ROLAND F. BEERS, INC.
Troy, New York

DMEA 4947 - Nickel

State I - Area 2 - Phase II

SIMMONS PROSPECT

EXTRA COPY
O. M. E.
RECEIVED NOV 6 1958
DATE INITIALS CODE

INTRODUCTION

The Simmons Prospect, in northcentral Warren Township, Knox County, Maine, has been for several months the subject of geological-geophysical investigations under Contract Idm-E 1224. The work completed to-date was that authorized by W. P. Williams, and consisted of the requirements of Phase I(b) and Phase II.

Data obtained through geological and geophysical surveys, including shallow core drilling, are positive. It is, therefore, recommended that the Simmons Prospect be approved for Phase III contract drilling as soon as is possible.

GENERAL INFORMATION

The Simmons peridotite was first detected as a magnetic anomaly, on an exploration traverse along the power line during January, 1958. Further exploration revealed outcropping basic rocks, and the prospect was leased during April, 1958.

On the basis of reconnaissance geophysics, the prospect was submitted, and accepted, as a DMEA participation property. Phase I(b) and Phase II work requirements have been completed.

Three leases, all in good standing, cover nearly all of the 1000' x 2000' grid area. These leases are:

9.0-1-30	Creamer	72 Acres
9.0-1-33	Simmons	35 Acres
9.0-1-34	Soboleski	23.92 Acres

Accompanying maps show the distribution of leased properties (4" = 1 mile) and property corners on the grid (1" = 100').

GEOLOGY

The Simmons basic intrusive is, insofar as currently known, a relatively small and highly heterogeneous body. Outcrops and geophysical data

show that the intrusive probably does not extend more than 1200 feet along the surface. However, the body appears to be several hundred feet wide in many places.

Because of the scarcity of outcrop, relatively little is known of the attitude of the basic mass. Foliation attitudes in enclosing metasediments indicate that the peridotite body dips steeply, and curves in accordance with a local fold. Drilling at Crawford Pond and surface geology on many other prospects have revealed the importance of structural control. It is assumed here, as with the other prospects, that gross stratigraphy and detail structure were responsible for the localization of the intrusive.

Several basic rock types have been mapped by the staff geologists and consultants who have investigated the property. It is doubtful that the various basic rock types represent differentiate stages; rather, they apparently reflect stages of post-intrusion alterations and original differences in grain size and fabric.

As with nearly all of the basic bodies mapped in the area, little remains to indicate that the intrusive was initially a true peridotite. The basic rock of the Simmons Prospect has been highly altered and consists nearly entirely of pyroxenes, talc and chlorite. Fresh sulfides are present in all phases and in most outcrops. Granitization, and perhaps other hydrothermal activity, is in evidence both in wall-rock schists and within the basic mass. Pegmatite injection into the basic rocks has caused widespread biotite enrichment. The effect of granitization and associated pegmatite injection upon pre-existing sulfides is not fully known. In certain cases, the pegmatites definitely served as accumulating agents.

Sulfides, or evidences thereof, are common in outcrop and drill core. Pyrrhotite, chalcopyrite and pyrite are most common. Assays and dimethylgloxime tests have proved nickel values. Cobalt, in high ratio with nickel, is present in all assays. Sulfides occur both in massive replacement veins and as disseminated grains.

GEOPHYSICS

Progress maps and narratives have been included in August and September Progress Reports. The maps contained in this report are considered final interpretations of existing data.

Because of a high-voltage transmission line crossing the prospect, heavy reliance has been made on magnetic and natural potential

surveys. Audio interference from the power line prevented effective application of normal EM techniques. Available EM data are presented as part of this report.

Magnetometer Survey: - The entire grid area was surveyed on 50 foot stations along traverses spaced at 200 feet. The survey was made with a Sharpe A-2 magnetometer. The results of the magnetic survey are shown in contour form on an attached map. Magnetic relief within the grid limits is approximately 13,000 gammas. The magnetic trend, as expected, corroborates the projected arcuate pattern of the basic mass. The high relief and sharp, local dipoles indicate the near-surface presence of magnetic materials. The width of the anomaly and persistence of positive and negative trends show that the magnetic minerals probably extend to a reasonable depth. The magnetic anomaly is attributed to the combined effects of magnetite, pyrrhotite and the rock-forming minerals of the basic mass.

