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GETTY OIL COMPANY

PROPOSAL FOR
RFP NO. ET-78-R-08-0003
GEOHERMAL RESERVOIR ASSESSMENT CASE STUDY

COLADO AREA
PERSHING COUNTY
NEVADA

GETTY OIL COMPANY
WESTERN EXPLORATION & PRODUCTION DIVISION
EXPLORATION DEPARTMENT
BAKERSFIELD, CALIFORNIA

PROPOSAL FOR
RFP NO. ET-78-R-08-0003

GEOHERMAL RESERVOIR ASSESSMENT
CASE STUDY, NORTHERN BASIN
AND RANGE PROVINCE

COLADO AREA
PERSHING COUNTY
NEVADA

GEOHERMAL PROPOSAL

Re: Request for Proposal (RFP) No. ET-78-R-08-0003
Geothermal Reservoir Assessment Case Study,
Northern Basin and Range Province

A. The Proposer is:

Getty Oil Company
P. O. Box 5237
Bakersfield, California 93308
Attention: J. W. Woffington
Phone: (805) 399-2961

B. Technical Proposal

1. Investigation Area

a. The investigation site is located within Townships 27 N. and 28 N., Range 32 E., M.D.B. & M., and includes the Colado Known Geothermal Resource Area, Pershing County, Nevada.

b. Getty Oil Company holds Federal Geothermal Leases on alternating sections as shown on Exhibit 1, totalling 5,861.43 acres and holds an additional 3,163.18 acres in leases on privately owned land. These lands are accessible for the purposes of this investigation, subject to federal and state permitting regulations. Alternating sections are owned by the Southern Pacific Land Company and are subject to an operating agreement with Phillips Petroleum Company.

c. Geological Descriptions

The area is located on the west flank of the West Humboldt Range in a typical Basin and Range Province setting. The area centers approximately seven miles northeast of the Lovelock townsite. The western two-thirds of the prospective area is covered by a thin veneer of alluvium overlying a complex of Mesozoic sediments partially intruded by quartz monzonite of Cretaceous age. The eastern portion of the area is comprised of exposures of Tertiary Rhyolite and Mesozoic metasedimentary rocks. The western boundary of the Humboldt Range is inferred to be a large normal fault. Adjacent Rhyolitic rocks exhibit extreme shearing. Detail geology is available from the Southern Pacific Company.

d. Site Selection

Getty Oil Company has selected this site on the basis of surface geology, presence of the warm water wells, and abnormally high gradients in three mineral core holes and hot water wells.

Locations of the water wells and mineral core holes are shown on Exhibit 1. In addition, adjacent exposed bed rock exhibits hydrothermal alteration and mineralization. Geophysical data also suggests the presence of a geothermal reservoir. The area is located 18 miles south of the Rye Patch area in which Phillips Petroleum is planning development drilling. Geologically, the two areas are similar.

2. Program Data Offered

a. Subsurface

The proposed program is scheduled by phases as described below. The execution of succeeding phases will be dependent on results of the preceding phases.

Phase I - Shallow Gradient Holes

Getty Oil Company proposes to drill a maximum of eighteen (18) shallow gradient holes to a depth of approximately 500 feet each. A temperature log of each hole will be made and 30-foot drill samples will be collected. All data derived from drilling these holes is offered, including but not limited to those items detailed in paragraph 3.

Phase II - Deep Gradient Hole

Getty Oil Company proposes to drill one deep gradient hole to an approximate total depth of 1,500 feet. An induction, sonic and temperature log will be run and 30-foot drill samples will be collected. All data derived from the drilling of this hole is offered, including but not limited to those items detailed in paragraph 3.

Phase III - Exploratory Well

Getty Oil Company proposes to drill an exploratory well at a location to be determined from results of the preceding phases. Tentative total depth is 8,000 feet. In the event a potentially productive geothermal reservoir is encountered, the well will be completed and a 24-hour flow test will be made. All data derived from the drilling of this well is offered, including but not limited to those items detailed in paragraph 3.

Phase IV - Extension Production Well

In the event the well proposed under Phase III is productive, Getty Oil Company proposes to drill an additional well as an extension test of the reservoir at a location to be selected after completion of Phase III to a tentative total depth of 8,000 feet. In the event a potentially productive reservoir is encountered, the well will be

completed and a 24-hour flow test will be made. All data derived from the drilling of this well is offered, including but not limited to those items detailed in paragraph 3.

Phase V - Short Flow Tests

Short flow tests shall be 24 to 48 hour duration tests to determine mass flow capability of wells. Calculations will be based on differential pressure measurements and lip pressure measurements using the James Method. Chemical analysis, industrial water analysis and pressure-temperature services will be utilized.

Phase VI - Long Term Flow Tests

Long term flow tests shall be six-month duration tests to determine the production capability of wells and the geothermal reservoir. Work shall include measurement of steam and liquid phases, chemical and water analysis, pressure and temperature services, interference testing, and additional wireline logging and surveys.

In addition, Getty Oil Company offers temperature data on two existing mineral core holes located on Section 26, T. 28 N., R. 32 E., each drilled to a total depth of 435 feet.

b. Surface

Getty Oil Company also offers 70 square miles of gravity-magnetic coverage and 48 square miles of resistivity survey coverage, more particularly described in paragraph 3.b, page 7.

c. Reservoir Engineering Studies

None

3. Program Description

a. Subsurface

- (1) The proposal involves the new drilling of 18 shallow gradient holes, Phase I; one 1,500' deep gradient hole, Phase II; two exploratory wells, Phases III and IV; conduct flow tests, Phases V and VI; and the sale of existing data on two gradient holes.

(2) Drilling and completion procedures

Phase I - Shallow Gradient Holes

- (a) Total depth - 500 feet
 - (b) Hole size - 4½" to 500'
 - (c) Drilling fluids - water base gel mud and maintain minimum weight for lost circulation control. Weight between 66-68#, viscosity between 40-50 seconds, and no water loss control.
 - (d) Casing - at 500' (TD), 1" PVC plastic pipe, last 10' at surface galvanized 1" steel pipe with locking collar and waterproof cap.
 - (e) Cementing - fill annulus from TD to 10' with heavy mud, 10' to surface with construction grade G cement, sand and water.
- (3) Mud Logging - monitor flow line temperatures. Catch 30' drill samples
 - (4) Coring and Analysis - none
 - (5) Drill Stem Testing - none
 - (6) Logging - temperature survey at completion and 30 days after completion
 - (7) Flow Testing - none
 - (8) Fluid Chemistry - none
 - (9) Well Bore Treatment - none

Phase II - Deep Gradient Holes

- (a) Total depth - 1500 feet
- (b) Hole sizes and depths - 8-3/4" to 801', 6-1/4" to 1500'
- (c) Drilling fluids - 0 to TD clay base mud
- (d) Casing - 7" casing 800'
- (e) Cementing - 200 sacks Class "G" cement with cement returns to surface

Phase II - Deep Gradient Holes (continued)

- (3) Mud Logging - monitor flow line temperatures. Catch 30' drill samples
- (4) Coring and Analysis - none
- (5) Drill Stem Testing - none
- (6) Logging - temperature survey at completion and 30 days after completion
- (7) Flow Testing - none
- (8) Fluid Chemistry - none
- (9) Well Bore Treatment - none

Phase III - Exploratory Well and Phase IV - Extension
Production Well

- (a) Total depth - 8000'
- (b) Hole sizes and depths - 36" to 30'; 28" to 100'; 17½" to 800'; 12¼" to 2000'; and 8½" to 8000'
- (c) Drilling fluids:

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Water Loss</u>
0 - 30'	-----conductor set-----			
30'-100'	Gel water	65-68	55-65	As required
100'-800'	Gel water	65-68	45-55	As required
800'-2000'	Gel water	65-68	40-50	As required
2000'-8000'	Gel water	65-68	40-50	As required

Maintain corrosion and scale control through all intervals

- (d) Casing:

<u>Size</u>	<u>Set At</u>	<u>Hole Size</u>
30" conductor	30'	36"
20", 94#, H-40 Csg, slip joint	100'	28"
13-3/8", 54.5#, K55 Csg, buttress	800'	17½"
9-5/8", 40#, K55 Csg, buttress	2000'	12¼"
Open Hole	8000'	8½"

(e) Cementing:

<u>Depth</u>	<u>Type</u>
30'	Ready Mix
100'	1:1 Perlite, 40% Silica flour, 2% gel 1/2% CFR-2, plus 100% excess
800'	1:1 Perlite, 40% Silica flour, 2% gel 1/2% CFR-2, plus 100% excess
2000'	1:1 Perlite, 40% Silica flour, 2% gel 1/2% CFR-2, plus 100% excess

Sufficient slurry to bring returns to surface

(f) Drift Surveys - each trip and as needed

- (3) Mud Logging - to be installed before drilling out conductor casing. Log and continuously monitor hole to TD.
- (4) Coring and Analysis - one conventional core; depth to be determined by duty geologist. Analysis dependent on rock type and recovery.
- (5) Drill Stem Testing - none
- (6) Logging - logs to be run as directed
 - IES - - 10 MV - - 50 ohms
 - FDC - CNL - - 10-30 grams/cc
 - Gamma Ray - BHC Sonic - - 40-70, 70-100 API
 - Temperature logs - - 0-150 heat flow units
- (7) Flow Testing - one day flow test utilizing a range of orifices
- (8) Fluid Chemistry - Standard industrial analysis of produced fluids sampled at various intervals during flow test
- (9) Well Bore Treatment - none contemplated

Phase V - Short Flow Tests

Short flow tests shall be 24 to 48 hour duration tests to determine mass flow capability of wells. Calculations will be based on differential pressure measurements and lip pressure measurements using the James Method. Chemical analysis, industrial water analysis and pressure-temperature services will be utilized.

Phase VI - Long Term Flow Test

Long term flow tests shall be six month duration tests to determine the production capability of wells and the geothermal reservoir. Work shall include measurement of steam and liquid phases, chemical and water analysis, pressure and temperature services, interference testing, and additional wireline logging and surveys.

Conducting a long term flow test requires the drilling of the initial exploratory test well and the extension production well, since each well may serve as an injection well when alternately testing each well for its productive capabilities.

Getty Oil Company also offers temperature data obtained at total depth and at 50' intervals in two 435-foot holes located on Section 26, T. 28 N., R. 32 E.

b. Surface Investigations

- (1) Getty Oil Company offers 70 square miles of gravity-magnetic acquired in September and October of 1977. The field survey was made by Lanton Surveys and Electrodyne Survey Services. Coverage is shown in Exhibit 2.

Getty Oil Company offers 48 square miles of resistivity data acquired between November 1977 and February 1978. The field survey was made by Electrodyne Survey Services.

Seven interpretation maps are included.

Coverage is shown on Exhibit 3.

- (2) Types of data included are as follows:

- 423 gravity-Magnetic Stations
- 31 MT-AMT Soundings (Scaler)
- 17 Roving Vector Telluric Soundings with
- 4 Vector Telluric Base Stations
- 231 End-on-end Telluric Measurements
- 11 DC Galvanic Electrical Resistivity (ER) Soundings
- 156 DC Electric-field Measurements Along Profiles
- 7 Time Domain (TDEM) Electrical Field Soundings
- 8 Combined Electrical Field and Magnetic TDEM Soundings

c. Reservoir Engineering Studies

None

4. Schedule

Six copies of all data and one-half of all cores, sample cuts, and other material specified as herein provided in Part 2 will be delivered by the Contractor to the Department of Energy in general accordance with the bracketed numbers as shown below.

- (1) Data to be delivered within 45 days after completion of that particular phase.
- (2) Data to be delivered within 90 days after completion of that particular phase

Phase I - Shallow Gradient Holes
Temperature log and samples (1)

Phase II - Deep Gradient Hole
Induction, sonic, temperature log, samples (1)

Phases III & IV - Exploratory Well and Extension
Production Well
All data as provided in Paragraph 3.a.(2) (1)

Phases V & ~~VI~~ - Flow Tests (2)

In addition, Getty Oil Company will furnish copies of data on two gradient holes and the various geophysical surveys within 45 days of the execution of this contract.

Work schedule is attached as Exhibit 4. This schedule is dependent on achieving permitting within the time frame as shown on this schedule.

5. Environmental Evaluation

a. Description of the Environment Affected

The Colado area is within the desert biome and is relatively undeveloped. The climate is semiarid. The elevation ranges from 4000 to 5500 feet. The Humboldt River, a perennial stream, flows along the western portion of the area. Other drainage in the area is normally dry, except during storms. The investigation site is within the sagebrush association, consisting of shadescale, bud sage, big sagebrush and black greasewood. The area supports a wide range of animal life. The environmental aspects are covered in detail in EAR 27-020-4-103, December 1975.

The area is within or adjacent to a transportation and utility corridor which includes a controlled-access, four lane divided highway, Interstate-80, electrical transmission lines, telephone lines, gas pipeline and the main line of the Southern Pacific Railroad.

b. Analysis of the Potential Environmental Impact

The 500-foot gradient hole, Phase I, will involve the disturbance of an area approximately 25 feet by 50 feet. The Phase II deep gradient hole will involve the surface disturbance of an area approximately 50 feet by 100 feet. Phases III and IV deep wells will involve a surface disturbance of 1.0 to 2.0 ha. These surface disturbances will create the most severe impact, since the removal of vegetation for road and drilling pad construction cannot be avoided. This will result in a loss of some wildlife and wildlife habitat. Other unavoidable impacts would be the visual impairment by operations and increased public usage by the newly created access. In addition, some degradation of air and noise pollution will occur, but neither should increase beyond accepted standards. The current environment includes periodic noise and air degradation attributed to interstate automobile and railroad traffic. After usage, which could be of a long time duration if commercial steam production capability is achieved, equipment removal, regrading, and reclamation procedures should mitigate and even enhance much of the disturbed land.

c. Potential Conflicts with Existing Land Use Patterns and Programs

Potential conflicts exist in the area, due to the reduction of the amount of land available for grazing leases and recreation usage.

C. Cost

1. Estimated Total Gross Program Cost

Phase I	Shallow Gradient Holes	\$ 90,900
Phase II	Deep Gradient Hole	102,000
Phase III	Exploratory Well	1,364,000
Phase IV	Extension Production Well	1,364,000
Phase V	Short Flow Test	169,000
Phase VI	Long Flow Test	751,000
Existing Data		
	Two Gradient Holes	5,658.50
	Gravity & Magnetics	7,402.50
	Resistivity Surveys	42,200.00
	Total	<u>\$3,896,161.00</u>

Detail breakdown of the cost elements of Phase I through Phase VI is attached as Exhibits 5, 6, 7, 8 and 9.

2. Proposed cost for each new work phase is in form of a bottom hole contribution representing one-half of estimated gross cost, as follows:

<u>Phase</u>	<u>Activity</u>	<u>\$/Ft.</u>	<u>Maximum Total</u>
I	18 Shallow Gradient Holes	5.05	\$ 45,450
II	Deep Gradient Hole	34.00	51,000
III	Exploratory Well	85.25	682,000
IV	Extension Production Well	85.25	682,000
V	Short Flow Test		84,500
VI	Long Flow Test		<u>375,500</u>
	Subtotal		\$1,920,450
Cost for existing data			
	Two Gradient Holes	3.17	2,829.25
	Gravity & Magnetics	-	3,701.25
	Resistivity Surveys	-	<u>21,100.00</u>
	Subtotal		<u>27,630.50</u>
	TOTAL		\$1,948,080.50

The aforesaid Phases I and II and the surface data expenditures shall be a firm commitment for Phase I of \$5.05 per foot, Phase II \$34.00 per foot, and surface data for \$27,630.50, at a total maximum cost of \$124,080.50. Phases III through VI shall be subject to the Department of Energy's "availability to appropriate additional funds" and the election by the contractor to proceed with each subsequent project phase after evaluating the prior project phase just completed. Notwithstanding anything hereinabove stated to the contrary, it is understood and agreed that contractor may reduce the project work proposed for each phase of the aforesaid program if, in contractor's best judgement, an analysis of the results obtained from completed work warrants a reduction or curtailment of the program as planned.

D. Business and Management

1. Prior Experience

Getty Oil Company has been active in geothermal resource exploration since 1971. We have drilled numerous gradient holes in various areas and have drilled three geothermal exploratory wells to date. These are the No. 1 Kettenhofen, Geysers Area, Lake County, California, No. 1 PRC 4572.1, Mono Lake, Mono County, California, and the KGRA No. 52-21, Roosevelt, Utah. Getty Oil Company currently holds 44,948.87 net acres of geothermal leases on various prospects in the Western United States. Getty Oil Company personnel have kept abreast of geothermal drilling and exploration technology.

