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UNITED STATES  
DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY  
Area Geothermal Supervisor's Office  
Conservation Division, MS 92  
345 Middlefield Road  
Menlo Park, CA 94025

UNIVERSITY OF UTAH  
RESEARCH INSTITUTE  
EARTH SCIENCE LAB.

FEB 7 1979

Memorandum

To: Interested Parties  
From: <sup>Acting</sup> Area Geothermal Supervisor

Subject: Plan of Operation, (Republic Geothermal, Inc.) Federal Leases  
N-12861, N-17282, Dixie Valley, Churchill County, NV  
Ref: 1760 (2403-01a) N-12861 (POO for EA #118-9)

Republic Geothermal, Inc. has submitted a Plan of Operation in accordance with 30 CFR 270.34 to construct or improve access roads, prepare drilling locations (including digging fluid storage pits), drill, complete and test five (5) + 2743 meter (9,000') geothermal exploratory wells; drill up to five (5) temporary fluid disposal wells on the deep hole drilling locations and one (1) water supply well on Federal geothermal leases N-12861 and N-17282 in Dixie Valley, Churchill County, Nevada. A copy of the Republic proposal is attached for your review and files.

An Environmental Analysis (EA #118-9) will be prepared by the Office of the Area Geothermal Supervisor for the proposed action. Since a field inspection was conducted on June 8, 1978 for Southland Royalty Company's 11 well program in the same area, no inspection is scheduled. For further information concerning the Republic proposal, contact the Reno District Geothermal Supervisor (702) 784-5676, (FTS 470-5676) Kietzke Plaza, Bldg. D, Suite 137, 4600 Kietzke Lane, Reno, NV 89502.

Comments concerning the proposed action should be received no later than February 20, 1979 by:

Area Geothermal Supervisor  
USGS, Conservation Division  
345 Middlefield Road, MS-92  
Menlo Park, CA 94025  
(415) 323-8111 Ext. 2848, FTS 467-2848

We urge you to send written comments and suggestions and will appreciate hearing from you even if you are of the opinion that the existing regulations, lease terms, and operational orders provide adequate environmental

protection. All comments will be given serious consideration in the preparation of the environmental analysis and any subsequent conditions of approval.

The Area Geothermal Supervisor's Office will not send draft Environmental Analyses (EA's) to interested parties for review for this proposal. Certain parties, however, such as the surface managing agency, the lessee, GEAP, and USFWS will receive a copy of the completed EA. Other Interested Parties will not receive a copy of the final EA unless such parties comment on the proposed action in writing or request a copy of the particular EA pursuant to the Freedom of Information Act. Copies of Environmental Analyses are available for inspection during normal business hours at the Area Geothermal Supervisor's Office, the Reno District Geothermal Supervisor's Office, the appropriate BLM District Manager's Office and the Nevada State Director, BLM Office.

A handwritten signature in black ink, appearing to read "Robert K. Johnson", is written over a horizontal line.

Enclosures

REPUBLIC GEOTHERMAL, INC.

11523 EAST SLAUSON AVENUE, SUITE ONE  
SANTA FE SPRINGS, CALIFORNIA 90670

January 26, 1979

(213) 945-3661

Area Geothermal Supervisor  
U. S. Geological Survey  
Conservation Division MS 92  
345 Middlefield Road  
Menlo Park, California 94025

Attention: Mr. David Bickmore

RECEIVED

JAN 29 1979

AREA GEOTHERMAL SUPERVISOR'S OFFICE  
CONSERVATION DIVISION  
U.S. GEOLOGICAL SURVEY

Please find enclosed, in triplicate, our Plan of Operation, Exploration for Lease Nos. N 17282 and N 12861 in Dixie Valley, Churchill County, Nevada. Sepias of the drawings have been sent under separate cover. This Plan of Operation is for the drilling, completion and testing of five deep exploratory wells and up to five fluid disposal wells. All five well sites have been surveyed and staked. A cultural resources report is attached to the Plan.

Prior to actual location of the sites in the field, a field inspection was held to survey for potential adverse environmental impacts. Participating in this field survey were: Doug Koza, USGS District Geothermal Supervisor's Office, Reno; Bob Gilbert, BLM, Carson City; Vic Dunn, BLM, Winnemucca; Larry Johnson, SEA, Inc. Engineers/Planners, Sparks; Skip Matlick, Republic Geothermal; and myself. On the advice of the USGS and the BLM, one site was moved away from a dry wash and another was moved across the road for better drainage and less potential erosion.

We would greatly appreciate your attention to the timely evaluation and approval of this Plan of Operation. Should you have any questions or concerns, please do not hesitate to call.

Respectfully,

*Tawna J. Nicholas*

Tawna J. Nicholas  
Senior Environmental Planner

TJN:mtb  
Enclosures

RECEIVED

JAN 29 1979

AREA GEOTHERMAL SUPERVISOR'S OFFICE  
CONSERVATION DIVISION  
U.S. GEOLOGICAL SURVEY

PLAN OF OPERATION,  
EXPLORATION - DRILLING

Lease Nos. N 17282 and N 12861  
Secs. 14 and 15, T24N, R36E, MD B&M  
Sec. 2, T24N, R37E, MD B&M  
Dixie Valley, Churchill County, Nevada

Republic Geothermal, Inc.  
11823 East Slauson Avenue, Suite One  
Santa Fe Springs, California 90670  
(213) 945-3661

Proposal to drill five exploratory geothermal deep-test wells, up to five fluid disposal wells, and for each of the five well locations: construct site; construct or upgrade access road, where necessary; drill and complete well(s); conduct clean-out and initial flow tests; work-over well(s), if required; construct production and/or injection test facilities; and place well on sustained production or injection testing. Dixie Valley Exploratory Well Nos. 64-14, 68-14, 53-15, 66-15 and 75-2.

