughout the drilling operations to log the drill cuttings and core, and coordinate with the drilling staff. Noramex will also provide a weekly report to the DOE summarizing the drilling operations and project activities.

5.7 Logging and Testing

Drill cuttings will be collected by the rig crew at 3-meter (10-foot) intervals, washed, dried, and bagged (three sets). Core recovered at surface will be removed from the core barrel by the rig crew and placed in core boxes and retained at the drill site.

A geologist will examine the drill cuttings and core material on site, prepare a written description of the cuttings and core, and compile an interpretive log of the geology of the hole, including lithology, alteration, structure, and other relevant information. The core will be photographed (35mm, and digital format). The logged core will be stored in a shipping container at the drill site for possible further study.

Down-hole temperatures will be recorded at regular intervals of approximately 15 to 25 meters (50 to 80 feet) during the rotary drilling and the continuous coring operations, to monitor the bottom-hole temperatures (non-equilibrated) as the hole is advanced. This may include the use of core tube data logger (CTDL) for the upper section of the cored interval of the hole, (if one were available from DOE/Sandia National Laboratories).

For the continuously cored interval of the hole, down-hole temperatures will be measured using maximum registering thermometers (MRTs). The thermometers will be run, in tandem, on the rig wire-line and left 'on bottom' for approximately 10 to 15 minutes, with no drilling fluid circulated down-hole; (this system was used with good results at DEEP BLUE No.1).

A commercial well logging contractor will log the hole at completion, to obtain detailed base-line temperature and pressure profile data. A gamma ray survey/log will also be run.

After the well is completed, a short (4 to 6 hour) controlled rate flow test (rig test) and/or injection test will be conducted to obtain samples of the reservoir fluid and provide estimates of reservoir parameters. The hole will be discharged through a flow meter to the reserve pit, or through a horizontal discharge line to an atmospheric separator/silencer and weir box, to determine the flow rate and record the wellhead pressure and flow-line temperature. A suite of samples of the discharge fluid will be collected for detailed geochemical analysis to characterize the thermal fluids and provide geothermometry estimates of the temperature of deeper reservoir fluids. Produced fluids contained in the drilling reserve pit will be used for an injection test. The completion tests would be of limited duration, with the rig on site.

After testing, the hole will be logged again to obtain additional base-line down-hole temperature and pressure data prior to shutting-in the hole for heat-up and recovery.

A final well report will be prepared for the DOE documenting the drilling operations and presenting all the technical results and information obtained from the well. The report will include a detailed geologic log, the results of all logging and down-hole surveys, analyses of any fluid samples collected from the well, and the results and analysis of any testing.

Copies of the geological log and all other logs obtained from the hole will be submitted to the appropriate Federal and State agencies, in accordance with permitting requirements.

5.8 Well Abandonment

DEEP BLUE No.2 will be maintained as an observation hole.

Drill cuttings and core will be removed to storage off-site (possibly in Winnemucca). The drilling reserve pit will be dewatered and leveled. The site will be reclaimed in accordance with state and federal regulations.

5.9 Work Plan and Budget

The project work plan and budget for drilling DEEP BLUE No.2 is outlined in Table 5.1. Funds for prerequisite studies for permitting are included, although these studies were completed for permitting DEEP BLUE No.1 and should not be required; the budgeted funds would cover any updates of the existing studies that might be needed.

For budgeting purposes, a conservative estimate of sixty one (61) days has been used for the total time required to complete the drilling and testing of DEEP BLUE No.2 to the planned nominal target depth of 1000 meters, (nominal 3400 feet), based (in the absence of other data) on the drilling performance of DEEP BLUE No.1. With the modified well design, however, it is hoped that DEEP BLUE No.2 can be completed in significantly less time than 61 days. A 10% contingency is included for the drilling contract to cover uncertainties in the quantities of consumables such as drilling mud, lost circulation materials, and core bits that may be used.