CONTRACT PRICING PROPOSAL (RESEARCH AND DEVELOPMENT)				Office of Management and Budget Approval No. 29-RO184	
This form is for use when (i) submission of cost or pricing data (see FPR 1-3.807-3) is required and (ii) substitution for the Optional Form 99 is authorized by the contracting officer.				PAGE NO.	NO. OF PAGES
NAME OF OFFEROR Getty Oil Company		SUPPLIES AND/OR SERVICES TO BE FURNISHED All data on 18 shallow gradient holes, 1 deep gradient hole, 2 deep tests, flow-tests, 2 existing gradient holes, and 2 existing geophysical surveys			
HOME OFFICE ADDRESS P. O. Box 5237 Bakersfield, California 93308		TOTAL AMOUNT OF PROPOSAL \$ 1,948,080.50		GOVT SOLICITATION NO. RFP No. ET-78-R-08-0003	
DIVISION(S) AND LOCATION(S) WHERE WORK IS TO BE PERFORMED Colado Area, Nevada					
DETAIL DESCRIPTION OF COST ELEMENTS					
1. DIRECT MATERIAL (Itemize on Exhibit A)			EST COST (\$)	TOTAL EST COST ¹	REFER- ENCE ²
a. PURCHASED PARTS					
b. SUBCONTRACTED ITEMS					
c. OTHER—(1) RAW MATERIAL					
(2) YOUR STANDARD COMMERCIAL ITEMS					
(3) INTERDIVISIONAL TRANSFERS (At other than cost)					
TOTAL DIRECT MATERIAL					
2. MATERIAL OVERHEAD ³ (Rate % X \$ base =)					
3. DIRECT LABOR (Specify)		ESTIMATED HOURS	RATE/HOUR	EST COST (\$)	
TOTAL DIRECT LABOR					
4. LABOR OVERHEAD (Specify Department or Cost Center) ⁴		O.H. RATE	X BASE =	EST COST (\$)	
TOTAL LABOR OVERHEAD					
5. SPECIAL TESTING (Including field work at Government installations)				EST COST (\$)	
TOTAL SPECIAL TESTING					
6. SPECIAL EQUIPMENT (If direct charge) (Itemize on Exhibit A)					
7. TRAVEL (If direct charge) (Give details on attached Schedule)					
a. TRANSPORTATION				EST COST (\$)	
b. PER DIEM OR SUBSISTENCE					
TOTAL TRAVEL					
8. CONSULTANTS (Identify—purpose—rate)				EST COST (\$)	
TOTAL CONSULTANTS					
9. OTHER DIRECT COSTS (Itemize on Exhibit A)					1,948,080.50
10. TOTAL DIRECT COST AND OVERHEAD					1,948,080.50
11. GENERAL AND ADMINISTRATIVE EXPENSE (Rate % of cost element Nos.) ⁵					
12. ROYALTIES ⁶					
13. TOTAL ESTIMATED COST					1,948,080.50
14. FEE OR PROFIT					
15. TOTAL ESTIMATED COST AND FEE OR PROFIT					1,948,080.50

This proposal is submitted for use in connection with and in response to (Describe RFP, etc.)

RFP No. ET-78-R-08-0003 Geothermal Reservoir Assessment Case Study, Northern Basin and Range Province

and reflects our best estimates as of this date, in accordance with the Instructions to Offerors and the Footnotes which follow.

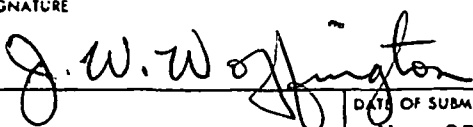
PREPARED NAME AND TITLE J. W. Woffington Division Exploration Manager	SIGNATURE 
NAME OF FIRM Getty Oil Company	DATE OF SUBMISSION May 25, 1978

EXHIBIT A—SUPPORTING SCHEDULE (Specify. If more space is needed, use reverse)

COST EL NO.	ITEM DESCRIPTION (See footnote 5)	EST COST (\$)
9	Phase I, Bottom Hole Contribution to a maximum of 18 500-foot gradient holes at \$5.05 per foot. Maximum cost	45,450
9	Phase II, Bottom Hole Contribution to a 1500-foot gradient hole at \$34.00 per foot. Maximum cost	51,000
9	Phase III, Bottom Hole Contribution to a 8000-foot exploratory well at \$85.25 per foot. Maximum cost	682,000
9	Phase IV, Bottom Hole Contribution to a 8000-foot extension production well at \$85.25 per foot. Maximum cost	682,000
9	Phase V, Contribution to short term flow test at one-half estimated cost	84,500
9	Phase VI, Contribution to long term flow test at one-half estimated total cost	375,500
9	Temperature data on two existing holes, total depth 435 feet each at \$3.17 per foot, one-half total cost	2,829.25
9	70 square miles of gravity-magnetic coverage, one-half total cost	3,701.25
9	48 square miles of resistivity survey data at one-half total cost	21,100.00
TOTAL		1,948,080.50

I. HAS ANY EXECUTIVE AGENCY OF THE UNITED STATES GOVERNMENT PERFORMED ANY REVIEW OF YOUR ACCOUNTS OR RECORDS IN CONNECTION WITH ANY OTHER GOVERNMENT PRIME CONTRACT OR SUBCONTRACT WITHIN THE PAST TWELVE MONTHS?

YES NO (If yes, identify below.)

NAME AND ADDRESS OF REVIEWING OFFICE AND INDIVIDUAL Defense Contract Audit Agency for U.S.D.O.E. (San) 1333 Broadway, Oakland, California 94618	TELEPHONE NUMBER/EXTENSION 415 273-7842
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II. WILL YOU REQUIRE THE USE OF ANY GOVERNMENT PROPERTY IN THE PERFORMANCE OF THIS PROPOSED CONTRACT?

YES NO (If yes, identify on reverse or separate page)

III. DO YOU REQUIRE GOVERNMENT CONTRACT FINANCING TO PERFORM THIS PROPOSED CONTRACT?

YES NO (If yes, identify.): ADVANCE PAYMENTS PROGRESS PAYMENTS OR GUARANTEED LOANS

IV. DO YOU NOW HOLD ANY CONTRACT (Or, do you have any independently financed (IRGD) projects) FOR THE SAME OR SIMILAR WORK CALLED FOR BY THIS PROPOSED CONTRACT?

YES NO (If yes, identify.):

EG-77-C-08-1523, Roosevelt Hot Springs Well No. 52-21, Utah

V. DOES THIS COST SUMMARY CONFORM WITH THE COST PRINCIPLES SET FORTH IN AGENCY REGULATIONS?

YES NO (If no, explain on reverse or separate page)

See Reverse for Instructions and Footnotes

OPTIONAL FORM 60 (10-71)

2. Principal Project Personnel

- a. John J. Dieckman, Western Exploration and Production,
Division Geologist
Registered Geologist - State of California No. 1763
B.S. in Geology 1950 Texas A & M
Employed by Getty Oil Company March, 1951
1951-1958 Development Geologist - Houston, Texas
1958-1960 District Exploration Geologist - Houston, Texas
1960-1965 " " " Bakersfield, Calif.
1965-1967 District Development Geologist " "
1967-1970 Special Projects Geologist " "
1970-1975 Geothermal Exploration Geologist " "
1975-Present Division Exploration Geologist, " "
Geothermal, Oil and Gas
- b. George M. Thompson, Western Exploration and Production,
Division Geophysicist
Registered Geophysicist - State of California No. 300
B.S. in Geophysics - 1964 University of South Carolina
M.S. in Geophysics - 1967 " " "
1967-1970 Geophysicist, Shell Oil Co., New Orleans, La. & Denver
1970-1975 Sr. Geophysicist, Tenneco Oil Co., Lafayette, La.
Employed by Getty Oil Company January, 1975
1975-Present Division Geophysicist - Bakersfield, California
Geothermal, Oil and Gas
- c. Wayne A. Shaw, Western Exploration and Production
Geothermal Geologist
Registered Geologist - State of California No. 2106
B.S. in Geology - 1949 Oklahoma University
Graduate Work - 1950 " "
1950-1952 Field Engr.-Geologist Co., Oklahoma City
1952-1953 Engr.-Dynamatic Drawworks Brake Corp., Bakersfield, Calif.
1953 Employed by Getty Oil Co., Bakersfield, California
1953-1958 Exploration Geologist " "
1958-1972 Development Geologist " "
1972-1974 Geothermal Exploration Geologist, Bakersfield, Calif.
1974-1975 Property Evaluation Geologist " "
1975-Present Exploration Geologist " "
Geothermal, Oil and Gas
- d. Robert A. Shore, Western Exploration and Production,
Operations Engineering Supervisor, San Joaquin Valley East
B.S. in Petroleum Engineering - 1969 Stanford University
Employed by Getty Oil Company - January, 1970
1970-1971 Production & Drilling Engineer, Bakersfield, Calif.
1971-1972 Computer Automation Engineer " "
1971-1973 Production Group Leader " "
1973-1974 Facilities Group Leader " "
1975-1977 Lead Staff Engineer " "
1977-Present Operations Engineering Supervisor " "

3. Operational Plan

The operational plan is attached as Exhibits 10, 11 and 12.

4. Contacts

a. Business

Mr. J. W. Woffington
Division Exploration Manager
Getty Oil Company
P. O. Box 5237
Bakersfield, California 93308
Phone: (805) 399-2961

b. Technical

Mr. J. J. Dieckman
Division Geologist
Getty Oil Company
P. O. Box 5237
Bakersfield, California 93308
Phone: (805) 399-2961

Mr. G. M. Thompson
Division Geophysicist
Getty Oil Company
P. O. Box 5237
Bakersfield, California 93308
Phone: (805) 399-2961

Mr. W. A. Shaw
Geothermal Geologist
Getty Oil Company
P. O. Box 5237
Bakersfield, California 93308
Phone: (805) 399-2961

Mr. R. A. Shore
Engineering Supervisor
Getty Oil Company
Rt. 1, Box 197X
Bakersfield, California 93308
Phone: (805) 399-2961

c. Contractual and Legal

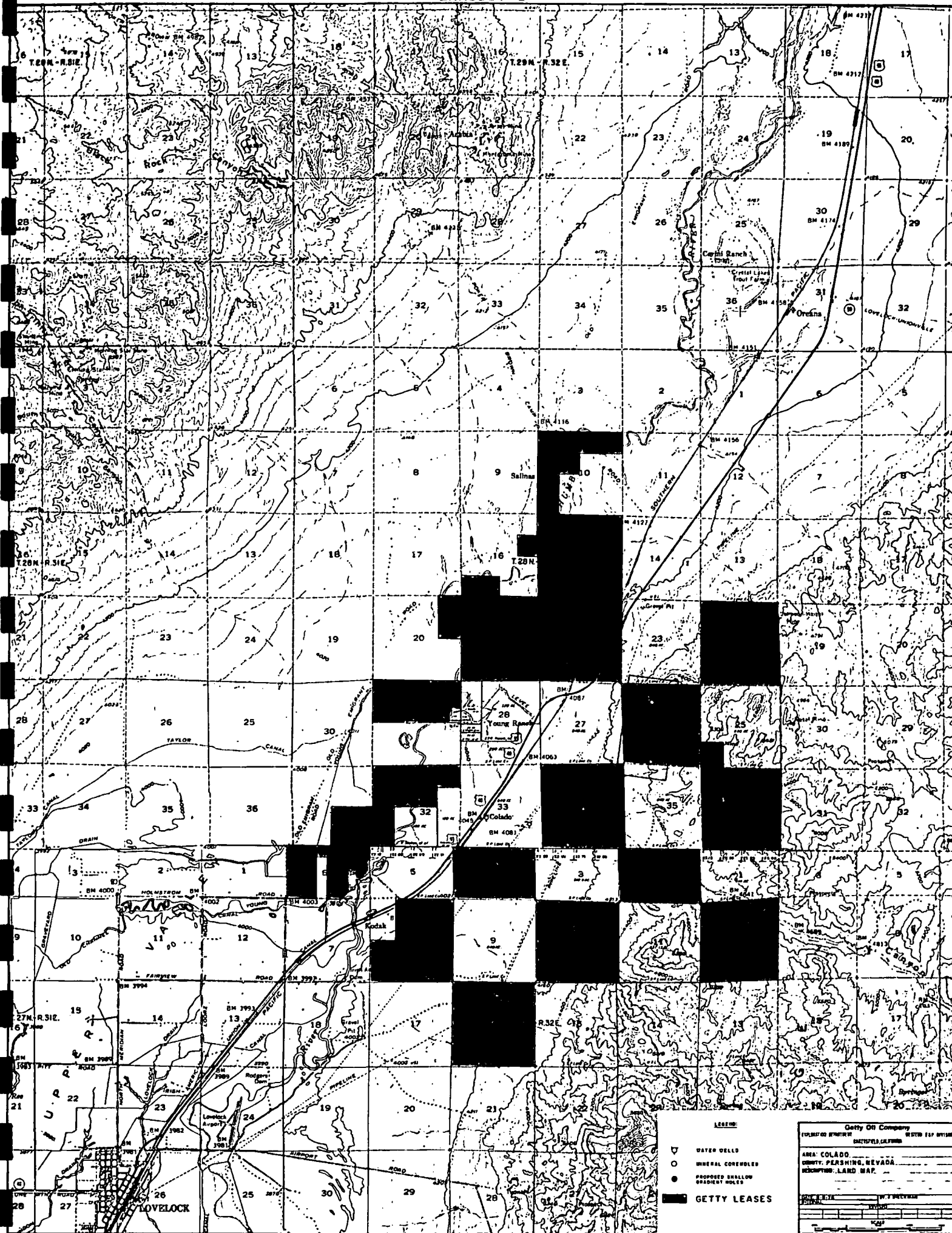
Mr. L. E. Kell
Division Attorney
Getty Oil Company
P. O. Box 5237
Bakersfield, California 93308
Phone: (805) 399-2961

5. General Contract Provisions

The General Contract Provisions set forth in Enclosure 8, as referenced in request for proposal No. ET-78-R-08-0003 dated March 31, 1978, are all acceptable as a basis for contract negotiation. However, your attention is directed to Contract Work Hours and Safety Standards Act--Overtime Compensation, Page 74 of this RFP Clause No. 7.17 of enclosure. It is our intention to provide all general provisions of any contract to the subcontractors bidding on any of the work contemplated in the proposal. We have observed that certain of the drilling contractors and other subcontractors in various areas of the Western United States often guarantee a 40-hour work week, with shifts running in any day in excess of 8 hours, with straight time as paid by such subcontractors for the 40 hours and sometimes for that time work in excess thereof. We shall, nevertheless, insist that the cited provision be observed by the subcontractor and all liability thereunder be assumed by him if awarded a contract, unless this provision is waived by the government.

6. The "Programmed Technical Scope", as set forth in the RFP, has been reviewed and the proposal submitted herewith contemplates that all data developed under the proposal will be furnished pursuant to any contract awarded and may be published.
7. Getty Oil Company's 1977 Annual Report to Stockholders is attached hereto.
8. This proposal will remain in effect for 120 days from May 30, 1978.
9. The person signing this proposal has the authority to commit the proposer to all provisions of the proposal.
10. GSA Form 19B, "Representations and Certifications" is attached as Exhibit 13.

EXHIBIT 1



LEGEND:

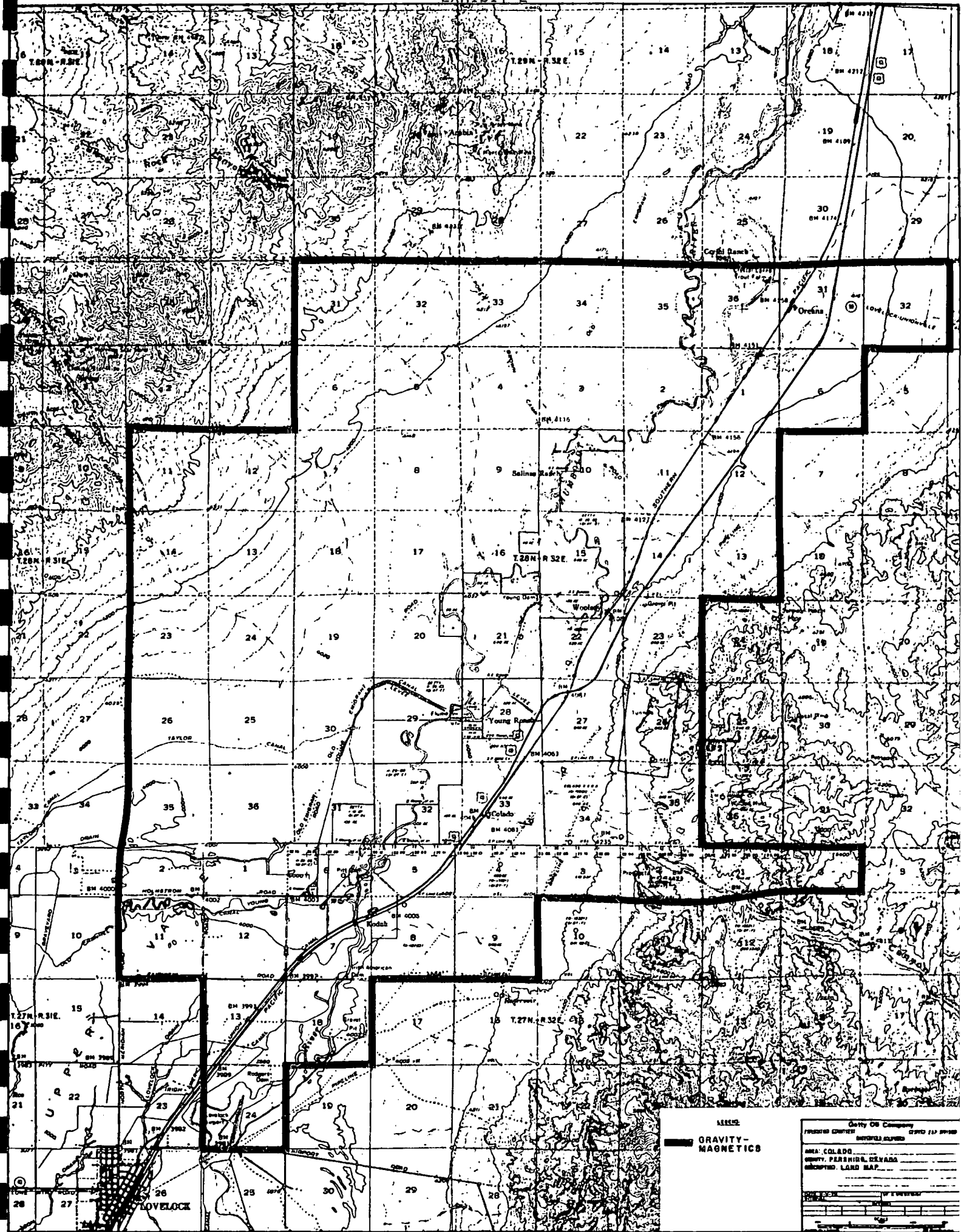
- ◻ WATER WELLS
- MINERAL CONVELOS
- PROPOSED SHALLOW GRADIENT HOLES
- GETTY LEASES