Estimated Starting Date: May, 1979

Estimated Completion Date: Indefinite

REPUBLIC GEOTHERMAL, INC.

PLAN OF OPERATION, EXPLORATION-DRILLING  
DIXIE VALLEY, CHURCHILL COUNTY, NEVADA

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EXHIBIT A	Dixie Valley - Plan of Operation Drawing No. 255-10
EXHIBIT B	Typical Site Plan Drawing No. DEF-1
EXHIBIT C	Well Location Survey Data
EXHIBIT D	Typical Drilling Program
EXHIBIT E	Cultural Resources Report
EXHIBIT F	Contingency Plan For Noncondensable Gases, Particularly Hydrogen Sulfide
EXHIBIT G	Blow Out Contingency Plan

REPUBLIC GEOTHERMAL, INC.

PLAN OF OPERATION, EXPLORATION-DRILLING  
UNITED STATES GEOTHERMAL LEASE NOS. N 17282 and N 12861  
DIXIE VALLEY, CHURCHILL COUNTY, NEVADA

A. PROPOSED PLAN OF OPERATION

Republic Geothermal, Inc. proposes to drill five deep exploratory geothermal deep-test resource wells and up to five potential temporary geothermal fluid disposal wells. One exploratory well and one disposal well will be located at each site. One or both of the wells at each location pad will be directionally drilled. The exploratory well will be drilled to a depth of up to 9,000 feet. The temporary disposal well will be drilled to a shallower depth, based on geologic information derived from initial deep exploratory wells.

Republic plans to first drill an exploratory well to determine the existence and potential of a geothermal resource on these leases in Dixie Valley. If there is an indication of success, the well will be test flowed into the storage basin up to basin capacity. If success is further indicated, Republic intends to drill an offset well for temporary fluid disposal purposes on the same pad as the exploratory well.

It is not anticipated that Republic will drill all five potential fluid disposal wells. Republic is requesting approval of the five locations to allow flexibility of siting. Republic may only drill one temporary fluid disposal well and connect other wells to the fluid disposal well via temporary pipelines. In the latter event, temporary pipelines no larger than twelve inches will be placed adjacent to the access road(s).

B. DETAILS OF PROPOSED PLAN

1. Location and Placement of Proposed Operations

Attached as Exhibit A is our Drawing No. 255-10, Dixie Valley-Plan of Operation, which shows the topography, drainage patterns, cultural features, existing and proposed roads, and proposed well locations.

Attached as Exhibit B is our Drawing No. REF-1, Typical Site Plan-Geothermal Resource Drill Site, which shows the proposed layout of equipment facilities and storage basin at a typical well location in Dixie Valley. Each proposed well location pad will be fenced with an area three hundred feet by three hundred feet. The fluid disposal well will be located fifty feet from the corresponding exploratory well.

Attached as Exhibit C is the surveyed and calculated well locations. The five deep exploratory well sites are described as follows:

#### Well No. 66-15

Well No. 66-15 is located directly adjacent to Dixie Valley Road, approximately three miles southwest of the old Boyers Ranch (now known as the Lamb Ranch). The site is the same as that of Republic's temperature observation hole RDV-7, so the surface has already been disturbed for the operation previously approved under the Plan of Operation, Exploration-Geophysical, evaluated under USGS-AGS EA #102-8. The site lies on the lower third of an alluvial fan extending from the Stillwater Range into Dixie Valley. Soils present at the surface and extending to depths of at least six to seven feet below the ground surface are silty sandy gravels. A fifty-foot buffer zone from Dixie Valley Road will be maintained, with two twenty-foot wide roads to be used for access from the main road. The edges of the two roads would continue to become the edges of the well site, with a slight flare at the inside edge of each road.

#### Well No. 53-15

Well No. 53-15 is located approximately four-tenths of a mile north of Well No. 66-15, along an unimproved dirt road extending from Dixie Valley Road directly towards the Stillwater Range. Geologically the site is located at the head of an alluvial fan. Soils consist of a surface concentration of gravel and cobbles underlain by silty sands and silty gravelly sands. The ground slope

is towards the northeast. The alluvial fan exhibits an approximate five to six per cent slope. Site design and engineering will minimize adverse erosion and drainage impacts resulting from the approximate four-foot cut and fill necessary for construction of the storage basin.

Well No. 68-14

Well No. 68-14 is approximately one mile east of Well No. 66-15. Since no roads currently exist for access to this site, we propose to construct an access road twenty feet wide and approximately one-half mile in length, as shown on Drawing No. 255-10. The first five hundred feet of the proposed access road will be built upon fine grain, silty sands which grade into playa silts and clays to the southeast. The well site itself is in a low lying area close to the level of the playa. Road and drill pad construction will involve filling over the soft playa material with a structural section of approximately eighteen to twenty-four inches consisting of a coarse, granular fill material. The area is essentially flat and almost completely devoid of vegetation except for a sparse growth of salt grass.