The estimated total cost for drilling DEEP BLUE No.2 is **US $ 804,940.00.**

TABLE 5.1: Work Plan and Budget - DEEP BLUE No. 2

1. PLANNING & ENGINEERING:	Program Mgmt, Contract, Legal survey	$ 9,700	
	Detailed Well and Operations Program	15,300	
			25,000
2. PERMITTING:	Archeological Study	(6,000)	
	Environmental Assessment Report	(12,000)	
	BLM & DOM App. for Drilling Permit	2,000	
			20,000
3. SITE PREP/MAINT:	Pad construction incl. mob/de-mob.	$ 6,500	
	Road upgrade & maintenance	6,000	
			12,500
4. DRILL CONTRACT:	Mobilization (Rotary rig; Core rig)	12,500	
	Rigging Up	6,500	
	10-inch conductor casing to ~18m	8,700	
	4 ½ inch casing to ~200m,	53,210	
	HQ Coring, 200-1000mTD (800m)	273,000	
	Install Liner	15,945	
	Logging; Testing	4,745	
	Rigging Down	6,500	
	De-mobilization	12,500	
	R&B	13,600	
	Water, bits, mud, core boxes, wellhead	55,000	
	10% Contingency	46,220	
			508,420
5. WELL SITE DRILLING SUPERVISION & GEOLOGY & TECHNICAL & LOGISTICS SUPPORT:			113,900
6. WELL LOGGING & TESTING:			59,700
7. DATA COMPILATION AND REPORTING			31,600
8. PROJECT MANAGEMENT & SUPERVISION			23,250
9. RECLAMATION			7,200
10. PROJECT MANAGEMENT & SUPERVISION CONTINGENCY			3,370
		TOTAL PROJECT	**$ 804,940**