Getty Oil Company
 (UNLAWFUL MINING) (WATER GAP MINING)
 (SILTS/SLUDGES/CLAYMINES)

AREA: COLORADO
 COUNTY: PERSHING, NEVADA
 SUBJECT: LAND MAP

DATE: 1967
 BY: J. P. KELLY
 REVISION: NONE

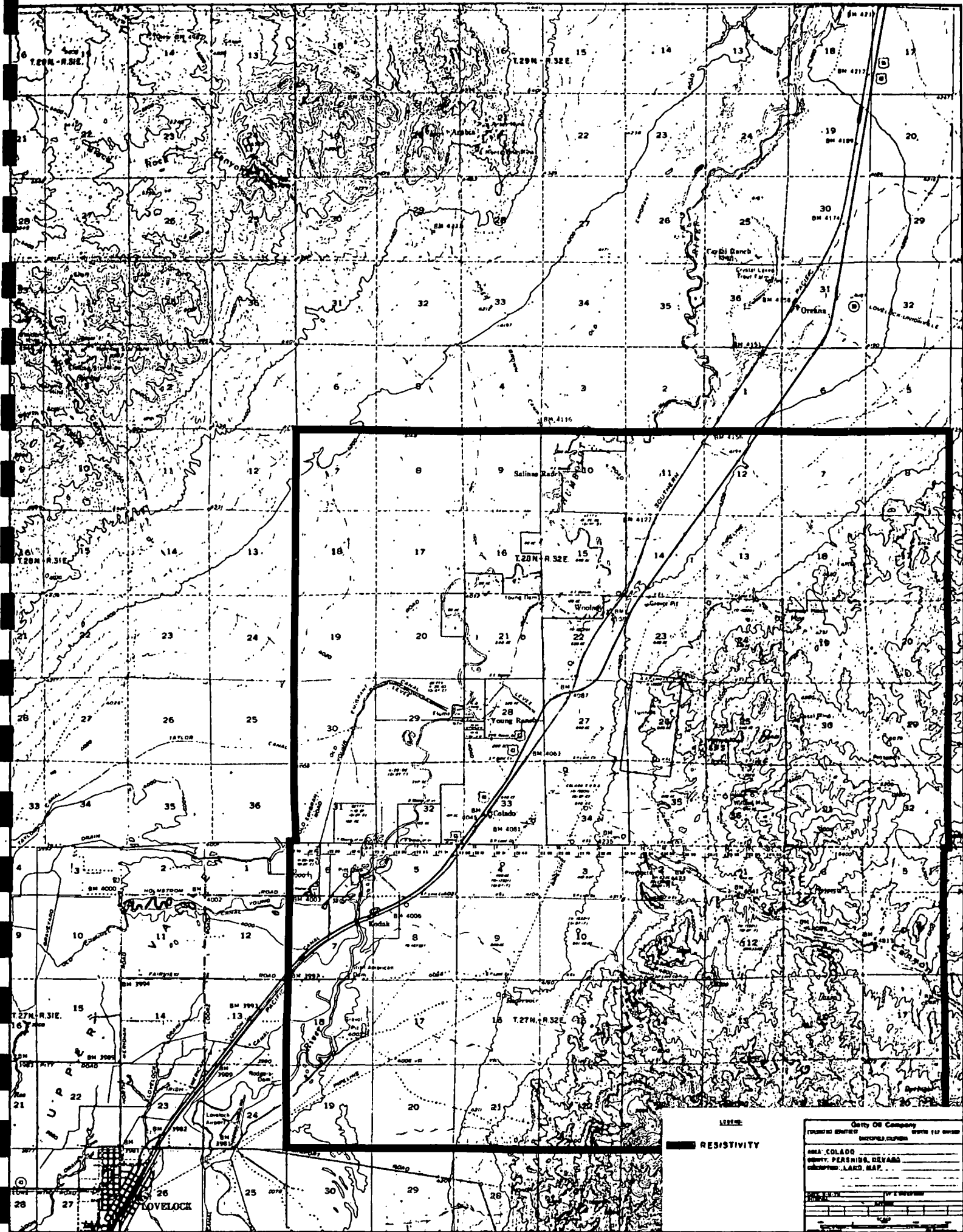
EXHIBIT 2



ALICE
GRAVITY-
MAGNETICS

Client	Geity Oil Company
Project Name	GEITY OIL FIELD
Area	COLORADO
County	PERMIA, CHADDA
Map Type	MICROPHOTO LAND MAP
Date	
Scale	
Sheet No.	
Total Sheets	

EXHIBIT 3



RESISTIVITY

City Of Company
 COUNTY: _____ SECTION: _____
 TOWNSHIP: _____ RANGE: _____

GETTY OIL COMPANY
COLADO, NEVADA

PERFORMANCE
SCHEDULE:

EXHIBIT 4

PHASE	CALENDAR YEAR	1978-4 TH.	1979-1 ST.	1979-2 ND.	1979-3 RD.	1979-4 TH.	1980-1 ST.	1980-2 ND.	1980-3 RD.	1980-4 TH.	1981-1 ST.	1981-2 ND.											
	FISCAL YEAR	1979-1 ST.	1979-2 ND.	1979-3 RD.	1979-4 TH.	1980-1 ST.	1980-2 ND.	1980-3 RD.	1980-4 TH.	1981-1 ST.	1981-2 ND.	1981-3 RD.											
	ACTIVITY	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	
I	GRADIENT HOLES	■	▨	▨																			
II	DEEP GRADIENT HOLE				■	■	▨	▨															
III	EXPLORATORY WELL									■	■	▨	▨	▨	▨								
IV	EXTENSION PRODUCTION WELL																						
V	SHORT TERM FLOW TEST																						
VI	LONG TERM FLOW TEST																						

■ PERMITTING & PREPARATION

▨ WORK PERFORMANCE

EXHIBIT 5

GRADIENT HOLE

Well Cost Estimate

The following cost estimate is based on 500' wells requiring 1-1/2 days each to complete.

Drilling Contractor (in and out)	100
Drilling Contractor (ft. rate = \$6/ft)	3,000
Drilling Fluid (10 gal. at \$10/gal)	100
Bits (50¢/ft.)	250
Out of town "subsistence pay" \$15/day/man	45
Water truck \$30/day	45
Cementing	250
Pipe 40¢/ft.	200
Getty Personnel \$150/day, 3 day/well	450
Miscellaneous Getty overhead (car, phone, lodging)	150
Contingencies 10% (locations, roads, etc.)	460

Total Estimate per Well \$ 5,050

EXHIBIT 6

Colado - Temperature Observation Well

Depth - 1500'

Intangibles

Location, roads, sump	\$ 5,000
Water, vacuum truck	1,500
Drilling contractor (in and out)	25,000
Drilling contractor (6 days at \$5,000)	30,000
Air Drilling	-0-
Bits, reamers, stabilizers	4,000
Coring	-0-
Drilling Fluid	1,500
Cementing	10,000
Mud Logging	-0-
Wireline Logging	-0-
Tool Rentals	-0-
Hauling	5,000
Rental Equipment (BOPE)	2,000
Landscape location, fill sump	5,000
Miscellaneous	1,000
Contingencies	3,000
Abandonment Plugs	-0-
Getty Personnel--Expenses	<u>1,000</u>
Total Intangibles	\$ 94,000

Tangibles

Wellhead, valves, etc.	600
50' of 20" conductor	1,700
800' of 7", 23#, J55 casing	5,100
Casing hardware	<u>600</u>
Total Tangibles	8,000
Total Intangibles	<u>94,000</u>
Total Well Estimate	\$ 102,000

EXHIBIT 7

COLADO EXPLORATORY TEST WELL
Pershing County, Nevada

COST ESTIMATE

<u>Intangibles</u>	<u>Dry Hole</u>	<u>Completion</u>
Location, roads, sump	28,000	28,000
Water, vacuum truck	40,000	40,000
Drilling contractor (in and out)	165,000	165,000
Drilling contractor (71 days at \$6070)	431,000	431,000
Bits, reamers, stabilizers	132,000	132,000
Coring	18,000	18,000
Drilling Fluid	110,000	110,000
Cementing	44,000	44,000
Mud Logging	33,000	33,000
Wireline Logging	38,000	45,000
Tool rentals	44,000	50,000
Hauling	17,000	18,000
Rental equipment (BOPE, Tanks, Totco, Swaco)	42,000	42,000
Landscape location, fill sump	11,000	6,000
Miscellaneous	11,000	11,000
Contingencies	44,000	44,000
Abandonment Plugs	9,000	-0-
Additional Pusher, 260/day	18,000	18,000
Getty Personnel, Lodging, Transportation Expenses	15,000	15,000
Total Intangibles	1,250,000	1,250,000
<u>Tangibles</u>	<u>Dry Hole</u>	<u>Completion</u>
Wellhead, valves, etc.	8,000	48,000
200' of 20" conductor	8,000	8,000
800' of 13-3/8", 54.4#, K-55 buttress	18,000	18,000
2000' of 9-5/8", 40#, K-55 buttress	32,000	32,000
Casing hardware	3,000	3,000
Contingencies	4,000	5,000
Total Tangibles	73,000	114,000
Total Intangibles	1,250,000	1,250,000
Total estimate per well	1,323,000	1,364,000

EXHIBIT 8

COST ESTIMATE

Phase V - Short Flow Test on Both Wells

<u>Equipment and Contract Services</u>	<u>Cost</u>
Meter Run	\$ 30,000
Additional Piping and Fittings	3,500
Valves and Meters	7,500
Installation - Contract Services	10,000
Chemical & Water Analysis	7,500
Pressure & Temperature Services	7,500
Computer Services	5,000
Subtotal - Equipment & Contract Services	\$ 71,000
<u>Labor</u>	
Area, Coordinator (6 months)	\$ 18,000
Reservoir Engineer (3 months)	7,500
Production Engineer (3 months)	7,500
Production Foreman (3 months)	6,000
Operating & Maintenance (6 months)	15,000
Travel and Subsistence (15 man months)	15,000
Subtotal - Equipment and Contract Services	\$ 69,000
Total	\$ 140,000
Inflated @ 10%/yr to 1980	\$ 169,000

EXHIBIT 9

COST ESTIMATE

Phase VI - Long Term Flow Test on Both Wells

<u>Equipment and Contract Services</u>	<u>Cost</u>
Separator with Controls	\$ 100,000
Injection Pumps (2)	60,000
Pipeline (10,000 feet - installed)	50,000
Misc. Controls and Instruments	20,000
Tank (Rental \$20/Day)	7,500
Valves and Fittings	15,000
Installation - Contract Services	25,000
Miscellaneous	25,000
Chemical & Water Analysis	10,000
Pressure & Temperature Services	10,000
Additional Wireline Logging and Surveys	40,000
Interference Test Equipment	15,000
Computer Services	15,000
Subtotal - Equipment and Contract Services	\$ 392,500
 <u>Labor</u>	
Area Coordinator (12 months)	\$ 36,000
Reservoir Engineer (18 months)	45,000
Production Engineer (6 months)	15,000
Production Foreman (12 months)	24,000
Operating & Maintenance (24 months)	60,000
Travel & Subsistence (48 man months)	48,000
Subtotal - Equipment and Contract Services	\$ 228,000
 Total	 \$ 620,500
 Inflated @ 10%/yr to 1980	 \$ 751,000

EXHIBIT 10

ACT No. _____

Bakersfield, California
Date: _____

DRILLING PROGRAM
Gradient Hole

WELL NUMBER: _____

LOCATION: _____

ELEVATION _____ MAT _____ K.B. (All measurements from K.B.)

DRILLED BY: _____ Drilling Company

TOTAL DEPTH: 500'

DRILLING FLUID: 0' - T.D.'. Use water base gel mud and maintain minimum weight for lost circulation control. Weight between 66-68#, viscosity between 40-50 seconds, and no water loss control.

PROGRAM

1. Move in drilling rig, mix mud and spud well.
2. Drill 4-1/2" hole to 500' using gel and water to maintain drilling rate and control bore hole. Record flowline temperatures each single "down" or connection.
3. If loss circulation is encountered, mix bulk LCM into mud and regain if possible. If unable, drill ahead with air. Control fluid entry by weighting up with barite. Hydrating clays or shales will require chemicals to control water loss to prevent sluffing.
4. At 500' (T.D.), run 1" PVC plastic pipe with collars and land. Last 10' at surface to be galvanized 1" steel pipe with locking collar and waterproof cap.
5. Fill pipe with fresh water to surface. Fill annulus from 1" OD to bore hole wall with heavy mud.
6. Fill annulus last 10' to surface with a slurry of construction grade G cement, sand and water.
7. Move rig off location and clean up location. All debris must be burned or carried to nearest disposal site. Keep site clean at all times.

EXHIBIT 11

TEMPERATURE OBSERVATION WELL

ACT No. _____

Bakersfield, California

DOG REQUIRED _____

Date: _____

Tentative Drilling Program

SECTION _____ T _____ /R _____

LOCATION:

Section _____, T _____ /R _____

ELEVATION:

_____ ' MAT Note: All measurements to be made from MAT.

DRILLED BY:

_____ Drilling Company

TOTAL DEPTH:

1500'ESTIMATED COMPLETION
INTERVAL:

DRILLING FLUID:

0 - T.D. Clay Base Mud

LOGS:

Log - T.D.

SPECIAL LOGS:

TENTATIVE CASING PROGRAM:

7 " C 800 "

1. Install and test BOPE.
2. Drill 8-3/4" hole to 801'. Log if necessary at 800'.
3. Run 7" casing to approximately 800' (one foot off bottom). Use 10' shoe joint equipped with a cement shoe and insert valve. Use centralizers on every other joint. Tool Pusher will record the depth of the casing collars.
4. After pipe is run to bottom (if flapper insert valve is used), drop ball, pressure up to 500 ± psi and rupture fill-up valve diaphragm
5. Rotate pipe slowly, pump 50 cu. ft. of water ahead of 200 sacks Class "G" cement. Displace at 7 cu. ft./min. Tool Pusher to obtain five (5) representative samples of the cement (i.e., one (1) before starting, three (3) during the job, and one (1) at the end). The samples are to be weighed with a conventional mud balance and logged on the tour sheet.
6. If flapper insert valve is used, bump top plug and bleed pressure off. If there is more than 10 cu. ft. of bleedback, hold pressure on casing for 4 hours.
7. If latch-down insert valve is used, reduce the displacement rate when the latch-down plug is 15 cu. ft. above the insert valve seat and bump plug with no more than 900 psi. If there is more than 10 cu. ft. of bleedback, build up pressure slowly to a maximum of 1200 psi to seat plug. If there is again more than 10 cu. ft. of bleedback, hold pressure on casing for 4 hours.
8. If less than 10 cu. ft. of bleedback, land casing on base plate (pipe to be kept one foot off bottom at all times).
9. Hook up and test BOPE. Drill out shoe and drill 6-1/4" hole to 1500', and log to T.D.
10. Install wellhead.
11. Release rig.

EXHIBIT 12

TENTATIVE DRILLING PROGRAM
Colado Exploratory Test Wells
Pershing County, Nevada

Well Number Colado KGRA #1
 Location:
 Elevation:
 Drilled By: Drilling Contractor (unknown at this time)
 Total Depth: 8000'
 Drift Survey: Each trip, and as required.
 Drilling Fluids:

<u>Interval</u>	<u>Type</u>	<u>Wgt.</u>	<u>Vis.</u>	<u>W.L.</u>
0'-30'	-----Conductor Set-----			
30'-100'	Gel-Water	65-58	55-65	As required
100'-800'	Gel-Water	65-68	45-55	As required
800'-2000'	Gel-Water	65-68	40-50	As required
2000'-8000'	Gel-Water	65-68	40-50	As required

Maintain corrosion and scale control through all intervals.

Logs: Logs to be run as required,
 IES--10 mv--50 ohms
 FDC-CNL--10-30 grams/c.c.
 Gamma Ray--Borehole compensated sonic log--40-70, 70-100 API
 Temperature Logs--0-150 heat flow units

Casing Program:

<u>Size</u>	<u>Depth</u>	<u>Hole Size</u>
30" Conductor	30'	36"
20", 94#, H-40 csg., slip joint	100'	28"
13-3/8", 54.5#, K-55 csg., buttress	800'	17-1/2"
9-5/8", 40#, K-55 csg., buttress	2000'	12-1/4"
Open Hole	8000'	8-1/2"

Mud Logger: To be installed before drilling out conductor casing,
 and will log and monitor hole continuously to T.D.

Ditch Samples: As directed by duty personnel.

Cores: As directed by duty personnel.