Well No. 64-14

Well No. 64-14 is located immediately adjacent to the east side of Dixie Valley Road, approximately one and three-quarters mile southwest of the Lamb Ranch. A fifty-foot buffer zone from Dixie Valley Road will be maintained. The site exhibits an approximate one per cent slope from west to east. A sparse growth of shadscale, sagebrush and greasewood covers the site. The soil consists of fine to medium gravel at the surface, and the underlying soils consist predominantly of fine to medium grain silty sands with nonplastic fines.

Well No. 75-2

Well No. 75-2 is located on Lease No. N 12861 rather than on Lease No. N 17282 as are the four previously described wells. The well is approximately five miles northeast from Lease No. N 17282. The soils consist of fine lacustrine silty sands.



While the drill site will be practically flat, the soils are loose in consistency and will require compactive effort to support the drill rig. A sparse growth of shadscale covers the site, with halogeten present along an old road which has been scarified. A fifty-foot buffer zone from the main road will also be maintained at this location.

Although the proposed well sites are located in a relatively flat desert area, Republic has retained a consulting firm to do a geotechnical investigation and provide engineering recommendations for design and construction of the well pads and storage basins. The engineering recommendations will include consideration of stability for structures, drainage for the well pad, prevention of erosion and soil loss, avoidance of flash flood impacts and materials for impervious lining of the storage basins. Each well site is being studied, so that recommendations may vary for individual locations.

The geotechnical investigation is currently being completed under a Notice of Intent approved by the Area Geothermal Supervisor. Results will be submitted with the completion report of the NOI. More detailed engineering plans based on these results will be submitted with the Sundry Notices for construction following approval of this Plan.

## 2. Discussion of Proposed Operations

Attached as Exhibit D is a typical drilling program for the proposed exploratory wells in Dixie Valley which are designed to be drilled to a depth of up to 9,000 feet. The proposed temporary disposal wells will be drilled to a shallower depth, based on geologic information derived from the drilling of the initial exploratory well.

An exploratory well will be drilled first. If success is indicated after testing the well into the storage basin, an offset well for temporary fluid disposal purposes will be drilled on the same pad. If further success is indicated, another exploratory well will be drilled at another site. Fluid from sustained testing of the following well(s) will be transported via pipeline to the first temporary disposal well, or another

offset well will be drilled. The following sequence of operations should occur during the drilling of a well under this Plan:

- a. Construction of the drilling location pad (and access road if required).
- b. Drilling and completion of the well, including clean-out flows and initial testing to the storage basin.
- c. After analyzing the log and test data, workover well if required.
- d. Continuation of initial testing; data analysis and workovers until the well demonstrates satisfactory commercial potential.
- e. Construction of production or injection test facilities, including waste fluid disposal pipeline if necessary.
- f. Placement of well on sustained production or injection test.
- g. If a well drilled as a potential production well does not demonstrate satisfactory commercial potential, conduct workovers of well and possibly convert to fluid disposal well.
- h. Utilization of converted wells or disposal wells for temporary fluid disposal, as approved.
- i. If, after adequate investigation and analysis, any well does not indicate satisfactory production or injection potential, possibly plug and abandon well.

3. Source of Water Supply and Road Building Material

Republic proposes to drill a five hundred foot water well, designated as WW-1, on Lease No. N 17282 to provide water for drilling, testing and workover operations. The proposed water well is located along the proposed access road to Well No. 68-14, and is in the Kettleman subdivision 37-14. The

water well site is located in an area of intermittent tall grass, sagebrush and salt grass. The site exhibits an approximate one per cent slope to the southeast. Soils are exclusively playa silts. The drill pad for the water well will be one hundred feet by one hundred feet. The three sides of the pad not bordered by the road will be fenced to prevent any further surface disturbance. The geotechnical investigation and engineering recommendations previously discussed will include this site.

Clay materials for lining the storage basins and gravel for road construction may be obtained from commercial sources or from lands in Dixie Valley administered by the U. S. Bureau of Land Management. If the latter is chosen, all appropriate permits will be obtained from the BLM.

4. Approximate Crew Size, Probable Type and Location of Housing and Support Facilities

Approximately twelve to fifteen people may be working on the location at any one time during drilling and/or testing operations. The drilling contractors will decide whether to have a drill camp or house the crew in Fallon or Winnemucca. If a drill camp is chosen, it will be on private lands at a local ranch or on one of the other well location pads. The pad would remain three hundred feet by three hundred feet in size and would be fenced. Trailers and temporary sanitary facilities would be located at the site. Trash would be trucked to an approved dump site.

C. ENVIRONMENTAL PROTECTION

1. Fire

All local, state and federal fire protection standards applicable to Republic's activities will be observed. Vegetation on the proposed sites is sparse and low-level and will be cleared only to the extent needed for proper operation. Smoking will be allowed only in designated areas. Water and fire extinguishers will be available at each site during drilling activities.

2. Soil Erosion

The size of well location sites, surface facilities and access roads have been minimized so as to disturb the least amount of surface necessary for efficient operation. Off-road vehicle use will be prohibited except where necessary. Those portions of the location site required for testing will be covered with gravel to prevent erosion. Detailed engineering plans for site construction, including plans to prevent erosion and soil loss will be submitted with the Sundry Notices for well pad construction.