Self-Potential Survey: - The SP survey was run with standard porous pot equipment manufactured by the Georator Corporation. All readings on the grid are directly related, and all are reduced to a negative datum.

The self-potential axis closely follows the magnetic trend, and also clearly reveals the arcuate nature of the anomaly. The potential anomaly is outlined by the -350 mv contour. Peak potentials were measured on areas known to be underlain by sulfide-bearing ultrabasics.

In the absence of outcropping graphitic material, it is assumed that the self-potential anomaly is due to oxidizing sulfides. The close relation of SP, magnetic and geologic trends strengthens this assumption.

Electromagnetic Survey: - Trial traverses with both vertical- and horizontal-loop EM units were made on the north end of the Simmons grid. Interference effects from the transmission line on the grid and a feeder power line 1000 feet northeastward immediately eliminated use of the vertical-loop equipment. It was possible to use horizontal-loop equipment on several traverses. The individual EM profiles and related axis are reproduced in this report. The locations of anomalous values are within normal accuracy limits; the precise value of the readings was often difficult to define because of interference effects.

The coincidence of the EM axis with SP and magnetic trends is of importance, and weighed heavily in the selection of proposed drill holes.

PACK-SACK DRILLING

On the basis of the above described geological-geophysical investigations, Staff personnel put down five (5) EX drill holes on the Simmons Prospect.

The total footage, distributed over the five holes, was approximately 265 feet. The specific location of each drill hole is shown on the attached grid topographic map. Lithologies and the physical characteristics of each hole are given on accompanying drill logs.

Sulfides were encountered in all five drill holes. Mineralized sections from holes S-1, S-3 and S-4 were selected for assay. A complete schedule of the six assays and a true copy of the assay certificate follow. Suffice it to note at this point that significant values of nickel and cobalt are present in the core.

RECOMMENDATIONS

All elements of geological and geophysical prospecting on the Simmons grid are positive. Magnetic and electrical anomalies exist, and are closely related to desirable geological factors. Shallow core drilling verified, to a limited degree, the fundamentals of both geology and geophysics. Assays show that significant amounts of nickel- and cobalt-bearing sulfides are expected components of the basic-rock mass. In short, the Simmons Prospect is ready for preliminary drilling.

Under the provisions of Contract Idm-E 1224, Exhibit "A", Page 3, diamond drilling of up to 3200 feet is reserved for Stage I, Area 2, Phase III. The number, direction, and location of holes is contingent upon Phase I and Phase II data. Holes shall be not less than 200 feet apart.

Following the above restrictions, it is recommended that three (3) test drill holes, aggregating 1050 feet, be put down on the Simmons Prospect. The physical characteristics of each hole are as follows:

Drill Hole #1:

Location:	8.65N + 1.83W
Elevation:	141'
Bearing:	S. 4° W.
Angle:	-45°
Inclined length:	450'
Size:	BXWL

Drill Hole #2:

Location:	0.2N + 0.8E
Elevation:	102'
Bearing:	N. 85° W.
Angle:	-45°
Inclined length:	280'
Size:	BXWL

Drill Hole #3:

Location:	2.0N + 3.0W
Elevation:	128'
Bearing:	S. 39° E.
Angle:	-45°
Inclined length:	320'
Size:	BXWL

These proposed drill holes are laid out on all attached geological and geophysical maps. They are designed to test a strong element of each geophysical anomaly, especially where reinforced by surface geological factors.

Such drilling should provide a fair index to the value of the prospect through an expenditure of only one-third of the total drilling authorized for all Phase III prospects. Should the prospect warrant further drilling, additional footage may be authorized as needed.