Program:

1. Move in contract rig and drill 12-1/4" hole to +100'.
2. Open hole with 20" hole opener to 100'.
3. Open hole with 28" hole opener to 100'.
4. Run 20", 94#, H-80 casing to 100'. Casing to be equipped with guide shoe. First centralizer to be 10' above shoe. Remaining centralizer spacing to be determined on site.
5. Cement 20" casing at 100' with 1:1 perlite, 40% silica flour, 2% gel, 1/2% CFR-2. Use sufficient slurry to bring returns to surface (390 cu. ft.--100% excess for casing set at 100').
6. Install 20" casing head, 20"-2000# BOPE. Pressure test casing and all BOPE to 1000 psi. Activate all BOPE once each trip.
7. Drill 12-1/4" hole to +800'.
8. Run logs as directed.
9. Open hole with 17-1/2" hole opener to 800'.
10. Run 13-3/8", 54.5#, K-55 buttress casing to 800'. Casing to be equipped with guide shoe and float collar. First centralizer to be 10' above guide shoe. Remaining centralizers to be spaced every other joint. Casing to be run with power tongs and thread protectors.
11. Cement 13-3/8" casing at 800' with 1:1 perlite, 40% silica flour, 2% gel, 1/2% CFR-2. Use sufficient slurry to bring returns to surface (1100 cu. ft.--100% excess for casing set at 800').
12. Install 13-3/8" casing head, 12", 3000# BOPE. Pressure test casing and all BOPE once each trip.
13. Drill 12-1/4" hole to +2000'. Use packed hole drilling assembly.
14. Run logs as directed.

15. Run 9-5/8", 40#, K-55 buttress casing to 2000'. Casing to be equipped with guide shoe and float collar. First centralizer to be 10' above guide shoe. Remaining centralizers to be spaced every other joint. Casing to be run with power tongs and thread protectors.
16. Cement 9-5/8" casing at 2000' with 1:1 perlite, 40% silica flour, 2# gel, 1/2% CFR-2. Use sufficient slurry to bring returns to surface (1250 cu. ft.--100% excess for casing set at 2000').
17. Install master gate, expansion spool, 12", 3000# BOPE. Pressure test casing and all BOPE to 1500 psi. Activate all BOPE once each trip.
18. Drill 8-1/2" hole to 8000'. Use packed hole drilling assembly.
19. Run logs as directed.
20. Displace mud with water. Shut-in well and remove BOPE. Install wellhead assembly.
21. Test well.
22. Release contract rig.

REPRESENTATIONS AND CERTIFICATIONS

(Construction and Architect-Engineer Contract)

(For use with Standard Forms 19, 21 and 252)

REFERENCE (Enter same No.(s) as on SF 19, 21 and 252)

R.F.P. No. ET-78-R-08-0003

NAME AND ADDRESS OF BIDDER (No., Street, City, State, and ZIP Code)

GETTY OIL COMPANY, Attention: J. W. Woffington
P. O. Box 5237
Bakersfield, California 93308

DATE OF BID

May 30, 1978

In negotiated procurements, "bid" and "bidder" shall be construed to mean "offer" and "offeror."

The bidder makes the following representations and certifications as a part of the bid identified above. (Check appropriate boxes.)

1. SMALL BUSINESS

He is, is not, a small business concern. (A small business concern for the purpose of Government procurement is a concern, including its affiliates, which is independently owned and operated, is not dominant in the field of operations in which it is bidding on Government contracts, and can further qualify under the criteria concerning number of employees, average annual receipts, or other criteria as prescribed by the Small Business Administration. For additional information see governing regulations of the Small Business Administration (13 CFR Part 121)).

2. MINORITY BUSINESS ENTERPRISE

He is, is not a minority business enterprise. A minority business enterprise is defined as a "business, at least 50 percent of which is owned by minority group members or, in case of publicly owned businesses, at least 51 percent of the stock of which is owned by minority group members." For the purpose of this definition, minority group members are Negroes, Spanish-speaking American persons, American-Orientals, American-Indians, American-Eskimos, and American-Aleuts."

3. CONTINGENT FEE

(a) He has, has not, employed or retained any company or person (other than a full-time bona fide employee working solely for the bidder) to solicit or secure this contract, and (b) he has, has not, paid or agreed to pay any company or person (other than a full-time bona fide employee working solely for the bidder) any fee, commission, percentage or brokerage fee, contingent upon or resulting from the award of this contract; and agrees to furnish information relating to (a) and (b) above as requested by the Contracting Officer. (For interpretation of the representation, including the term "bona fide employee," see Code of Federal Regulations, Title 41, Subpart 1-1.5.)

4. TYPE OF ORGANIZATION

He operates as an individual, partnership, joint venture, corporation, incorporated in State of Delaware.

5. INDEPENDENT PRICE DETERMINATION

(a) By submission of this bid, each bidder certifies, and in the case of a joint bid each party thereto certifies as to his own organization, that in connection with this procurement:

(1) The prices in this bid have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;

(2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, in the case of a bid, or prior to award, in the case of a proposal, directly or indirectly to any other bidder or to any competitor; and

(3) No attempt has been made or will be made by the bidder to induce any other person or firm to submit or not to submit a bid for the purpose of restricting competition.

(b) Each person signing this bid certifies that:

(1) He is the person in the bidder's organization responsible within that organization for the decision as to the prices being bid herein and that he has not participated, and will not participate, in any action contrary to (a)(1) through (a)(3) above; or

(2) (i) He is not the person in the bidder's organization responsible within that organization for the decision as to the prices being bid herein but that he has been authorized in writing to act as agent for the persons responsible for such decision in certifying that such persons have not participated, and will not participate, in any action contrary to (a)(1) through (a)(3) above, and as their agent does hereby so certify; and (ii) he has not participated, and will not participate, in any action contrary to (a)(1) through (a)(3) above.

(c) This certification is not applicable to a foreign bidder submitting a bid for a contract which requires performance or delivery outside the United States, its possessions, and Puerto Rico.

(d) A bid will not be considered for award where (a)(1), (a)(3), or (b) above, has been deleted or modified. Where (a)(2) above, has been deleted or modified, the bid will not be considered for award unless the bidder furnishes with the bid a signed statement which sets forth in detail the circumstances of the disclosure and the head of the agency, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

NOTE.—Bids must set forth full, accurate, and complete information as required by this invitation for bids (including attachments). The penalty for making false statements in bids is prescribed in 18 U.S.C. 1001.

THE FOLLOWING NEED BE CHECKED ONLY IF BID EXCEEDS \$10,000 IN AMOUNT.

6. EQUAL OPPORTUNITY

He has, has not, participated in a previous contract or subcontract subject to the Equal Opportunity Clause herein, the clause originally contained in Section 301 of Executive Order No. 10925, or the clause contained in Section 201 of Executive Order No. 11114; he has, has not, filed all required compliance reports; and representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained prior to subcontract awards.

(The above representations need not be submitted in connection with contracts or subcontracts which are exempt from the equal opportunity clause.)

7. PARENT COMPANY AND EMPLOYER IDENTIFICATION NUMBER


Each bidder shall furnish the following information by filling in the appropriate blocks:

(a) Is the bidder owned or controlled by a parent company as described below? Yes No. (For the purpose of this bid, a parent company is defined as one which either owns or controls the activities and basic business policies of the bidder. To own another company means the parent company must own at least a majority (more than 50 percent) of the voting rights in that company. To control another company, such ownership is not required; if another company is able to formulate, determine, or veto basic business policy decisions of the bidder, such other company is considered the parent company of the bidder. This control may be exercised through the use of dominant minority voting rights, use of proxy voting, contractual arrangements, or otherwise.)

(b) If the answer to (a) above is "Yes," bidder shall insert in the space below the name and main office address of the parent company.

NAME OF PARENT COMPANY NOT APPLICABLE	MAIN OFFICE ADDRESS (No., Street, City, State, and ZIP Code) NOT APPLICABLE
--	--

(c) Bidder shall insert in the applicable space below, if he has no parent company, his own Employer's Identification Number (E.I. No.) (Federal Social Security Number used on Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941), or, if he has a parent company, the E.I. No. of his parent company.

EMPLOYER IDENTIFICATION NUMBER OF	 PARENT COMPANY E. I. No. 51-0078813	BIDDER Getty Oil Company
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8. CERTIFICATION OF NONSEGREGATED FACILITIES

(Applicable to (1) contracts, (2) subcontracts, and (3) agreements with applicants who are themselves performing federally assisted construction contracts, exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause.)

By the submission of this bid, the bidder, offeror, applicant, or subcontractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. He certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The bidder, offeror, applicant, or subcontractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin, because of habit, local custom, or otherwise. He further agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause; that he will retain such certifications in his files; and that he will forward the following notice to such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods):

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT FOR CERTIFICATIONS OF NONSEGREGATED FACILITIES

A Certification of Nonsegregated Facilities must be submitted prior to the award of a subcontract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually).

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

9. CLEAN AIR AND WATER

(Applicable if the bid or offer exceeds \$100,000, or the contracting officer has determined that orders under an indefinite quantity contract in any year will exceed \$100,000, or a facility to be used has been the subject of a conviction under the Clean Air Act (42 U.S.C. 1857c-8(c)(1)) or the Federal Water Pollution Control Act (33 U.S.C. 1319(c)) and is listed by EPA, or is not otherwise exempt.)

The bidder or offeror certifies as follows:

(a) Any facility to be utilized in the performance of this proposed contract has , has not , been listed on the Environmental Protection Agency List of Violating Facilities.

(b) He will promptly notify the contracting officer, prior to award, of the receipt of any communication from the Director, Office of Federal Activities, Environmental Protection Agency, indicating that any facility which he proposes to use for the performance of the contract is under consideration to be listed on the EPA List of Violating Facilities.

(c) He will include substantially this certification, including this paragraph (c), in every nonexempt subcontract.

SUPPLEMENT TO REPRESENTATIONS AND CERTIFICATIONS

10. BUY AMERICAN CERTIFICATE

The bidder or offeror hereby certifies that each end product, except the end products listed below, is a domestic source end product (as defined in the clause entitled "Buy American Act"); and that components of unknown origin have been considered to have been mined, produced, or manufactured outside the United States.

Excluded end products (show country of origin for each excluded end product):

11. AFFIRMATIVE ACTION PROGRAM

The following paragraphs are added:

- a. The bidder or proposer represents that he (a) 1. has developed and has on file, 2. has not developed and does not have on file at each establishment an affirmative action program as required by the rules and regulations of the Secretary of Labor (41 CFR Part 60-1 and 60-2), or that he (b) has not previously had contracts subject to the written Affirmative Action Program requirement of the Secretary of Labor.

If such a program has not been developed, the bidder will complete the following:

The bidder does , does not employ more than 50 employees and has , has not been awarded a contract subject to Executive Order 11246 in the amount of \$50,000 or more since July 1, 1968. If such a contract has been awarded since July 1, 1968, give the date of such contract, but do not list contracts awarded within the last 120 days prior to the date of this representation.

- b. The bidder or proposer represents (a) that a full compliance review of the bidder's employment practices has, has not been conducted by an agency of the Federal Government; that such compliance review has, has not been * conducted for the bidder's known first-tier subcontractors with a subcontract of \$50,000 or more and having 50 or more employees and (b) that the most recent compliance reviews were conducted as follows:

*Status of compliance reviews of first-tier subcontractors unknown to bidder as are identities of such subcontractors.

<u>NAME OF CONTRACTOR</u>	<u>DATE</u>	<u>FEDERAL AGENCY</u>
GETTY OIL COMPANY (include known first-tier sub- contractors) Subcontractors unknown	Jan. 26-28, 1976	Dept. of Interior
	Not Applicable	Unknown

- c. The bidder or proposer represents that if the bidder has 50 or more employees and if this Contract is for \$50,000 or more, and that for each subcontractor having 50 or more employees and a subcontract for \$50,000 or more, and if he has not developed one, a written affirmative action plan will be developed for each of its establishments within 120 days from commencement of the Contract. A copy of the establishment's plan shall also be maintained at the establishment within 120 days from the date of commencement of the Contract.

The Affirmative Action Compliance Program will cover the items specifically set out in 41 CFR Part 60-2 and shall be signed by an executive of the Contractor.

- d. Where the bid of the apparent low responsible bidder is in the amount of \$1 million or more, the bidder and his known first-tier subcontractors which will be awarded subcontracts of \$1 million or more will be subject to full, preaward equal opportunity compliance reviews before the award of the Subcontract for the purpose of determining whether the bidder and his subcontractors are able to comply with the provisions of the equal opportunity clause.
- e. The bidder or proposer, if he has 100 or more employees, and all subcontractors having 100 or more employees are required to submit the Government Employer Information Report SF 100 (EEO-1), within 30 days after award, unless such report has been filed within 12 months preceding award. The EEO-1 report is due annually on or before March 31.

12. COST ACCOUNTING STANDARDS--EXEMPTION FOR CONTRACTS OF \$500,000 OR LESS--CERTIFICATION

If this proposal is expected to result in the award of a contract of \$500,000 or less and the offeror is otherwise eligible for an exemption, he shall indicate by checking the box below that the exemption to the Cost Accounting Standards clause (FPR 1-3.1204) under the provisions of 4 CFR 331.30(b)(8) (see FPR 1-3.1203(h)) is claimed. Where the offeror fails to check the box, he shall be given the opportunity to make an election in writing to the Contracting Officer prior to award. Failure to check the box below or make such an election shall mean that the offeror cannot claim the exemption to the Cost Accounting Standards clause or that the offeror elects to comply with such clause.

KX Certificate of Exemption for Contracts of \$500,000 or Less. *

The offeror hereby claims an exemption from the Cost Accounting Standards clause under the provisions of 4 CFR 331.30(b)(8) and certifies that he has received notification of final acceptance of all items of work on (i) any prime contract or subcontract in excess of \$500,000 which contains the Cost Accounting Standards clause, and (ii) any prime contract or subcontract of \$500,000 or less awarded after January 1, 1975, which contains the Cost Accounting Standards clause. The offeror further certifies he will immediately notify the Contracting Officer in writing in the event he is awarded any other contract or subcontract containing the Cost Accounting Standards clause subsequent to the date of this certificate but prior to the date of any award resulting from this proposal.

13. DISCLOSURE STATEMENT--COST ACCOUNTING PRACTICES AND CERTIFICATION

Any contract in excess of \$100,000 resulting from this solicitation except (i) when the price negotiated is based on: (A) established catalog or market prices of commercial items sold in substantial quantities to the general public, or (B) prices set by law or regulation, or (ii) contracts which are otherwise exempt (see 4 CFR 331.30(b) and FPR 1-3.1203(a)(2)) shall be subject to the requirements of the Cost Accounting Standards Board. Any offeror submitting a proposal which, if accepted, will result in a contract subject to the requirements of the Cost Accounting Standards Board must, as a condition of contracting, submit a Disclosure Statement as required by regulations of the Board. The Disclosure Statement must be submitted as a part of the offeror's proposal under this solicitation (see I. below) unless (i) the offeror, together with all divisions, subsidiaries, and affiliates under common control, did not exceed the monetary exemption for disclosure as established by the Cost Accounting Standards Board (see II. below); (ii) the offeror exceeded the monetary exemption in the Federal Fiscal Year immediately preceding the year in which this proposal was submitted but, in accordance with the regulations of the Cost Accounting Standards Board, is not yet required to submit a Disclosure Statement (see III. below); (iii) the offeror has already submitted a Disclosure Statement disclosing the practices used in connection with the pricing of this proposal (see IV. below); or (iv) postaward submission has been authorized by the Contracting Officer. See 4 CFR 351.70 for submission of copy of Disclosure Statement to the Cost Accounting Standards Board.

CAUTION: A practice disclosed in a Disclosure Statement shall not, by virtue of such disclosure, be deemed to be a proper, approved, or agreed to practice for pricing proposals or accumulating and reporting contract performance cost data.

* Exemption claimed for Contract Phases I and II.

Check the appropriate box below:

I. CERTIFICATE OF CONCURRENT SUBMISSION OF DISCLOSURE STATEMENT(S)

The offeror hereby certifies that he has submitted, as a part of his proposal under this solicitation, copies of the Disclosure Statement(s) as follows: (i) original and one copy to the cognizant Contracting Officer; and (ii) one copy to the cognizant contract auditor.

Date of Disclosure Statement(s): _____

Name(s) and Address(es) of Cognizant Contracting Officer(s) where filed: _____

The offeror further certifies that practices used in estimating costs in pricing this proposal are consistent with the cost accounting practices disclosed in the Disclosure Statement(s).

II. CERTIFICATE OF MONETARY EXEMPTION

The offeror hereby certifies that he, together with all divisions, subsidiaries, and affiliates under common control, did not receive net awards of negotiated national defense prime contracts subject to Cost Accounting Standards totaling more than \$10,000,000 in either Federal Fiscal Year 1974 or 1975 or net awards of negotiated national defense prime contracts and subcontracts subject to cost accounting standards totaling more than \$10,000,000 in Federal Fiscal Year 1976 or in any subsequent Federal Fiscal Year preceding the year in which this proposal was submitted.

CAUTION: Offerors who submitted or who currently are obligated to submit a Disclosure Statement under the filing requirements previously established by the Cost Accounting Standards Board are not eligible to claim this exemption unless they have received notification of final acceptance of all deliverable items on all of their prime contracts and subcontracts containing the Cost Accounting Standards clause.

III. CERTIFICATE OF INTERIM EXEMPTION

The offeror hereby certifies that (i) he first exceeded the monetary exemption for disclosure, as defined in II. above, in the Federal Fiscal Year immediately preceding the year in which this proposal was submitted, and (ii) in accordance with the regulations of the Cost Accounting Standards Board (4 CFR 351.40(f)), he is not yet required to submit a Disclosure Statement. The offeror further certifies that if an award resulting from this proposal has not been made by March 31 of the current Federal Fiscal Year, he will immediately submit a revised certificate to the Contracting Officer, in the form specified

under I. above or IV. below, as appropriate, to verify his submission of a completed Disclosure Statement.