3. Surface and Ground Water

Almost all streams in the area are ephemeral with flow normally occurring in spring and early summer. Drainage is towards the Humboldt Salt Marsh. Until such time as samples of the geothermal fluid are obtained, the storage basin(s) will be lined to keep the geothermal fluids from reaching the ground water during the life of the project. A two-foot freeboard will also be maintained. Details of lining materials will be submitted to the Supervisor with the Sundry Notices for well pad construction, after the geotechnical investigation is completed. If analyses of the geothermal fluids show the fluid is of such quality so that degradation of surface and ground waters would not occur, Republic may apply to the Supervisor to use less stringent measures for storage basin lining.

Republic will send to the AGS an analysis of the water from the water well, WW-1, to demonstrate the quality of water being used for drilling operations. This sample cannot be obtained until WW-1 is drilled. Republic will also protect the area's ground water by complying with the provisions of GRO Order No. 2 or exceptions to this Order as approved by the Area Geothermal Supervisor for Dixie Valley.

Drilling muds will contain no materials in quantities which could contaminate the ground water. Pipelines will be properly constructed and maintained to prevent leakage.

4. Fish and Wildlife

There are no fish in the area. The construction of the proposed well pads and roads will result in some unavoidable permanent destruction of habitat. The proposed well testing activities will not disturb additional habitat. Because of the minor amount of habitat disturbance and the relatively homogeneous nature of the vegetation in Dixie Valley, it is anticipated that this disturbance will not significantly impact the area's wildlife. To help provide replacement habitat, removed vegetation and excess soil shall be stacked in several piles at a reasonable distance from the drill sites and roads.

The well site will be fenced to prevent entrance by livestock and to prevent any surface disturbance beyond the boundaries of the site.

5. Air Quality and Noise

Air quality should not be significantly degraded during these proposed operations. Automobile and truck traffic during drilling and testing should create only a minimal impact by increasing vehicle exhaust emissions and dust. The content of possible noncondensable gases will not be known until a well is drilled and tested. If present, these gases will be released to the atmosphere during testing unless it is determined that federal or state air quality standards are exceeded.

Noise is expected to be of minor concern in the exploratory phase of operations at Dixie Valley. Noise levels will be maintained within the limits prescribed by the Bureau of Land Management and the Occupational Safety and Health Administration. Drilling rig engines and compressors will be equipped with mufflers. Noise impacts on wildlife at Dixie Valley will probably be minimal because of the relatively low intensity and steady, continuous nature of most of these noise emissions. The Dixie Valley area itself is also very isolated from human receptors.

6. Public Health and Safety

Public health and safety shall be ensured through the use of appropriate equipment, operating procedures and notices. Appropriate warning signs will be posted on all pipelines and testing equipment. Each well will be posted with a sign indicating the well name, the designated operator and an emergency phone number. Supervisory personnel will be on-site during drilling and testing operations. Wells will be chained and locked behind a chain-link enclosure when completed. All drilling shall be conducted in accordance with all state and federal requirements, specifically GRO Order No. 2 and exceptions as approved by the Supervisor.

7. Methods for Disposal of Waste Material

Waste waters will be disposed of as indicated in part 3 above. Portable sanitary facilities will be used by personnel on the drilling or construction sites. A local contractor will maintain these facilities and dispose of the wastes. The site will be kept clean and any trash or debris will be taken to an approved dump. Drilling muds will be disposed on-site or trucked to a suitable waste disposal site.

8. Section 270(i),(j) and (k)

Republic is prepared to submit, upon notification to do so, any further information not included herein which the Supervisor may require. Republic anticipates that there should be only negligible environmental impacts from these proposed operations.

Republic is prepared to carry out provisions for monitoring deemed necessary by the Supervisor to ensure compliance with the regulations.

Republic is prepared to participate in the collection of data concerning the existing air and water quality, noise, seismic and land subsidence activities and ecological systems of these leases for a period of one year prior to the submission of a plan for production.

D. ENVIRONMENTAL CONCERNS

Republic has not identified any areas or conditions of critical environmental concern within its Dixie Valley leases.

Attached as Exhibit E is a report of a survey for archaeological resources on the proposed well sites and access roads. The survey and report were completed by the Anthropology Department of the Nevada State Museum. No cultural resources were found.

E. EMERGENCY CONTINGENCY PLAN

Attached as Exhibit F is Republic's Contingency Plan for Noncondensable Gases, Particularly Hydrogen Sulfide. Attached as Exhibit G is Republic's Blow Out Contingency Plan. The Plan for Noncondensable Gases includes the emergency action procedures and notification lists as Section V of the Plan.