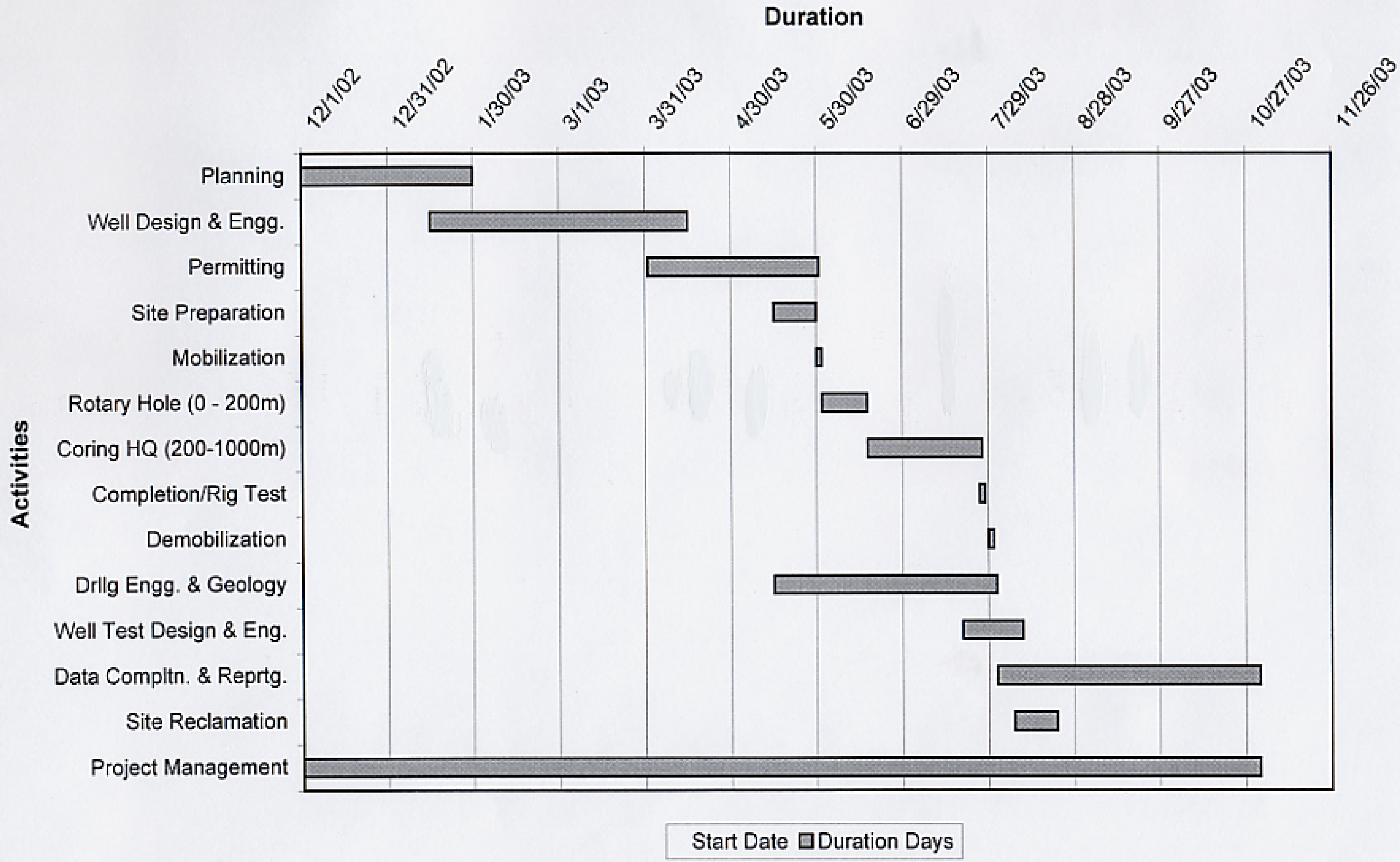
5.10 Project Schedule

Figure 5.3 shows the program schedule for drilling observation test hole DEEP BLUE No.2. Some planning activities and engineering work is already underway (well design, solicitation and evaluation of drilling bids), for budgeting purposes; the project will start after the DOE/Noramex Corporation project financing is in place.

It is anticipated that about two (2) months will be needed for permitting, and finalizing service contracts, prior to the start of field operations. Field operations, including site preparation work, mobilization of the drilling contractor's personnel and equipment, drilling (rotary, and continuous coring), logging and testing, demobilization, and site reclamation will require a period of about two and a half to three months.

It is expected that a final report can be available approximately three (3) months after drilling and testing have been completed.

Figure 5.3: Program Schedule - DEEP BLUE No.2



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APPENDIX A: GEOTHERMAL LEASES

Noramex Corporation Inc. is the registered owner of three (3) geothermal leases, covering seven (7) sections of land, totaling 4,567.04 acres (more or less), in Humboldt County. The descriptions and particulars of ownership of the geothermal leases are as follows:

Lease # L-6805:

Lessor: Burlington Northern and Santa Fe Railway Company (BNSF) – (formerly Atchison, Topeka and Santa Fe Railway Co.)

1)	T. 36N.	R.34E.	Section 15	(640 acres)
2)	T. 36N.	R.34E.	Section 23	(640 acres)

Lease # N57436:

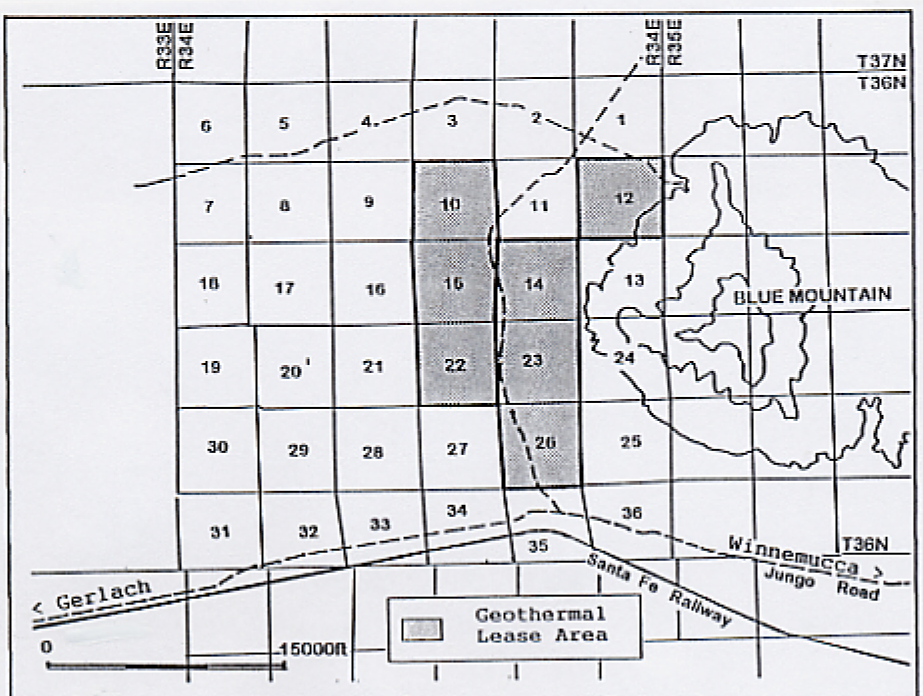
Lessor: U.S. Bureau of Land Management (BLM)

3)	T. 36N.	R. 34E.	Section 10	(654.66 acres)
4)	T. 36N.	R. 34E.	Section 12	(654.88 acres)
5)	T. 36N.	R. 34E.	Section 22	(649.44 acres)
6)	T. 36N.	R. 34E.	Section 26	(666.70 acres)

Lease # N58196:

Lessor: U.S. Bureau of Land Management (BLM)

7)	T. 36N.	R. 34E.	Section 14	(663.36 acres)



Blue Mountain Geothermal Lease Area; Land Status Map