CAUTION: Offerors may not claim this exemption if they are currently required to disclose because they exceeded monetary thresholds in Federal Fiscal Years prior to Fiscal Year 1976. Further, the exemption applies only in connection with proposals submitted prior to March 31 of the year immediately following the Federal Fiscal Year in which the monetary exemption was exceeded.

IV. CERTIFICATE OF PREVIOUSLY SUBMITTED DISCLOSURE STATEMENT(S)

The offeror hereby certifies that the Disclosure Statement(s) were filed as follows:

Date of Disclosure Statement(s): _____

Name(s) and Address(es) of Cognizant Contracting Officer(s) where filed: _____

The offeror further certifies that practices used in estimating costs in pricing this proposal are consistent with the cost accounting practices disclosed in the Disclosure Statement(s).

14. ADDITIONAL COST ACCOUNTING STANDARDS APPLICABLE TO EXISTING CONTRACTS--CERTIFICATION

- (a) Cost accounting standards will be applicable and effective as promulgated by the Cost Accounting Standards Board to any award as provided in the Federal Procurement Regulations Subpart 1-3.12. If the offeror presently has contracts or subcontracts containing the Cost Accounting Standards clause, a new standard becomes applicable to such existing contracts prospectively when a new contract or subcontract containing such clause is awarded on or after the effective date of such new standard. Such new standard may require a change in the offeror's established cost accounting practices, whether or not disclosed. The offeror shall specify, by an appropriate entry below, the effect on his cost accounting practice.
- (b) The offeror hereby certifies that an award under this solicitation would, would not, in accordance with paragraph (a)(3) of the Cost Accounting Standards clause, require a change in his established cost accounting practices affecting existing contracts and subcontracts.

NOTE: If the offeror has checked "would" above, and is awarded the contemplated contract, he will also be required to comply with the clause entitled Administration of Cost Accounting Standards.

Firm: GETTY OIL COMPANY

Name: J. W. Woffington
J. W. Woffington

Date: MAY 25 1978

Title: Division Exploration Manager

6-11-82

GETTY OIL COMPANY

PROPOSAL FOR
RFP NO. ET-78-R-08-0003
GEOTHERMAL RESERVOIR ASSESSMENT CASE STUDY

BEOVAWE AREA
EUREKA AND LANDER COUNTIES
NEVADA

GETTY OIL COMPANY
WESTERN EXPLORATION & PRODUCTION DIVISION

EXPLORATION DEPARTMENT
BAKERSFIELD, CALIFORNIA

PROPOSAL FOR
RFP NO. ET-78-R-08-0003

GEOHERMAL RESERVOIR ASSESSMENT
CASE STUDY, NORTHERN BASIN
AND RANGE PROVINCE

BEOVAWE AREA
EUREKA AND LANDER COUNTIES
NEVADA

GEOHERMAL PROPOSAL

Re: Request for Proposal (RFP) No. ET-78-R-08-0003
Geothermal Reservoir Assessment Case Study,
Northern Basin and Range Province

A. The Proposer is:

Getty Oil Company
P. O. Box 5237
Bakersfield, California 93308
Attention: J. W. Woffington
Phone: (805) 399-2961

B. Technical Proposal

1. Investigation Area

- a. The investigation site is located within Township 31 North and Ranges 47 and 48 East, M.D.B. & M., within the Beowawe Known Geothermal Resource Area, Eureka and Lander Counties, Nevada.
- b. Getty Oil Company holds Federal Geothermal Leases on 6,226.02 acres of Federal lands and 415.40 gross acres in leases on privately owned land. These lands are accessible for the purpose of this investigation, subject to federal and state permitting regulations. The lands are shown on Exhibit 1.
- c. Geological Description

The area is located along the south boundary of the Whirlwind Valley adjacent to the Malpais Scarp. The area centers approximately four and one-half miles southeast of the Beowawe townsite.

A number of hot springs and small geysers occur along a NE-SW trending line, roughly parallel to the steep escarpment which marks the southern boundary of Whirlwind Valley. This scarp, typical of basin and range faulting, delineates the northern edge of an upthrown block of lower Paleozoic rocks capped by Tertiary volcanics. It is evident that the basin margin fault provides a conduit for the upward movement of hydrothermal fluids. In the immediate vicinity of the hot springs, several hundred feet of siliceous sinter have been laid down in a terrace deposit which covers approximately one-half square mile of the valley floor. North of the sinter, the valley floor is covered by alluvium.

d. Site Selection

A number of shallow wells have been drilled along the fault scarp. Maximum temperature encountered in these wells was 212°C. Chemistry of well water suggests the presence of a geothermal reservoir with temperatures in the range of 250°C.

A 5,447-foot well was drilled immediately north of the shallow wells and encountered a maximum temperature of 115°C. Chevron has drilled two deep tests near the western edge of the proposal area. These wells were 9,563 feet T.D. and 5,680 feet T.D. Information on these wells is not available. The 9,563-foot test was drilled prior to the KGRA sale at which Chevron paid \$505,088.77 for the offsetting Leasing Unit No. 4.

2. Program Data Offered

- a. The proposed program is scheduled by phases as described below. The execution of succeeding phases will be dependent on results of the preceding phases.

Phase I - Shallow Gradient Holes

Getty Oil Company proposes to drill a maximum of fourteen (14) shallow gradient holes to a depth of approximately 500 feet each. A temperature log of each hole will be run and 30-foot drill samples will be collected. All data derived from drilling these holes is offered, including, but not limited to, those items detailed in Paragraph 3.

Phase II - Deep Gradient Hole

Getty Oil Company proposes to drill one deep gradient hole to an approximate total depth of 1,500 feet. An induction, sonic and temperature log will be made and 30-foot drill samples will be collected. All data derived from the drilling of this hole is offered, including, but not limited to, those items detailed in Paragraph 3.

Phase III - Exploratory Well

Getty Oil Company proposes to drill an exploratory well at a location to be determined from results of the preceding phases. Tentative total depth is 9,500 feet. In the event a potentially productive geothermal reservoir is encountered, the well will be completed and a 24-hour flow test will be made. All data derived from the drilling of this well is offered, including, but not limited to, those items detailed in the following Paragraph 3.

Phase IV - Extension Production Well

In the event the well proposed under Phase III is productive, Getty Oil Company proposes to drill an additional well as an extension test of the reservoir at a location to be selected after completion of Phase III to a tentative total depth of 9,500 feet. In the event a potentially productive reservoir is encountered, the well will be completed and a 24-hour flow test will be made. All data derived from the drilling of this well is offered, including, but not limited to, those items detailed in the following Paragraph 3.

Phase V - Short Flow Tests

Short flow tests shall be 24 to 48-hour duration tests to determine mass flow capability of wells. Calculations will be based on differential pressure measurements and lip pressure measurements using the James method. Chemical analysis, industrial water analysis and pressure - temperature services will be utilized.

Phase VI - Long Term Flow Test

Long term flow tests shall be six-month duration tests to determine the production capability of wells and the geothermal reservoir. Work shall include measurement of steam and liquid phases, chemical and water analysis, pressure and temperature services, interference testing, and additional wireline logging and surveys.

b. Surface

Getty Oil Company proposes to conduct a geophysical program comprised of 25 square miles of gravity-magnetic coverage and 21 square miles of resistivity survey coverage, more particularly described in Paragraph 3.b.

3. Program Description

a. Subsurface

- (1) The proposal involves the new drilling of a maximum of 14 shallow 500-foot gradient holes, Phase I, one 1,500 foot deep gradient holes, Phase II, and two exploratory holes, Phases III and IV, and conduct flow tests, Phases V and VI.

(2) Drilling and completion procedures

PHASE 1

500' Gradient Holes

- (a) Total depth - 500 feet
 - (b) Hole size - 4-1/2" to 500'
 - (c) Drilling fluids - water base gel mud and maintain minimum weight for lost circulation control. Weight between 66-68#, viscosity between 40-50 seconds, and no water loss control.
 - (d) Casing - at 500' (TD), 1" PVC plastic pipe, last 10' at surface galvanized 1" steel pipe with locking collar and waterproof cap.
 - (e) Cementing - fill annulus from TD to 10' with heavy mud, 10' to surface with construction grade G cement, sand and water.
- (3) Mud Logging - monitor flow line temperatures. Catch 30' drill samples.
 - (4) Coring and Analysis - none
 - (5) Drill Stem Testing - none
 - (6) Logging - temperature survey at completion and 30 days after completion.
 - (7) Flow Testing - none
 - (8) Fluid Chemistry - none
 - (9) Well Bore Treatment - none

PHASE II

1500' Gradient Hole

- (a) Total depth - 1500 feet
- (b) Hole sizes and depths - 8-3/4" to 801', 6-1/4" to 1500'
- (c) Drilling fluids - 0 to TD clay base mud
- (d) Casing - 7" casing 800'
- (e) Cementing - 200 sacks Class "G" cement with cement returns to surface

- (3) Mud Logging - Monitor flow line temperatures. Catch 30' drill samples.
- (4) Coring and Analysis - none
- (5) Drill Steam Testing - none
- (6) Logging - temperature survey at completion and 30 days after completion.
- (7) Flow Testing - none
- (8) Fluid Chemistry - none
- (9) Well Bore Treatment - none

PHASE III AND IV Exploratory and Extension Production Tests

- (a) Total depth - 9500 feet
- (b) Hole sizes

36"	to	30'
28"	to	100'
17-1/2"	to	800'
12-1/4"	to	2500'
8-1/2"	to	9500'

- (c) Drilling Fluids

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Water Loss</u>
0 - 30'	-----Conductor Set-----			
30 - 100'	Gel Water	65-68	55-65	As required
100 - 800'	Gel Water	65-68	45-55	As required
800 - 2500'	Gel Water	65-68	40-50	As required
2500 - 9500'	Gel Water	65-68	36-40	As required

- (d) Casing

<u>Size</u>	<u>Set At</u>	<u>Hole Size</u>
30" Conductor	30'	36"
20", 94#, H-40 csg., slip joint	100'	28"
13-3/8", 54.5#, K-55 csg., buttress	800'	17-1/2"
9-5/8" 40#	2500'	12-1/4"
Open Hole	9500'	8-1/2"

(e) Cementing

<u>Depth</u>	<u>Type</u>
30'	Ready Mix
100'	1:1 Perlite, 40% silica flour, 2% gel, 1/2% CFR-2, plus 100% excess
800'	1:1 Perlite, 40% silica flour, 2% gel, 1/2% CFR-2, plus 100% excess
2500'	1:1 Perlite, 40% silica flour, 2% gel, 1/2% CFR-2, plus 100% excess

Sufficient slurry to bring returns to surface.

(f) Drift Surveys

Each trip and as needed.

- (3) Mud Logging Unit - to be installed before drilling out conductor casing. Log and monitor hole continuously to T.D.
- (4) Coring and Analysis - One conventional core; depth to be determined by duty geologist. Analysis dependent on rock type and recovery.
- (5) Drill Stem Testing - none
- (6) Logging - logs to be run as directed.
 - IES -- 10 mv -- 50 ohms
 - FDC-CNL -- 10-30 grams/cc
 - Gamma Ray-BHC Sonic 70-70, 70-100 API
 - Temperature logs -- 0 -- 150 heat flow units
- (7) Flow Testing - one day flow test utilizing a range of orifices.
- (8) Fluid Chemistry - standard industrial analysis of produced fluids, sampled at intervals during flow test.
- (9) Well Bore Treatment - none contemplated.

PHASE V - Short Flow Tests

Short flow tests shall be 24 to 48-hour duration tests to determine mass flow capability of wells. Calculations will be based on differential pressure measurements and lip pressure measurements using the James method. Chemical analysis, industrial water analysis and pressure - temperature services will be utilized.

PHASE VI - Long Term Flow Test

Long term flow tests shall be six-month duration tests to determine the production capability of wells and the geothermal reservoir. Work shall include measurement of steam and liquid phases, chemical and water analysis, pressure and temperature services, interference

testing and additional wireline logging and surveys. Conducting of a long-term flow test requires the drilling of the initial exploratory test well and the extension production well since each well may serve as an injector well when alternately testing each well for its productive capabilities.

b. Surface Investigations

- (1) Getty Oil Company proposes to conduct a new gravity-magnetic survey covering 25 square miles. The field survey will be made by Lanton Surveys. Contoured interpretation maps will be included. Proposed coverage is shown on Exhibit 1.

Getty Oil Company also proposes to conduct a new resistivity survey covering 21 square miles. The field survey will be made by Electrodyne Survey Services. Each station will include electromagnetic reading and a galvanic DC reading, making use of (3E) and (2H) vectors. There will be just in excess of 20-line miles of profiling with stations spaced every 1/8th mile along profiles and profiles every 1/2 mile perpendicular to the structure with tie-lines. They will use three sources; one in the southwest, one on the east side, and one on the northwest corner, plus Schlumberger soundings using two sources. Contoured interpretation maps will be included. Proposed coverage is shown on Exhibit 2.

c. Reservoir Engineering Studies

None

4. Schedule

Six copies of all data and one-half of all cores, sample cuts, and other material specified as herein provided in Part 2 will be delivered by the contractor to the Department of Energy in general accordance with the bracketed numbers as shown below.

- (1) Data to be delivered within 45 days after completion of that particular phase.
- (2) Data to be delivered within 45 days after completion of that particular phase.

Subsurface

Phase I	Shallow gradient holes Temperature log and samples	(1)
Phase II	Deep gradient holes Induction, sonic, temperature log, samples	(1)
Phases III & IV	Exploratory Well and Extension Production Well All data as provided in Paragraph 3.a (2)	(1)

Phases V & VI Flow Tests (2)

Surface

Gravity-Magnetics (2)

Resistivity Surveys (2)

Work schedule is attached as Exhibit 3. This schedule is dependent on achieving permitting within the time frame as shown on this schedule.

5. Environmental Evaluation

a. Description of the Environment Affected

The Beowawe area is within the desert biome and is undeveloped, except for a small area affected by shallow geothermal wells. The climate is semiarid. Elevation ranges from 4,700 to 5,900 feet. Drainage in the area is normally dry, except during storms. A limited amount of water flows from a row of springs along the scarp and from blowing steam wells, and is absorbed in the valley alluvium within a short distance. The investigation site is within the sagebrush association and supports a wide range of wildlife. The environmental situation is covered in detail in EAR 27-060-5-21. The landscape can be generally described as a desert type and recreation includes hunting, rock collecting and picnicking. Sightseeing has primarily resulted from the blowing steam wells, vandalized several years ago.

b. Analysis of the Potential Environmental Impact

The 500-foot gradient hole, Phase I, will involve the disturbance of an area approximately 25 feet by 50 feet. The Phase II deep gradient hole will involve the surface disturbance of an area approximately 50 feet by 100 feet. Phases III and IV, deep wells, will involve a surface disturbance of 1.0 to 2.0 ha. These surface disturbances will create the most severe impact, since the removal of vegetation for road and drilling pad construction cannot be avoided. This will result in a loss of some wildlife and wildlife habitat. Other unavoidable impacts would be the visual impairment by operations and increased public usage by the newly created access. In addition, some degradation of air and noise pollution will occur, but neither should increase beyond accepted standards. After usage, which could be of a long time duration if commercial steam production capability is achieved, equipment removal, regrading and reclamation procedures should mitigate and even enhance much of the disturbed land.

c. Potential Conflicts with Existing Land Use Patterns and Programs

Potential conflicts exist in the area due to the reduction of the amount of lands available for grazing leases and recreation usage.

C. Cost

1. Estimated Total Gross Program Cost

Phase I	Shallow Gradient Holes	\$ 70,700.00
II	Deep Gradient Hole	102,000.00
III	Exploratory Well	1,636,000.00
IV	Extension Production Well	1,636,000.00
V	Short Flow Test	169,000.00
VI	Long Flow Test	751,000.00
Gravity & Magnetics		4,500.00
Resistivity Surveys		60,000.00
Total		\$ 4,429,200.00

Detail breakdown of the cost elements of Phase I through Phase VI is attached as Exhibits 4, 5, 6 and 7.

2. Proposed cost for each new work phase is in the form of a bottom hole contribution representing one-half of estimated gross cost, as follows:

<u>Phase</u>	<u>Activity</u>	<u>\$/ft.</u>	<u>Maximum Total</u>
I	14 Shallow Gradient Holes	5.05	\$ 35,350.00
II	Deep Gradient Hole	34.00	51,000.00
III	Exploratory Well	86.11	818,045.00
IV	Extension Production Well	86.11	818,045.00
V	Long Flow Test		84,500.00
VI	Long Term Flow Test		375,500.00
Sub-Total			\$ 2,182,440.00

Surface Data

Gravity & Magnetics	-	2,250.00
Resistivity Surveys	-	30,000.00
Sub-Total		\$ 32,250.00

TOTAL \$ 2,214,690.00

The aforesaid Phases I and II and the surface data expenditures shall be a firm commitment for Phase I of \$5.05 per foot, Phase II \$34.00 per foot, and surface data for \$32,250.00, at a total maximum cost of \$118,600.00. Phases III through VI shall be subject to the Department of Energy's "availability to appropriate additional funds" and the election by the contractor to proceed with each subsequent project phase after evaluating the prior project phase just completed. Notwithstanding anything hereinabove stated to the contrary, it is understood and agreed that contractor may reduce

the project work proposed for each phase of the aforesaid program if, in contractor's best judgement, an analysis of the results obtained from completed work warrants a reduction or curtailment of the program as planned.