EXHIBIT C

WELL LOCATION SURVEY DATA

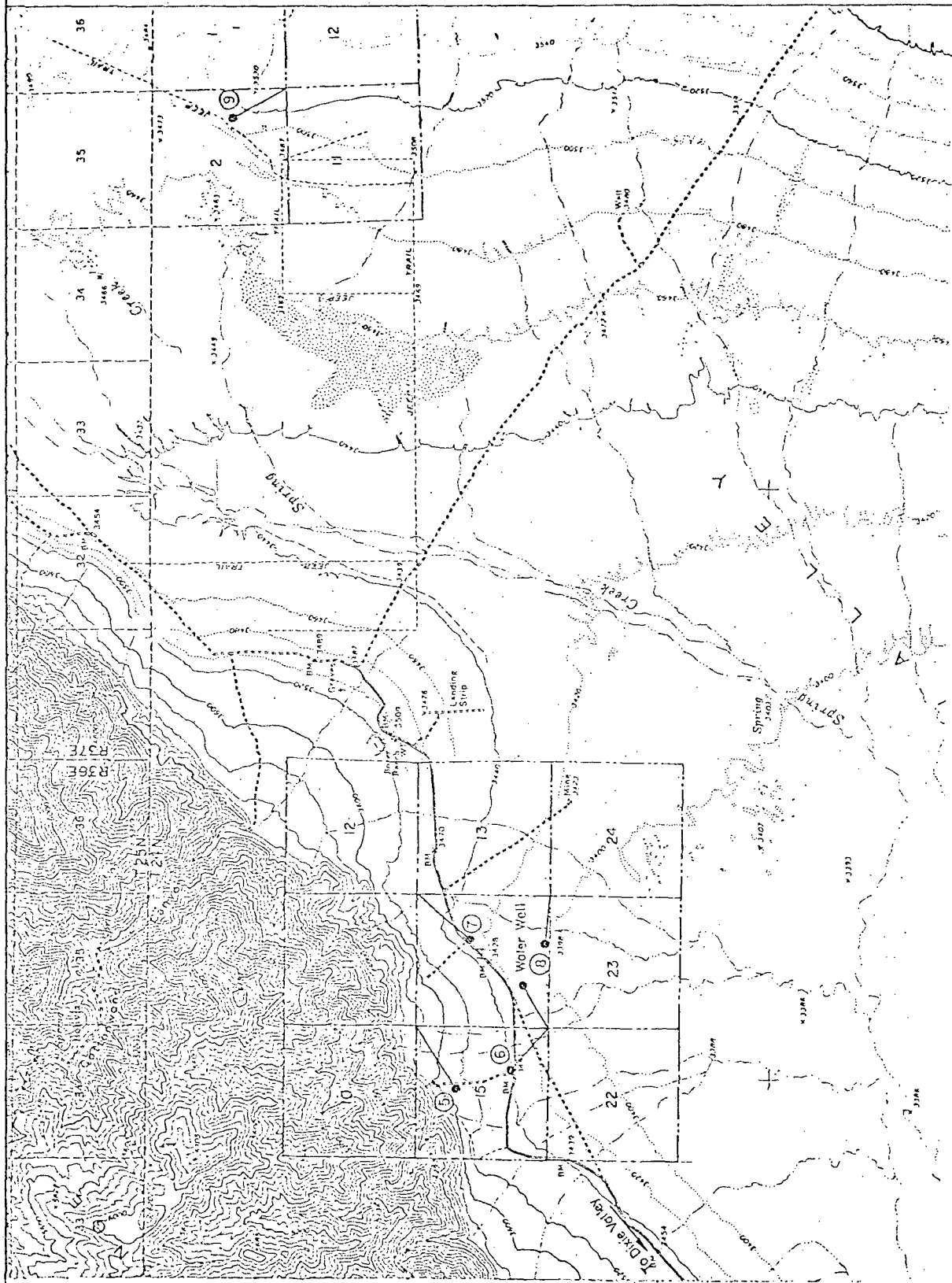
Prepared by  
SEA, Inc. Engineers/Planners

Note: At the time of the survey, Kettleman System well numbers had not yet been assigned. Following are the corresponding well designations:

<u>Survey Report</u>		<u>Kettleman Number</u>
Well No. 5	-	53-15
Well No. 6	-	66-15
Well No. 7	-	64-14
Well No. 8	-	68-14
Well No. 9	-	75-2



PLOT PLAN



FORM 100



REPUBLIC GEOTHERMAL, INC. - DIXIE VALLEY

FOUNDATION DIVISION SPARKS, NEVADA • SEATTLE, WASHINGTON • LAS VEGAS, NEVADA

PROJECT NO. 549-1-783

PLATE 1

<u>Section Corner</u>	<u>Well No.</u>	<u>Bearing</u>	<u>Distance</u>
$\frac{10 11}{15 14}$	5	S 57° 44' 46" W	2,955'
$\frac{15 14}{22 23}$	6	N 49° 00' 00" W	2,388'
$\frac{11 12}{14 13}$	7	S 41° 45' 05" W	2,699'
$\frac{14 13}{23 24}$	8	N 85° 18' 41" W	1,972'
$\frac{15 14}{22 23}$	Water Well	N 58° 29' 37" E	1,948'
$\frac{2 1}{11 12}$	9	N 24° 40' 37" W	2,292'

NOTE: T24N, R36E and T24N, R37E are unsurveyed; Well ties shown above are to theoretically projected section corners as requested. Actual well ties were made to found section corners on surveyed township line to north and are as follows:

<u>Section Corner</u>	<u>Well No.</u>	<u>Bearing</u>	<u>Distance</u>
$\frac{31 32}{6 5}$	5	N 56° 22' 13" E	21,907'
$\frac{31 32}{6 5}$	6	N 50° 52' 41" E	22,614'
$\frac{31 32}{6 5}$	7	N 44° 15' 22" E	17,558'
$\frac{31 32}{6 5}$	8	N 38° 23' 00" E	20,004'
$\frac{31 32}{6 5}$	Water Well	N 43° 32' 21" E	20,441'
1/4 corner 32,5	9	N 79° 36' 16" W	17,803'

DIXIE VALLEY, NEVADA

Calculated Well Co-ordinates  
Based on Protraction Diagrams

<u>Well No.</u>	<u>Location</u>
53-15 (#5)	3703'N, 2499'W, from SE Cor. Sec. 15, T24N/R36E
66-15 (#6)	1567'N, 1802'W, from SE Cor. Sec. 15, T24N/R36E
64-14 (#7)	3260'N, 3488'E, from SE Cor. Sec. 15, T24N/R36E
68-14 (#8)	155'N, 3320'E, from SE Cor. Sec. 15, T24N/R36E
75-2 (#9)	2083'N, 957'W, from SE Cor. Sec. 2, T24N/R37E

Water Well #1 1018'N, 1661'E, from SE Cor. Sec. 15, T24N/R36E  
(37-14 subdivision)

Note: Data submitted by SEA, Inc. Engineers/Planners

EXHIBIT E

CULTURAL RESOURCES REPORT

Prepared by  
The Nevada State Museum

Note: At the time of the archaeological survey, Kettleman System well numbers had not yet been assigned. Following are the corresponding well designations:

Archaeology Report

Kettleman Number

R.G.I. 1	-	66-15
R.G.I. 2	-	53-15
R.G.I. 3	-	64-14
R.G.I. 4	-	68-14
R.G.I. 5	-	75-2



# The Nevada State Museum

CAPITOL COMPLEX

CARSON CITY, NEVADA 89710

Telephone (702) 885-4810

## ARCHAEOLOGICAL SERVICES

Archaeological Resources Short Report

County: Churchill

Project: Archaeological Reconnaissance at 5 Drill Locations and One Access Road for Republic Geothermal in Dixie Valley, Nevada (Project 1-73; NSM Contract #1091).

Project Director: Mary Rusco, Staff Archaeologist

Reconnaissance Personnel: Robert L. Clerico, Archaeological Technician II

Federal Antiquities Permit: 77-Nv-097

State Antiquities Permit: 177

Dates of Field Examination: December 27 & 29, 1978

Date of Report: January 12, 1979

Agency Notification: Message left for Brian Hatoff at Carson City District Office, Bureau of Land Management, December 15, 1978.

Map References: A.M.S. Reno, Nevada; California (1957)  
USGS Humboldt Salt Marsh, Nevada 7.5' (1966)

Legal Description: R.G.I. 1 - T24N, R36E, Sec. 15 (SE 1/4)  
R.G.I. 2 - T24N, R36E, Sec. 15 (center)  
R.G.I. 3 - T24N, R36E, Sec. 14 (Center)  
R.G.I. 4 - T24N, R36E, Sec. 23 (NE 1/4)  
R.G.I. 5 - T24N, R37E, Sec. 2 (SE 1/4)  
Access Road - T24N, R37E, Secs. 14 & 23.

Research Design: Inventory and evaluation of archaeological resources within five 350' x 350' geothermal well locations, R.G.I. 1 through R.G.I. 5, an access road of 3/4 mile length from Dixie Valley Road to R.G.I. 4, and two 50 foot long roads along each side of the pads for R.G.I. 1, 3, and 5, to the road. Corridors surveyed for roads were approximately 20' wide.

Methods: Survey areas were flagged by Republic Geothermal personnel with an approximate center located by an 8-12 foot pole with survey-orange square at the top. Four corners were marked with lathes and surveyor flagging. Well locations R.G.I. 1, 2, 3, and 4 and associated access roads were surveyed on foot by 1 technician. Four zig-zag transects were walked parallel to one side of the flagged rectangle.

Methods (cont'd.): R.G.I. 5 was surveyed by two technicians walking eight transects parallel to a flagged side of well locations.

Acreage: A total of 4.77 acres were surveyed intensively.

Area and Environmental Description: The well locations are situated at the northern end of Dixie Valley southeast of the Stillwater Range. R.G.I. 1, 2, 3, and 4 are situated southwest of Boyer Ranch. R.G.I. 1, 2, and 3 are on the alluvial fan and R.G.I. 5 is situated in the playa. R.G.I. 5 is located approximately 6.5 miles ENE of Boyer's Ranch. The following is a description of each well location:

R.G.I. 1 - located on an alluvial fan on the west side of the valley, on the east slopes of Stillwater Range, at an elevation of 3440'. Vegetation consisted of Artemisia tridentata (sagebrush), Bromis tectorum (cheat grass) and unidentified dormant desert shrubs. The only faunal indicators were rabbit scats.

R.G.I. 2 - located approximately 1/2 mile north of R.G.I. 1, at an elevation of 3535'. Fauna and flora are same as above.

R.G.I. 3 - located approximately 1 mile NE of R.G.I. 1, south of the main road, at an elevation of 3430', on an alluvial fan. Fauna and flora, again, were the same as above.

R.G.I. 4 - located approximately 1 mile south of R.G.I. 3, at an elevation of 3398'. The access road which runs SE for approximately 3/4 mile has an elevation of 3425' at the NW end and an elevation of 3398' at the SE end. The NW end of the road is on an alluvial fan, and ends at the SE end in the playa. There is a vegetation change from the alluvial fan to the playa. The upper portion has flora similar to that at other well locations, but vegetation changes abruptly from predominant shrub at higher elevations to one of mostly grasses in the playa.

R.G.I. 5 - located at an elevation of 3500', this drill location has vegetation similar to R.G.I. 1, 2, and 3.

Previous Research: A search of Nevada State Museum records shows that two other projects were undertaken within a 10 mile radius of the drill locations. In 1975 and 1976 surveys were conducted in the area, and no cultural resources were seen.