CONTRACT PRICING PROPOSAL (RESEARCH AND DEVELOPMENT)		Office of Management and Budget Approval No. 29-RO184			
This form is for use when (i) submission of cost or pricing data (see FPR 1-9.807-3) is required and (ii) substitution for the Optional Form 39 is authorized by the contracting officer.		PAGE NO. 1	NO. OF PAGES 2		
NAME OF OFFEROR Getty Oil Company		SUPPLIES AND/OR SERVICES TO BE FURNISHED All data on 14 shallow gradient holes, 1 deep gradient hole, 2 deep tests, flow tests and 2 geophysical surveys.			
HOME OFFICE ADDRESS P. O. Box 5237 Bakersfield, California 93308					
DIVISION(S) AND LOCATION(S) WHERE WORK IS TO BE PERFORMED Beowawe Area, Nevada		TOTAL AMOUNT OF PROPOSAL \$ 2,214,690.00	GOVT SOLICITATION NO. RFP No. ET-78-R-08-0003		
DETAIL DESCRIPTION OF COST ELEMENTS					
1. DIRECT MATERIAL (Itemize on Exhibit A)		EST COST (\$)	TOTAL EST COST ¹	REFER- ENCE ²	
a. PURCHASED PARTS					
b. SUBCONTRACTED ITEMS					
c. OTHER—(1) RAW MATERIAL					
(2) YOUR STANDARD COMMERCIAL ITEMS					
(3) INTERDIVISIONAL TRANSFERS (At other than cost)					
TOTAL DIRECT MATERIAL					
2. MATERIAL OVERHEAD ¹ (Rate %X'S base=)					
3. DIRECT LABOR (Specify)		ESTIMATED HOURS	RATE/HOUR	EST COST (\$)	
TOTAL DIRECT LABOR					
4. LABOR OVERHEAD (Specify Department or Cost Center) ¹		O.H. RATE	X BASE=	EST COST (\$)	
TOTAL LABOR OVERHEAD					
5. SPECIAL TESTING (Including field work at Government installations)		EST COST (\$)			
TOTAL SPECIAL TESTING					
6. SPECIAL EQUIPMENT (If direct charge) (Itemize on Exhibit A)		EST COST (\$)			
7. TRAVEL (If direct charge) (Give details on attached Schedule)		EST COST (\$)			
a. TRANSPORTATION					
b. PER DIEM OR SUBSISTENCE					
TOTAL TRAVEL					
8. CONSULTANTS (Identify—purpose—rate)		EST COST (\$)			
TOTAL CONSULTANTS					
9. OTHER DIRECT COSTS (Itemize on Exhibit A)		2,214,690.00			
10. TOTAL DIRECT COST AND OVERHEAD		2,214,690.00			
11. GENERAL AND ADMINISTRATIVE EXPENSE (Rate % of cost element Nos.) ¹					
12. ROYALTIES ¹					
13. TOTAL ESTIMATED COST		2,214,690.00			
14. FEE OR PROFIT					
15. TOTAL ESTIMATED COST AND FEE OR PROFIT		2,214,690.00			

This proposal is submitted for use in connection with and in response to (Describe RFP, etc.)

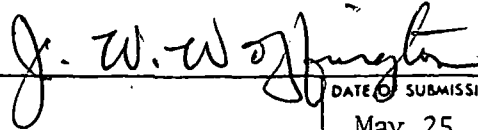
RFP No. ET-78-R-08-0003 Geothermal Reservoir Assessment Case Study, Northern Basin and Range Province

and reflects our best estimates as of this date, in accordance with the Instructions to Offerors and the Footnotes which follow.

TYPED NAME AND TITLE

J. W. Woffington
Division Exploration Manager

SIGNATURE



NAME OF FIRM

Getty Oil Company

DATE OF SUBMISSION

May 25, 1978

EXHIBIT A—SUPPORTING SCHEDULE (Specify. If more space is needed, use reverse)

COST EL NO.	ITEM DESCRIPTION (See footnote 5)	EST COST (\$)
9	Phase I, Bottom Hole Contribution to maximum of 14 - 500 foot gradient holes at \$5.05 per foot. Maximum Cost	35,350
9	Phase II, Bottom Hole Contribution to a 1500 foot gradient hole at \$34.00 per foot. Maximum Cost	51,000
9	Phase III, Bottom Hole Contribution to a 9500 foot exploratory well at \$86.11 per foot. Maximum Cost	818,045
9	Phase IV, Bottom Hole Contribution to a 9500 foot extension production well at \$86.11 per foot. Maximum Cost	818,045
9	Phase V, Contribution to short term flow test at one-half estimated total cost	84,500
9	Phase VI, Contribution to long term flow test at one-half estimated total cost	375,500
9	25 square miles of gravity-magnetic coverage. One-half total cost	2,250
9	21 square miles of resistivity survey data at one-half total cost	60,000
Total		2,214,690

I. HAS ANY EXECUTIVE AGENCY OF THE UNITED STATES GOVERNMENT PERFORMED ANY REVIEW OF YOUR ACCOUNTS OR RECORDS IN CONNECTION WITH ANY OTHER GOVERNMENT PRIME CONTRACT OR SUBCONTRACT WITHIN THE PAST TWELVE MONTHS?

YES NO (If yes, identify below.) U.S. D.O.E. (San) EY-76-03-1188 (2-28-78)

NAME AND ADDRESS OF REVIEWING OFFICE AND INDIVIDUAL

Defense Contract Audit Agency for U.S.D.O.E. (San)
1333 Broadway, Oakland, California 94618

TELEPHONE NUMBER/EXTENSION

415 273-7842

II. WILL YOU REQUIRE THE USE OF ANY GOVERNMENT PROPERTY IN THE PERFORMANCE OF THIS PROPOSED CONTRACT?

YES NO (If yes, identify on reverse or separate page)

III. DO YOU REQUIRE GOVERNMENT CONTRACT FINANCING TO PERFORM THIS PROPOSED CONTRACT?

YES NO (If yes, identify.): ADVANCE PAYMENTS PROGRESS PAYMENTS OR GUARANTEED LOANS

IV. DO YOU NOW HOLD ANY CONTRACT (Or, do you have any independently financed (IR&D) projects) FOR THE SAME OR SIMILAR WORK CALLED FOR BY THIS PROPOSED CONTRACT?

EG-77-C-08-1523, Roosevelt Hot Springs Well No. 52-21, Utah

YES NO (If yes, identify.):

V. DOES THIS COST SUMMARY CONFORM WITH THE COST PRINCIPLES SET FORTH IN AGENCY REGULATIONS?

YES NO (If no, explain on reverse or separate page)

See Reverse for Instructions and Footnotes

OPTIONAL FORM 60 (10-71)

D. Business and Management

1. Prior Experience

Getty Oil Company has been active in geothermal resource exploration since 1971. We have drilled numerous gradient holes in various areas and have drilled three geothermal exploratory wells to date. These are the No. 1 Kettenhofen, Geysers Area, Lake County, California; No. 1 PRC 4572.1, Mono Lake, Mono County, California; and the K.G.R.A. No. 52-21, Roosevelt, Utah. Getty Oil Company currently holds 44,948.87 net acres of geothermal leases on various prospects in the Western United States. Getty Oil Company personnel have kept abreast of geothermal drilling and exploration technology.

2. Principal Project Personnel

- a. John J. Dieckman, Western Exploration and Production,
Division Geologist
Registered Geologist - State of California - No. 1763
B.S. in Geology 1950 Texas A & M
Employed by Getty Oil Company March, 1951
1951-1958 Development Geologist - Houston, Texas
1958-1960 District Exploration Geologist - Houston, Texas
1960-1965 " " " Bakersfield, Calif.
1965-1967 District Development Geologist " "
1967-1970 Special Projects Geologist " "
1970-1975 Geothermal Exploration Geologist " "
1975-Present Division Exploration Geologist,
Geothermal, Oil and Gas " "
- b. George M. Thompson, Western Exploration and Production,
Division Geophysicist
Registered Geophysicist - State of California - No. 300
B.S. in Geophysics - 1964 University of South Carolina
M.S. in Geophysics 1967
1967-1970 Geophysicist, Shell Oil Co., New Orleans, La. & Denver
1970-1975 Sr. Geoph., Tenneco Oil Co., Lafayette, La.
Employed by Getty Oil Company, January 1975
1975-Present Division Geophysicist - Bakersfield, Calif.
Geothermal, Oil and Gas
- c. Wayne A. Shaw, Western Exploration and Production,
Geothermal Geologist
Registered Geologist - State of California - No. 2106
B.S. in Geology - 1949 Oklahoma University
Graduate Work - 1950
1950-1952 Field Engr.-Geolograph Co., Oklahoma City, Okla.
1952-1953 Engr.-Dynamatic Draworks Brake Corp., Bakersfield, Calif.
1953 Employed by Getty Oil Company " "
1953-1958 Exploration Geologist " "
1958-1972 Development Geologist " "
1972-1974 Geothermal Exploration Geologist " "
1974-1975 Property Eval. Geologist " "
1975-Present Exploration Geologist " "
Geothermal, Oil and Gas

- d. Robert A. Shore, Western Exploration and Production,
Operations Engineering Supervisor, San Joaquin Valley East
B.S. in Petroleum Engineering - 1969 Stanford University
Employed by Getty Oil Company - January 1970
1970-1971 Production & Drilling Engineer, Bakersfield, Calif.
1971-1972 Computer Automation Engineer " "
- 1972-1973 Production Group Leader " "
- 1973-1974 Facilities Group Leader " "
- 1975-1977 Lead Staff Engineer " "
- 1977-Present Operations Engineering Supervisor " "

3. Operational Plan

The operational plan is attached as Exhibits 9, 10 and 11.

4. Contacts

a. Business

Mr. J. W. Woffington
Division Exploration Manager
Getty Oil Company
P. O. Box 5237
Bakersfield, California 93308
Phone: (805) 399-2961

b. Technical

Mr. J. J. Dieckman
Division Geologist
Getty Oil Company
P. O. Box 5237
Bakersfield, California 93308
Phone: (805) 399-2961

Mr. G. M. Thompson
Division Geophysicist
Getty Oil Company
P. O. Box 5237
Bakersfield, California 93308
Phone: (805) 399-2961

Mr. W. A. Shaw
Geothermal Geologist
Getty Oil Company
P. O. Box 5237
Bakersfield, California 93308
Phone: (805) 399-2961

Mr. R. A. Shore
Engineering Supervisor
Getty Oil Company
Rt. 1, Box 197X
Bakersfield, California 93308
Phone: (805) 399-2961

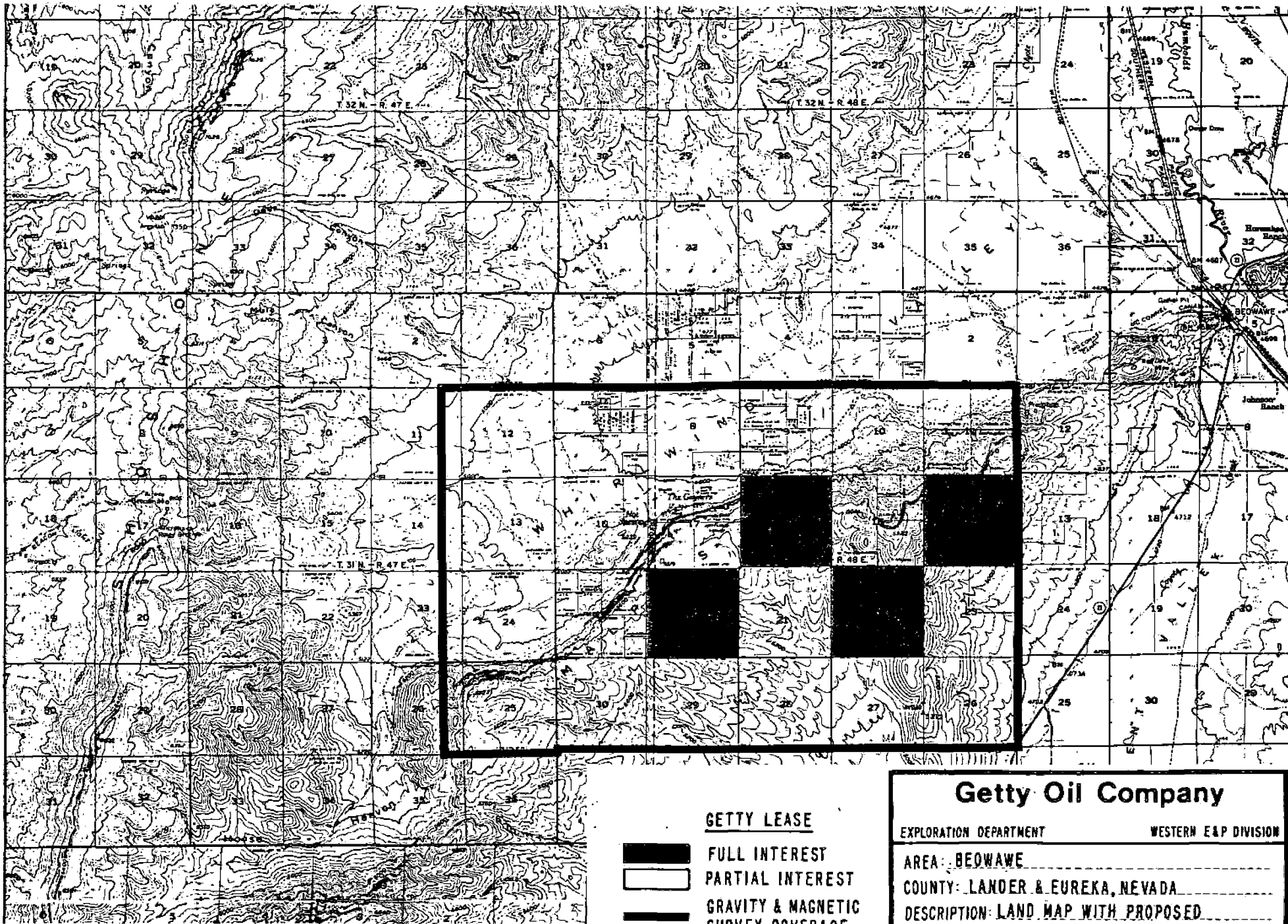
c. Contractual and Legal

Mr. L. E. Kell
Division Attorney
Getty Oil Company
P. O. Box 5237
Bakersfield, California 93308
Phone: (805) 399-2961

5. General Contract Provisions

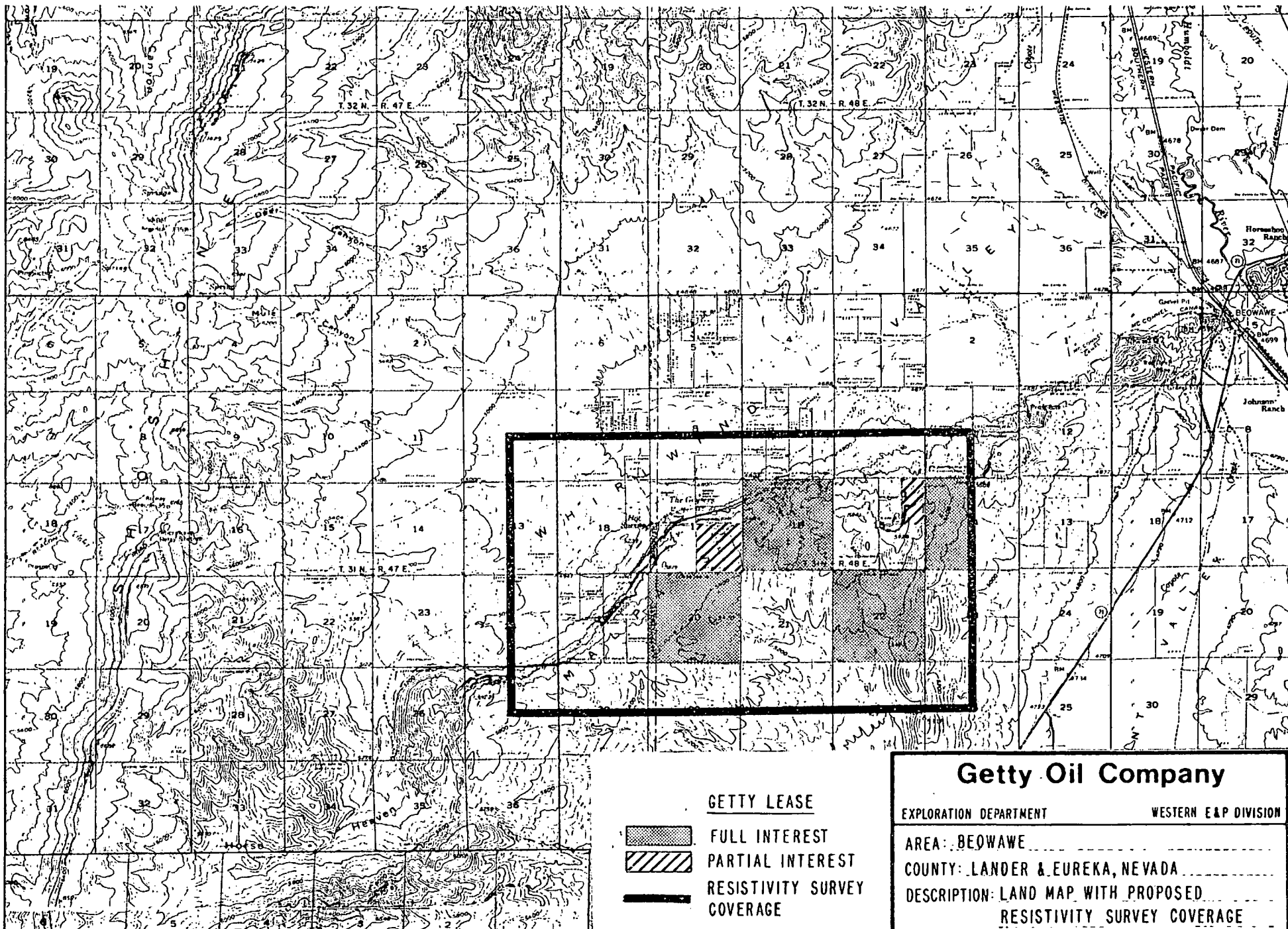
The General Contract Provisions set forth in Enclosure 8, as referenced in Request for Proposal No. ET-78-R-08-0003 dated March 31, 1978, are all acceptable as a basis for contract negotiation. However, your attention is directed to Contract Work Hours and Safety Standards Act--Overtime Compensation, Page 75 of this RFP Clause No. 7.17 of Enclosure. It is our intention to provide all general provisions of any contract to the subcontractors bidding on any of the work contemplated in the proposal. We have observed that certain of the drilling contractors and subcontractors in various areas of the Western United States often guarantee a 40-hour work week, with shifts running in any day in excess of 8 hours, with straight time, as paid by such subcontractors for the 40 hours and sometimes for that time worked in excess thereof. We shall, nevertheless, insist that the cited provision be observed by the contractor and all liability thereunder be assumed by him if awarded a contract, unless this provision is waived by the government.