According to Steward (1938: 155), a small distinct group probably occupied Dixie Valley in prehistoric times. A publication of the Inner Tribal Council, Numa: A Northern Paiute History (1976: 11) shows the area was occupied by Northern Paiute peoples. No mention of historical sites was made in Significant Nevada Historical Sites, Forbes, McCaughey and Mordey.

Results: No cultural evidence was found at any of the subject areas.

National Register Properties: The National Register of Historic Places, February 7, 1978, shows no properties in the immediate vicinity. The closest property listed is Grimes Point NE of Fallon.

Summary and Recommendations: It is expected that drill locations R.G.I. 1, 2, 3, 4 and 5 and the access road to R.G.I. 4 will have no effect on archaeological or historic values.

Submitted by: Robert I. Clerico  
Robert Clerico, Archaeological Technician II

Approved by: Mary Rusco  
Mary Rusco, Project Director

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# The Nevada State Museum

CAPITOL COMPLEX

CARSON CITY, NEVADA 89710

Telephone (702) 885-4810

Ms. Tawna Nicholas  
Senior Environmental Planner  
Republic Geothermal Inc.  
11823 East Slauson Avenue Suite One  
Santa Fe Springs, California 90670

Ms. Nicholas:

I'm sorry for the mistake in the Dixie Valley Report. Instead of the 4.77 acres originally quoted in the report, a total of 16 acres was intensively surveyed on the 27 and 29 of December 1978.

Robert L. Clerico

*Robert S. Clerico*  
Arch. Tech. II



INTERESTED PARTIES EA #118-9

Republic Geothermal, Incorporated  
 Nine Exploration wells

N-12859-61, N-17280-82  
 Dixie Valley, Nevada

\* \* \* \* \*

District Geothermal Supervisor  
 USGS, Conservation Division  
 Kietzke Plaza, Bldg. D, Suite 137  
 4600 Kietzke  
 Reno, Nevada 89502  
 \*FTS: 470-5676 Comm: 704-784-5676

Conservation Manager, Western Region  
 ATTN: Environmental Staff  
 USGS, Conservation Division  
 345 Middlefield Rd., MS 80  
 Menlo Park, California 94025  
 \*FTS: 467-2108 Comm: 415-323-8111

Mr. Henry Cullins  
 Area Geologist, Pacific Area  
 USGS-Conservation Division  
 345 Middlefield Road, MS 80  
 Menlo Park, California 94025  
 \*FTS: 467-2053 Comm: 415-323-8111

Dr. G. D. Robinson, Chairman  
 Geothermal Environmental Advisory  
 Panel  
 345 Middlefield Road, MS 19  
 Menlo Park, California 94025  
 \*FTS 467-2871 415-323-8111 X2871

U.S. Bureau of Land Management  
 Geothermal Specialist  
 ATTN: Theodore W. Holland  
 Denver Fed. Center, B. 50 (D-310)  
 Denver, Colorado 80225  
 \*FTS: 234-5098 Comm: 303-234-5098

Nevada State Director  
 Bureau of Land Management  
 Federal Building, Room 3008  
 300 Booth Street  
 Reno, Nevada 89502  
 \*FTS 470-5451 Comm: 702-784-5451

Winnemucca District Manager  
 Bureau of Land Management  
 P.O. Box 71  
 Winnemucca, Nevada 89445  
 \*FTS: 470-5423 Comm: 702-623-3676

Carson City District Manager  
 Bureau of Land Management  
 1050 E. Williams Street, Suite 335  
 Carson City, Nevada 89701  
 \*FTS 470-5612 Comm: 702-582-1631

U.S. Bureau of Reclamation  
 ATTN: Lloyd Osbourne  
 Post Office Box 640  
 Carson City, Nevada 89701  
 \*Tel: (702) 882-3436

U.S. Fish and Wildlife Service  
 ATTN: Field Superv Ecological Serv  
 2800 Cottage Way  
 Sacramento, California 95825  
 \*FTS: 468-4516 Comm: 916-484-4516

U. S. Fish and Wildlife Service  
 ATTN: Gail Kobetich  
 Endangered Species Office  
 2800 Cottage Way, Room E-2720  
 Sacramento, California 95825  
 \*FTS: 468-4516 Comm: 916-484-4516

U.S. Environmental Protection Acy.  
 Environmental Monitoring &  
 Support Laboratory  
 ATTN: Michael O'Connell  
 P.O.Box 15027 Las Vegas, Nv 89114  
 \*FTS: 595-2969 Comm: 702-736-2969

U.S. Department of Energy, Nevada  
 Operations Office  
 ATTN: John Cummings  
 Post Office Box 14100  
 Las Vegas, Nevada 89114  
 \*FTS: 598-3591 Comm: 702-734-3591

U.S. Department of Energy  
 Division of Geothermal Energy  
 ATTN: Bennie DiBona  
 20 Massachusetts Avenue, NW  
 Washington, D.C. 20545  
 \*FTS: 376-1690 Comm: 202-376-1690

Ms. Mary Rusco, Archaeologist  
 Nevada State Museum  
 600 N. Carson Street  
 Carson City, Nevada 89701  
 \*Tel: (702) 885-4810

State Of Nevada  
 Department of Energy  
 1050 E. William, Suite 405  
 Carson City, Nevada 89701  
 \*Tel: (702) 885-5157