6. The "Programmed Technical Scope", as set forth in the RFP, has been reviewed and the proposal submitted herewith contemplates that all data developed under the proposal will be furnished pursuant to any contract awarded and may be published.
7. Getty Oil Company's 1977 Annual Report to Stockholders is attached hereto.
8. This proposal will remain in effect for 120 days from May 30, 1978.
9. The person signing this proposal has the authority to commit the proposer to all provisions of the proposal.
10. GSA Form 19B, "Representations and Certifications" is attached as Exhibit "12".



-  FULL INTEREST
-  PARTIAL INTEREST
-  GRAVITY & MAGNETIC SURVEY COVERAGE

Getty Oil Company	
EXPLORATION DEPARTMENT	WESTERN E&P DIVISION
AREA: BEOWAWE	
COUNTY: LANDER & EUREKA, NEVADA	
DESCRIPTION: LAND MAP WITH PROPOSED	
GRAVITY & MAGNETIC SURVEY	
COVERAGE.	



- GETTY LEASE**
-  FULL INTEREST
 -  PARTIAL INTEREST
 -  RESISTIVITY SURVEY COVERAGE

Getty Oil Company

EXPLORATION DEPARTMENT WESTERN E&P DIVISION

AREA: BEOWAWE

COUNTY: LANDER & EUREKA, NEVADA

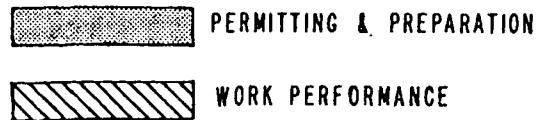
DESCRIPTION: LAND MAP WITH PROPOSED
RESISTIVITY SURVEY COVERAGE

GETTY OIL COMPANY
BEOWAWE, NEVADA

PERFORMANCE
SCHEDULE:

EXHIBIT 3

PHASE	CALENDAR YEAR	1978-4TH	1979-1ST	1979-2ND	1979-3RD	1979-4TH	1980-1ST	1980-2ND	1980-3RD	1980-4TH	1981-1ST	1981-2ND	1981-3RD	1981-4TH																
	FISCAL YEAR	1979-1ST	1979-2ND	1979-3RD	1979-4TH	1980-1ST	1980-2ND	1980-3RD	1980-4TH	1981-1ST	1981-2ND	1981-3RD	1981-4TH	1982-1ST																
ACTIVITY		O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D		
GRAVITY - MAGNETICS		■	▨																											
RESISTIVITY SURVEY		■	▨																											
I GRADIENT HOLES					■	▨																								
II DEEP GRADIENT HOLE								■	▨																					
III EXPLORATORY WELL										■	▨																			
IV EXTENSION PRODUCTION WELL																														
V SHORT TERM FLOW TEST																														
VI LONG TERM FLOW TEST																														



GRADIENT HOLE

Well Cost Estimate

The following cost estimate is based on 500' wells requiring 1-1/2 days each to complete.

Drilling Contractor (in and out)	\$ 100
Drilling Contractor (ft. rate = \$6/ft)	3,000
Drilling Fluid (10 gal. at \$10/gal)	100
Bits (50¢/ft.)	250
Out of Town "subsistence pay" \$15/day/man	45
Water truck \$30/day	45
Cementing	250
Pipe 40¢/ft.	200
Getty Personnel \$150/day, 3 day/well	450
Miscellaneous Getty overhead (car, phone, lodging)	150
Contingencies 10% (locations, roads, etc.)	460
Total Estimate per Well	\$ 5,050

Temperature Observation Well

Depth - 1500'

Intangibles

Location, roads, sump	\$ 5,000
Water, vacuum truck	1,500
Drilling contractor (in and out)	25,000
Drilling contractor (6 days at \$5,000)	30,000
Air Drilling	0
Bits, reamers, stabilizers	4,000
Coring	0
Drilling Fluid	1,500
Cementing	10,000
Mud Logging	0
Wireline Logging	0
Tool Rentals	0
Hauling	5,000
Rental Equipment (BOPE)	2,000
Landscape location, fill sump	5,000
Miscellaneous	1,000
Contingencies	3,000
Abandonment Plugs	0
Getty Personnel--Expenses	1,000
	<hr/>
Total Intangibles	\$ 94,000

Tangibles

Wellhead, valves, etc.	\$ 600
50' of 20" conductor	1,700
800' of 7", 23#, J55 casing	5,100
Casing hardware	600
	<hr/>
Total Tangibles	\$ 8,000
Total Intangibles	94,000
Total Well Estimate	\$ 102,000

Beowawe Exploratory Test Well

Eureka, Nevada

WELL COST ESTIMATE

<u>Intangibles</u>	<u>Dry Hole</u>	<u>Completion</u>
Location, roads, sump	\$ 28,000	\$ 28,000
Water, vacuum truck	44,000	44,000
Drilling contractor (in and out)	165,000	165,000
Drilling contractor (85 days at \$6070)	516,000	516,000
Bits, reamers, stabilizers	165,000	165,000
Coring	22,000	22,000
Drilling Fluid	165,000	165,000
Cementing	55,000	55,000
Mud Logging	40,000	40,000
Wireline logging	49,000	56,000
Tool rentals	53,000	60,000
Hauling	22,000	22,000
Rental Equipment, BOPE, Tanks, Swaco, Totco	51,000	51,000
Landscape location, fill sump	11,000	6,000
Miscellaneous	17,000	25,000
Contingencies	53,000	53,000
Abandonment plugs	11,000	0
Additional Pusher, \$260/day	22,000	22,000
Getty Personnel, Expenses--Lodging, Transportation	18,000	18,000
Total Intangibles	\$ 1,507,000	\$ 1,513,000
<u>Tangibles</u>	<u>Dry Hole</u>	<u>Completion</u>
Wellhead, valves, etc.	\$ 8,000	\$ 48,000
200' of 20" conductor	8,000	8,000
800' of 13-3/8", 54.5#, K-55 buttress	18,000	18,000
2500' of 9-5/8", 40#, K-55 buttress	41,000	41,000
Casing hardware	3,000	3,000
Contingencies	4,000	5,000
Total Tangibles	\$ 82,000	\$ 123,000
Total Intangibles	\$ 1,507,000	\$ 1,513,000
Total Estimate per Well	\$ 1,589,000	\$ 1,636,000

Cost Estimate

Phase V - Short Flow Test on Both Wells

<u>Equipment and Contract Services</u>	<u>Cost</u>
Meter Run	\$ 30,000
Additional Piping and Fittings	3,500
Valves and Meters	7,500
Installation - Contract Services	10,000
Chemical & Water Analysis	7,500
Pressure & Temperature Services	7,500
Computer Services	5,000
Subtotal - Equipment & Contract Services	\$ 71,000
<u>Labor</u>	
Area Coordinator (6 months)	\$ 18,000
Reservoir Engineer (3 months)	7,500
Production Engineer (3 months)	7,500
Production Foreman (3 months)	6,000
Operating & Maintenance (6 months)	15,000
Travel and Subsistence (15 man months)	15,000
Subtotal - Equipment & Contract Services	\$ 69,000
Total	\$ 140,000
Inflated @ 10%/yr to 1980	\$ 169,000

Cost Estimate

Phase VI - Long Term Flow Test on Both Wells

<u>Equipment and Contract Services</u>	<u>Cost</u>
Separator with Controls	\$ 100,000
Injection Pumps (2)	60,000
Pipeline (10,000 feet - installed)	50,000
Misc. Controls and Instruments	20,000
Tank (Rental \$20/Day)	7,500
Valves and Fittings	15,000
Installation - Contract Services	25,000
Miscellaneous	25,000
Chemical & Water Analysis	10,000
Pressure & Temperature Services	10,000
Additional Wireline Logging and Surveys	40,000
Interference Test Equipment	15,000
Computer Services	15,000
	<hr/>
Subtotal - Equipment & Contract Services	\$ 392,500
<u>Labor</u>	
Area Coordinator (12 months)	\$ 36,000
Reservoir Engineer (18 months)	45,000
Production Engineer (6 months)	15,000
Production Foreman (12 months)	24,000
Operating & Maintenance (24 months)	60,000
Travel & Subsistence (48 man months)	48,000
	<hr/>
Subtotal - Equipment & Contract Service	\$ 228,000
Total	\$ 620,500
Inflated @ 10%/yr to 1980	\$ 751,000

Bakersfield, California
Date: _____

DRILLING PROGRAM
Gradient Hole

WELL NUMBER: _____
LOCATION: _____
ELEVATION: _____ MAT _____ K.B. (All Measurements from K.B.(
DRILLED BY: _____ Drilling Company

TOTAL DEPTH: 500'

DRILLING FLUID: 0' - T.D.'. Use water base gel mud and maintain minimum weight for lost circulation control. Weight between 66-68#, viscosity between 40-50 seconds, and no water loss control.

PROGRAM

1. Move in drilling rig, mix mud and spud well.
2. Drill 4-1/2" hole to 500' using gel and water to maintain drilling rate and control bore hole. Record flowline temperatures each single "down" or connection.
3. If loss circulation is encountered, mix bulk LCM into mud and regain if possible. If unable, drill ahead with air. Control fluid entry by weighting up with barite. Hydrating clays or shales will require chemicals to control water loss to prevent sluffing.
4. At 500' (T.D.), run 1" PVC plastic pipe with collars and land. Last 10' at surface to be galvanized 1" steel pipe with locking collar and waterproof cap.
5. Fill pipe with fresh water to surface. Fill annulus from 1" to OD to bore hole wall with heavy mud.
6. Fill annulus last 10' to surface with a slurry of construction grade G cement, sand and water.
7. Move rig off location and clean up location. All debris must be burned or carried to nearest disposal site. Keep site clean at all times.

TEMPERATURE OBSERVATION WELL

ACT No. _____

Bakersfield, California

DOG REQUIRED _____

Date: _____

Tentative Drilling Program

SECTION _____ T _____ /R _____

LOCATION: _____

Section _____, T _____ /R _____

ELEVATION: _____ ' MAT Note: All measurements to be made from MAT.

DRILLED BY: _____ Drilling Company

TOTAL DEPTH: 1500'ESTIMATED COMPLETION
INTERVAL: _____

DRILLING FLUID: 0 - T.D. Clay Base Mud

LOGS: Log - T.D.

SPECIAL LOGS: _____

TENTATIVE CASING PROGRAM: 7 " C 800 "

1. Install and test BOPE.
2. Drill 8-3/4" hole to 801'. Log if necessary at 800'.
3. Run 7" casing to approximately 800' (one foot off bottom). Use 10' shoe joint equipped with a cement shoe and insert valve. Use centralizers on every other joint. Tool Pusher will record the depth of the casing collars.
4. After pipe is run to bottom (if flapper insert valve is used), drop ball, pressure up to 500 ± psi and rupture fill-up valve diaphragm
5. Rotate pipe slowly, pump 50 cu. ft. of water ahead of 200 sacks Class "G" cement. Displace at 7 cu. ft./min. Tool Pusher to obtain five (5) representative samples of the cement (i.e., one (1) before starting, three (3) during the job, and one (1) at the end). The samples are to be weighed with a conventional mud balance and logged on the tour sheet.
6. If flapper insert valve is used, bump top plug and bleed pressure off. If there is more than 10 cu. ft. of bleedback, hold pressure on casing for 4 hours.
7. If latch-down insert valve is used, reduce the displacement rate when the latch-down plug is 15 cu. ft. above the insert valve seat and bump plug with no more than 900 psi. If there is more than 10 cu. ft. of bleedback, build up pressure slowly to a maximum of 1200 psi to seat plug. If there is again more than 10 cu. ft. of bleedback, hold pressure on casing for 4 hours.
8. If less than 10 cu. ft. of bleedback, land casing on base plate (pipe to be kept one foot off bottom at all times).
9. Hook up and test BOPE. Drill out shoe and drill 6-1/4" hole to 1500', and log to T.D.
10. Install wellhead.
11. Release rig.

TENTATIVE DRILLING PROGRAMBeowawe Exploratory Test Wells
Eureka County, Nevada

Well Number: Beowawe #1

Location:

Elevation:

Drilled By: Drilling Contractor (unknown at this time)

Total Depth: 9500'

Drift Survey: Each trip, and as required.

Drilling Fluids:

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Water Loss</u>
0' - 30'	-----Conductor Set-----			
30' - 100'	Gel-Water	65-68	55-65	As Required
100' - 800'	Gel-Water	65-68	45-55	As Required
800' - 2500'	Gel-Water	65-68	40-50	As Required
2500' - 9500'	Gel-Water	65-68	36-40	As Required

Maintain corrosion and scale control through all intervals.

Logs: Logs to be run as required.
IES--10mv--50ohms
FDC-CNL--10-30 grams/c.c.
Gamma Ray--Borehole compensated sonic log--40-70, 70-100 API
Temperature Logs--0-150 heat flow units

Casing Program:

<u>Size</u>	<u>Depth</u>	<u>Hole Size</u>
30" Conductor	30'	36"
20", 94#, H-40 csg., slip joint	100'	28"
13-3/8", 54.5#, K-55 csg., buttress	800'	17-1/2"
9-5/8", 40#, K-55 csg., buttress	2500'	12-1/4"
Open Hole	9500'	8-1/2"

Mud Logger: To be installed before drilling out conductor casing, and will log and monitor hole continuously to T.D.

Tentative Drilling Program

Beowawe #1

Page -2-

Ditch Samples: As directed by duty personnel.

Cores: As directed by duty personnel.

Program:

1. Move in contract rig and drill 12-1/4" hole to +100'.
2. Open hole with 20" hole opener to 100'.
3. Open hole with 28" hole opener to 100'.
4. Run 20", 94#, H-80 casing to 100'. Casing to be equipped with guide shoe. First centralizer to be 10' above shoe. Remaining centralizer spacing to be determined on site.
5. Cement 20" casing at 100' with 1:1 perlite, 40% silica flour, 2% gel, 1/2% CFR-2. Use sufficient slurry to bring returns to surface (390 cu. ft.-- 100% excess for casing set at 100').
6. Install 20" casing head, 20"-2000#BOPE. Pressure test casing and all BOPE to 1000 psi. Activate all BOPE once each trip.
7. Drill 12-1/4" hole to +800'.
8. Run logs as directed.
9. Open hole with 17-1/2" hole opener to 800'.
10. Run 13-3/8", 54.5#, K-55 buttress casing to 800'. Casing to be equipped with guide shoe and float collar. First centralizer to be 10' above guide shoe. Remaining centralizers to be spaced every other joint. Casing to be run with power tongs and thread protectors.
11. Cement 13-3/8" casing at 800' with 1:1 perlite, 40% silica flour, 2% gel, 1/2% CFR-2. Use sufficient slurry to bring returns to surface (1100 cu. ft.--100% excess for casing set at 800').
12. Install 13-3/8" casing head, 12", 3000# BOPE. Pressure test casing and all BOPE once each trip.
13. Drill 12-1/4" hole to 2500'. Use packed hole drilling assembly.
14. Run logs as directed.
15. Run 9-5/8", 40#, K-55 buttress casing to 2500'. Casing to be equipped with guide shoe and float collar. First centralizer to be 10' above guide shoe. Remaining centralizers to be spaced every other joint. Casing to be run with power tongs and thread protectors.

16. Cement 9-5/8" casing at 2500' with 1:1 perlite, 40% silica flour, 2% gel, 1/2% CFR-2. Use sufficient slurry to bring returns to surface (use 100% excess for casing set at 2500').
17. Install master gate, expansion spool, 12", 3000# BOPE. Pressure test casing and all BOPE to 1500 psi. Activate all BOPE once each trip.
18. Drill 8-1/2" hole to 9500'. Use packed hole drilling assembly.
19. Run logs as directed.
20. Displace mud with water. Shut-in well and remove BOPE. Install wellhead assembly.
21. Test well.
22. Release contract rig.

REPRESENTATIONS AND CERTIFICATIONS

(Construction and Architect-Engineer Contract)

(For use with Standard Forms 19, 21 and 252)

REFERENCE (Enter same No.(s) as on SF 19, 21 and 252)

R.F.P. No. ET-78-R-08-0003

NAME AND ADDRESS OF BIDDER (No., Street, City, State, and ZIP Code)

GETTY OIL COMPANY, Attention: J. W. Woffington
P. O. Box 5237
Bakersfield, California 93308

DATE OF BID

May 30, 1978

In negotiated procurements, "bid" and "bidder" shall be construed to mean "offer" and "offeror."

The bidder makes the following representations and certifications as a part of the bid identified above. (Check appropriate boxes.)

1. SMALL BUSINESS

He is, is not, a small business concern. (A small business concern for the purpose of Government procurement is a concern, including its affiliates, which is independently owned and operated, is not dominant in the field of operations in which it is bidding on Government contracts, and can further qualify under the criteria concerning number of employees, average annual receipts, or other criteria as prescribed by the Small Business Administration. For additional information see governing regulations of the Small Business Administration (13 CFR Part 121)).

2. MINORITY BUSINESS ENTERPRISE

He is, is not a minority business enterprise. A minority business enterprise is defined as a "business, at least 50 percent of which is owned by minority group members or, in case of publicly owned businesses, at least 51 percent of the stock of which is owned by minority group members." For the purpose of this definition, minority group members are Negroes, Spanish-speaking American persons, American-Orientals, American-Indians, American-Eskimos, and American-Aleuts."

3. CONTINGENT FEE

(a) He has, has not, employed or retained any company or person (other than a full-time bona fide employee working solely for the bidder) to solicit or secure this contract, and (b) he has, has not, paid or agreed to pay any company or person (other than a full-time bona fide employee working solely for the bidder) any fee, commission, percentage or brokerage fee, contingent upon or resulting from the award of this contract; and agrees to furnish information relating to (a) and (b) above as requested by the Contracting Officer. (For interpretation of the representation, including the term "bona fide employee," see Code of Federal Regulations, Title 41, Subpart 1-1.5.)

4. TYPE OF ORGANIZATION

He operates as an individual, partnership, joint venture, corporation, incorporated in State of Delaware.

5. INDEPENDENT PRICE DETERMINATION

(a) By submission of this bid, each bidder certifies, and in the case of a joint bid each party thereto certifies as to his own organization, that in connection with this procurement:

(1) The prices in this bid have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;

(2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, in the case of a bid, or prior to award, in the case of a proposal, directly or indirectly to any other bidder or to any competitor; and

(3) No attempt has been made or will be made by the bidder to induce any other person or firm to submit or not to submit a bid for the purpose of restricting competition.

(b) Each person signing this bid certifies that:

(1) He is the person in the bidder's organization responsible within that organization for the decision as to the prices being bid herein and that he has not participated, and will not participate, in any action contrary to (a) (1) through (a) (3) above; or

(2) (i) He is not the person in the bidder's organization responsible within that organization for the decision as to the prices being bid herein but that he has been authorized in writing to act as agent for the persons responsible for such decision in certifying that such persons have not participated, and will not participate, in any action contrary to (a) (1) through (a) (3) above, and as their agent does hereby so certify; and (ii) he has not participated, and will not participate, in any action contrary to (a) (1) through (a) (3) above.

(c) This certification is not applicable to a foreign bidder submitting a bid for a contract which requires performance or delivery outside the United States, its possessions, and Puerto Rico.

(d) A bid will not be considered for award where (a) (1), (a) (3), or (b) above, has been deleted or modified. Where (a) (2) above, has been deleted or modified, the bid will not be considered for award unless the bidder furnishes with the bid a signed statement which sets forth in detail the circumstances of the disclosure and the head of the agency, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

NOTE.—Bids must set forth full, accurate, and complete information as required by this invitation for bids (including attachments). The penalty for making false statements in bids is prescribed in 18 U.S.C. 1001.

THE FOLLOWING NEED BE CHECKED ONLY IF BID EXCEEDS \$10,000 IN AMOUNT.

6. EQUAL OPPORTUNITY

He has, has not, participated in a previous contract or subcontract subject to the Equal Opportunity Clause herein, the clause originally contained in Section 301 of Executive Order No. 10925, or the clause contained in Section 201 of Executive Order No. 11114; he has, has not, filed all required compliance reports; and representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained prior to subcontract awards.

(The above representations need not be submitted in connection with contracts or subcontracts which are exempt from the equal opportunity clause.)

7. PARENT COMPANY AND EMPLOYER IDENTIFICATION NUMBER

Each bidder shall furnish the following information by filling in the appropriate blocks:

(a) Is the bidder owned or controlled by a parent company as described below? Yes No. (For the purpose of this bid, a parent company is defined as one which either owns or controls the activities and basic business policies of the bidder. To own another company means the parent company must own at least a majority (more than 50 percent) of the voting rights in that company. To control another company, such ownership is not required; if another company is able to formulate, determine, or veto basic business policy decisions of the bidder, such other company is considered the parent company of the bidder. This control may be exercised through the use of dominant minority voting rights, use of proxy voting, contractual arrangements, or otherwise.)

(b) If the answer to (a) above is "Yes," bidder shall insert in the space below the name and main office address of the parent company.

NAME OF PARENT COMPANY <p style="text-align: center;">NOT APPLICABLE</p>	MAIN OFFICE ADDRESS (No., Street, City, State, and ZIP Code) <p style="text-align: center;">NOT APPLICABLE</p>
---	---

(c) Bidder shall insert in the applicable space below, if he has no parent company, his own Employer's Identification Number (E.I. No.) (Federal Social Security Number used on Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941), or, if he has a parent company, the E.I. No. of his parent company.

EMPLOYER IDENTIFICATION NUMBER OF	PARENT COMPANY E. I. No. 51-0078813	BIDDER Getty Oil Company
-----------------------------------	--	-----------------------------

8. CERTIFICATION OF NONSEGREGATED FACILITIES

(Applicable to (1) contracts, (2) subcontracts, and (3) agreements with applicants who are themselves performing federally assisted construction contracts, exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause.)

By the submission of this bid, the bidder, offeror, applicant, or subcontractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. He certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The bidder, offeror, applicant, or subcontractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin, because of habit, local custom, or otherwise. He further agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause; that he will retain such certifications in his files; and that he will forward the following notice to such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods):

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT FOR CERTIFICATIONS OF NONSEGREGATED FACILITIES

A Certification of Nonsegregated Facilities must be submitted prior to the award of a subcontract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually).

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

9. CLEAN AIR AND WATER

(Applicable if the bid or offer exceeds \$100,000, or the contracting officer has determined that orders under an indefinite quantity contract in any year will exceed \$100,000, or a facility to be used has been the subject of a conviction under the Clean Air Act (42 U.S.C. 1857c-8(c)(1)) or the Federal Water Pollution Control Act (33 U.S.C. 1319(c)) and is listed by EPA, or is not otherwise exempt.)

The bidder or offeror certifies as follows:

(a) Any facility to be utilized in the performance of this proposed contract has , has not , been listed on the Environmental Protection Agency List of Violating Facilities.

(b) He will promptly notify the contracting officer, prior to award, of the receipt of any communication from the Director, Office of Federal Activities, Environmental Protection Agency, indicating that any facility which he proposes to use for the performance of the contract is under consideration to be listed on the EPA List of Violating Facilities.

(c) He will include substantially this certification, including this paragraph (c), in every nonexempt subcontract.

SUPPLEMENT TO REPRESENTATIONS AND CERTIFICATIONS

10. BUY AMERICAN CERTIFICATE

The bidder or offeror hereby certifies that each end product, except the end products listed below, is a domestic source end product (as defined in the clause entitled "Buy American Act"); and that components of unknown origin have been considered to have been mined, produced, or manufactured outside the United States.

Excluded end products (show country of origin for each excluded end product):

11. AFFIRMATIVE ACTION PROGRAM

The following paragraphs are added:

- a. The bidder or proposer represents that he (a) 1. has developed and has on file; 2. has not developed and does not have on file at each establishment an affirmative action program as required by the rules and regulations of the Secretary of Labor (41 CFR Part 60-1 and 60-2); or that he (b) has not previously had contracts subject to the written Affirmative Action Program requirement of the Secretary of Labor.

If such a program has not been developed, the bidder will complete the following:

The bidder does , does not employ more than 50 employees and has , has not been awarded a contract subject to Executive Order 11246 in the amount of \$50,000 or more since July 1, 1968. If such a contract has been awarded since July 1, 1968, give the date of such contract, but do not list contracts awarded within the last 120 days prior to the date of this representation.

- b. The bidder or proposer represents (a) that a full compliance review of the bidder's employment practices has, has not been conducted by an agency of the Federal Government; that such compliance review has, has not been * conducted for the bidder's known first-tier subcontractors with a subcontract of \$50,000 or more and having 50 or more employees and (b) that the most recent compliance reviews were conducted as follows:

*Status of compliance reviews of first-tier subcontractors unknown to bidder as are identities of such subcontractors.

<u>NAME OF CONTRACTOR</u>	<u>DATE</u>	<u>FEDERAL AGENCY</u>
GETTY OIL COMPANY (include known first-tier sub- contractors) Subcontractors unknown	Jan. 26-28, 1976	Dept. of Interior
	Not Applicable	Unknown

- c. The bidder or proposer represents that if the bidder has 50 or more employees and if this Contract is for \$50,000 or more, and that for each subcontractor having 50 or more employees and a subcontract for \$50,000 or more, and if he has not developed one, a written affirmative action plan will be developed for each of its establishments within 120 days from commencement of the Contract. A copy of the establishment's plan shall also be maintained at the establishment within 120 days from the date of commencement of the Contract.

The Affirmative Action Compliance Program will cover the items specifically set out in 41 CFR Part 60-2 and shall be signed by an executive of the Contractor.

- d. Where the bid of the apparent low responsible bidder is in the amount of \$1 million or more, the bidder and his known first-tier subcontractors which will be awarded subcontracts of \$1 million or more will be subject to full, preaward equal opportunity compliance reviews before the award of the Subcontract for the purpose of determining whether the bidder and his subcontractors are able to comply with the provisions of the equal opportunity clause.
- e. The bidder or proposer, if he has 100 or more employees, and all subcontractors having 100 or more employees are required to submit the Government Employer Information Report SF 100 (EEO-1), within 30 days after award, unless such report has been filed within 12 months preceding award. The EEO-1 report is due annually on or before March 31.

12. COST ACCOUNTING STANDARDS--EXEMPTION FOR CONTRACTS OF \$500,000 OR LESS--CERTIFICATION

If this proposal is expected to result in the award of a contract of \$500,000 or less and the offeror is otherwise eligible for an exemption, he shall indicate by checking the box below that the exemption to the Cost Accounting Standards clause (FPR 1-3.1204) under the provisions of 4 CFR 331.30(b)(8) (see FPR 1-3.1203(h)) is claimed. Where the offeror fails to check the box, he shall be given the opportunity to make an election in writing to the Contracting Officer prior to award. Failure to check the box below or make such an election shall mean that the offeror cannot claim the exemption to the Cost Accounting Standards clause or that the offeror elects to comply with such clause.

KX Certificate of Exemption for Contracts of \$500,000 or Less. *

The offeror hereby claims an exemption from the Cost Accounting Standards clause under the provisions of 4 CFR 331.30(b)(8) and certifies that he has received notification of final acceptance of all items of work on (i) any prime contract or subcontract in excess of \$500,000 which contains the Cost Accounting Standards clause, and (ii) any prime contract or subcontract of \$500,000 or less awarded after January 1, 1975, which contains the Cost Accounting Standards clause. The offeror further certifies he will immediately notify the Contracting Officer in writing in the event he is awarded any other contract or subcontract containing the Cost Accounting Standards clause subsequent to the date of this certificate but prior to the date of any award resulting from this proposal.

13. DISCLOSURE STATEMENT--COST ACCOUNTING PRACTICES AND CERTIFICATION

Any contract in excess of \$100,000 resulting from this solicitation except (i) when the price negotiated is based on: (A) established catalog or market prices of commercial items sold in substantial quantities to the general public, or (B) prices set by law or regulation, or (ii) contracts which are otherwise exempt (see 4 CFR 331.30(b) and FPR 1-3.1203(a)(2)) shall be subject to the requirements of the Cost Accounting Standards Board. Any offeror submitting a proposal which, if accepted, will result in a contract subject to the requirements of the Cost Accounting Standards Board must, as a condition of contracting, submit a Disclosure Statement as required by regulations of the Board. The Disclosure Statement must be submitted as a part of the offeror's proposal under this solicitation (see I. below) unless (i) the offeror, together with all divisions, subsidiaries, and affiliates under common control, did not exceed the monetary exemption for disclosure as established by the Cost Accounting Standards Board (see II. below); (ii) the offeror exceeded the monetary exemption in the Federal Fiscal Year immediately preceding the year in which this proposal was submitted but, in accordance with the regulations of the Cost Accounting Standards Board, is not yet required to submit a Disclosure Statement (see III. below); (iii) the offeror has already submitted a Disclosure Statement disclosing the practices used in connection with the pricing of this proposal (see IV. below); or (iv) postaward submission has been authorized by the Contracting Officer. See 4 CFR 351.70 for submission of copy of Disclosure Statement to the Cost Accounting Standards Board.

CAUTION: A practice disclosed in a Disclosure Statement shall not, by virtue of such disclosure, be deemed to be a proper, approved, or agreed to practice for pricing proposals or accumulating and reporting contract performance cost data.

* Exemption claimed for Contract Phases I and II.

Check the appropriate box below:

I. CERTIFICATE OF CONCURRENT SUBMISSION OF DISCLOSURE STATEMENT(S)

The offeror hereby certifies that he has submitted, as a part of his proposal under this solicitation, copies of the Disclosure Statement(s) as follows: (i) original and one copy to the cognizant Contracting Officer; and (ii) one copy to the cognizant contract auditor.

Date of Disclosure Statement(s): _____

Name(s) and Address(es) of Cognizant Contracting Officer(s) where filed: _____

The offeror further certifies that practices used in estimating costs in pricing this proposal are consistent with the cost accounting practices disclosed in the Disclosure Statement(s).

II. CERTIFICATE OF MONETARY EXEMPTION

The offeror hereby certifies that he, together with all divisions, subsidiaries, and affiliates under common control, did not receive net awards of negotiated national defense prime contracts subject to Cost Accounting Standards totaling more than \$10,000,000 in either Federal Fiscal Year 1974 or 1975 or net awards of negotiated national defense prime contracts and subcontracts subject to cost accounting standards totaling more than \$10,000,000 in Federal Fiscal Year 1976 or in any subsequent Federal Fiscal Year preceding the year in which this proposal was submitted.

CAUTION: Offerors who submitted or who currently are obligated to submit a Disclosure Statement under the filing requirements previously established by the Cost Accounting Standards Board are not eligible to claim this exemption unless they have received notification of final acceptance of all deliverable items on all of their prime contracts and subcontracts containing the Cost Accounting Standards clause.

III. CERTIFICATE OF INTERIM EXEMPTION

The offeror hereby certifies that (i) he first exceeded the monetary exemption for disclosure, as defined in II. above, in the Federal Fiscal Year immediately preceding the year in which this proposal was submitted, and (ii) in accordance with the regulations of the Cost Accounting Standards Board (4 CFR 351.40(f)), he is not yet required to submit a Disclosure Statement. The offeror further certifies that if an award resulting from this proposal has not been made by March 31 of the current Federal Fiscal Year, he will immediately submit a revised certificate to the Contracting Officer, in the form specified

under I. above or IV. below, as appropriate, to verify his submission of a completed Disclosure Statement.

CAUTION: Offerors may not claim this exemption if they are currently required to disclose because they exceeded monetary thresholds in Federal Fiscal Years prior to Fiscal Year 1976. Further, the exemption applies only in connection with proposals submitted prior to March 31 of the year immediately following the Federal Fiscal Year in which the monetary exemption was exceeded.

IV. CERTIFICATE OF PREVIOUSLY SUBMITTED DISCLOSURE STATEMENT(S)

The offeror hereby certifies that the Disclosure Statement(s) were filed as follows:

Date of Disclosure Statement(s): _____

Name(s) and Address(es) of Cognizant Contracting Officer(s) where filed: _____

The offeror further certifies that practices used in estimating costs in pricing this proposal are consistent with the cost accounting practices disclosed in the Disclosure Statement(s).

14. ADDITIONAL COST ACCOUNTING STANDARDS APPLICABLE TO EXISTING CONTRACTS--CERTIFICATION

- (a) Cost accounting standards will be applicable and effective as promulgated by the Cost Accounting Standards Board to any award as provided in the Federal Procurement Regulations Subpart 1-3.12. If the offeror presently has contracts or subcontracts containing the Cost Accounting Standards clause, a new standard becomes applicable to such existing contracts prospectively when a new contract or subcontract containing such clause is awarded on or after the effective date of such new standard. Such new standard may require a change in the offeror's established cost accounting practices, whether or not disclosed. The offeror shall specify, by an appropriate entry below, the effect on his cost accounting practice.
- (b) The offeror hereby certifies that an award under this solicitation would, would not, in accordance with paragraph (a)(3) of the Cost Accounting Standards clause, require a change in his established cost accounting practices affecting existing contracts and subcontracts.

NOTE: If the offeror has checked "would" above, and is awarded the contemplated contract, he will also be required to comply with the clause entitled Administration of Cost Accounting Standards.

Firm: GETTY OIL COMPANY

Name: J. W. Woffington
J. W. Woffington

Date: MAY 25 1976

Title: Division Exploration Manager