INTERESTED PARTIES for EA #118-9

State of Nevada, Environ Protection  
Agency Svcs, Dept of Cons & Res  
ATTN: Wendell McCurry, Vern Poss  
201 Fall Street  
Capitol Complex, Nevada 89710  
\*Tel: (702) 885-4670

State of Nevada  
Department of Fish and Game  
ATTN: Mr. Dale V. Lockhard  
Post Office Box 10678  
Reno, Nevada 89510  
\*Tel: (702) 784-6214

State of Nevada, Div of State Lands  
ATTN: Mary Lee Chronberg  
201 S. Fall Street  
Capitol Complex, Rm. 339  
Carson City, Nevada 89710  
\*Tel: (702) 885-4363

State of Nevada  
Division of Water Resources  
C/D State Engineer  
201 South Fall Street  
Carson City, Nevada 89710  
\*Tel: (702) 885-4380

Churchill County, Board of  
Commissioners  
10 West Williams Street  
Fallon, NV 89406  
\*Tel: (702) 423-4092

Lawrence Livermore Laboratory  
Box 5507, Mail Code L-523  
Livermore, California 94550  
\*FTS 532-1100 Comm: 415-422-1100

Chevron USA, Inc.  
ATTN: J.G. Turner and Pat Smith  
Post Office Box 3722  
San Francisco, California 94119  
\*Tel: (415) 894-2726

Magma Power Company  
ATTN: Mr. Richard Foss  
631 S. Witmer Street  
Los Angeles, California 90017  
\*Tel: (213) 483-2285

Mr. Ray Corlett, Regional Manager  
Nevada Dept. of Fish and Game  
380 West 6 Street  
Fallon, Nevada 89406  
\*Tel: (702) 423-3171

State of Nevada, Div of Historic  
Preservation and Archaeology  
ATTN: Kimberly Wood,, SHPO  
201 South Fall St. Capitol Complex  
Carson City, Nevada 89710  
\*Tel: (702) 885-5138

State of Nevada, Planning Coordinator  
ATTN: Bob Hill  
1050 E. Williams, Suite 402  
Capitol Plaza  
Carson City, Nevada 89701  
\*Tel: (702) 885-4865

State of Nevada, Pershing County  
ATTN: E.L. Spencer  
Pershing County Planning Director  
Route 1, Box 71-D  
Lovelock, Nevada 89419  
\*Tel: (702) 273-2636

Earth Science Lab.-University of Utah  
Research Institute, Research Park  
ATTN: Phillip M. Wright  
391 Chipeta Circle  
Salt Lake City, Utah 84108  
\*Tel: (801) 581-5226

Mrs. Margaret Williams  
Director, Northern Nevada Native  
Plant Society  
Post Office Box 1530  
Sparks, Nevada 89431

Getty Oil Company  
ATTN: Mr. Dan W. Sparks  
Post Office Box 5237  
Bakersfield, California 93308  
\*Tel: (805) 399-2961

Occidental Geothermal, Inc.  
ATTN: B.J. Wyant  
5000 Stockdale Highway  
Bakersfield, California 93309  
\*Tel: (805) 327-7351

INTERESTED PARTIES for EA #118-9

Phillips Petroleum Company  
 ATTN: R.T. Forest  
 Energy Minerals Division  
 Post Office Box 10566  
 Reno, Nevada 89510  
 \*Tel: (702) 786-2273

Shell Oil Company  
 ATTN: Mr. F.W. Nantker  
 Post Office Box 92047  
 Worldway Center  
 Los Angeles, California 90009  
 \*Tel: (805) 648-2751

Republic Geothermal, Incorporated  
 ATTN: J. L. Scheidenberger  
 1101 College Avenue, Suite 220  
 Santa Rosa, California 95404  
 \*Tel: (707) 527-7755

Aminoil USA, Incorporated  
 ATTN: Mr. J.W. Kunau  
 Post Office Box 11270  
 Santa Rosa, California 95404  
 \*FIS Ope: 623-1011 707-527-5333/2

Phillips Petroleum Company  
 Geothermal Operations  
 Post Office Box 239  
 Salt Lake City, Utah 84110  
 \*Comm: 801-364-2083

Mr. Warren M. Woodward  
 125 Drew Drive  
 Reno, Nevada 89502  
 \*FIS 470-5911 702-825-3079

Republic Geothermal, Incorporated  
 ATTN: Mr. Dwight Carey  
 Post Office Box 3388  
 Santa Fe Springs, California 90607  
 \*Tel: (213) 945-3661

Sunoco Energy Development Company  
 ATTN: Mr. John Williams  
 Suite 1500 -- Box 9  
 12700 Park Central Place  
 Dallas, Texas 75251  
 \*FIS Ope: 749-1011 214-233-2600

Southland Royalty Company  
 ATTN: Jere Denton  
 1000 Fort Worth Club Tower  
 Fort Worth, Texas 76102  
 \*FIS Ope: 334-3001 (817)390-9200

Anadarko Production Company  
 ATTN: Mr. John D. Syptak  
 Post Office Box 1330  
 Houston, Texas 77001  
 \*FIS Ope: 527-4011 713-526-5421

Mr. Clyde E. Kuhn  
 Post Office Box 60  
 Davis, California 95616

JM Energy Consultants  
 ATTN: Mr. Jack McNamara  
 Post Office Box 84387  
 Los Angeles, California 90073  
 \*Tel: (213) 474-5196