To insure completion of this contract drilling before severe winter conditions prevail, it is recommended that the Simmons Prospect be drilled with the No. 2 rig currently in use at Crawford Pond. This trailer-mounted rig is well suited for the job, and crews are available to operate on a two-shift basis. Transferring the No. 2 drill from Crawford Pond will not unduly delay completion of that project.

27 October 1958.

DMEA-4947
Stage I - Area 2 - Phase II

Schedule of Assays - Simmons Prospect

No.	Drill Hole	Interval	Ni	Co
S-1-1	1	1'-4' & 7'6"-9'0"	0.174	0.102
S-3-1	3	21'9" - 27'4"	0.369	0.080
S-4-1	4	16'8" - 20'9"	0.524	0.095
S-4-2	4	22'7" - 28'2"	0.333	0.088
S-4-3	4	45'9" - 50'11"	0.170	0.066
S-4-4	4	50'11"- 56'1"	0.601	0.117

See attached assay certificates,
Union Assay Office, Inc., 9/19/58.

Telephone EMpire 3-3302 Hand Sample Serial 40470-76

Mine Roland F. Beers, Incorporated

ASSAY REPORT

UNION ASSAY OFFICE, Inc.

J. V. SADLER, President
W. C. WANLASS, Vice-Pres. & Treas.
LILY M. HOTTINGER, Secretary

Salt Lake City 10, Utah

RESULTS PER TON OF 2000 POUNDS Sept. 19, 1958

NO.	GOLD Ozs. per Ton	SILVER Ozs. per ton	LEAD Per Cent Wet	Per Cent	INSOL. Per Cent	Per Cent	SULPHUR Per Cent	IRON Per Cent	LIME Per Cent	Per Cent	Per Cent	VALUE GOLD
				Ni		Co						
S-1-1				0.174		0.102						
S-3-1				0.369		0.080						
S-4-1				0.524		0.095						
S-4-2				0.333		0.088						
S-4-3				0.170		0.066						
S-4-4				0.601		0.117						
R-131-1				None		None						

Remarks

Charges $ 63.00

W. C. Wanlass

DMEA-4947
Stage I - Area 2 - Phase II

DRILL LOG

Hole No.:	S-1	Depth:	50'0"
Location:	6.5N + .16W	Angle:	Vertical
Elevation:	141.60'	Logged by:	D. E. Wyke

Depth			Lithology
0	-	16'2"	peridotite containing moderate amount of sulfides, pyrrhotite 2% to 15%, minor chalcopyrite in siliceous zones; generally biotite rich bordering the siliceous zones.
16'2"	-	18'4"	siliceous zone, barren of sulfides.
18'4"	-	19'5"	altered peridotite with minor amount of sulfide, pyrrhotite 1%-2%; biotite rich at top and bottom of division.
19'5"	-	21'7"	siliceous zone with very minor amount of sulfide, pyrrhotite to 1%.
21'7"	-	50'0"	peridotite with moderate sulfide, pyrrhotite 2% to 10%; some siliceous zones; peridotite is rich in biotite and low in sulfide at top and bottom of division.

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Stage I - Area 2 - Phase II

DRILL LOG

Hole No.:	S-2	Depth:	52'3"
Location:	6.5N + 0	Angle:	Vertical
Elevation:	141.90'	Logged by:	D. E. Wyke

Depth			Lithology
0	-	1'0"	soil
1'0"	-	23'4"	peridotite with minor to moderate sulfide, pyrrhotite 1% to 5%, minor chalcopyrite in veinlets in upper 8' of division where some gabbro is present; peridotite becomes talcose and serpentinized in lower portion of division.
23'4"	-	23'12"	biotite schist; fine-grained, dark matrix consisting of quartz and hornblend.
23'12"	-	42'9"	peridotite with moderate amount of sulfide, pyrrhotite 5% to 10%; division becomes increasingly siliceous and rich in biotite in lower 10' with pyrrhotite content decreasing to 1% to 5%.
42'9"	-	52'3"	peridotite with minor sulfide, pyrrhotite 1% to 2%; biotite content increases in lower part of division.

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Stage I - Area 2 - Phase II

DRILL LOG

Hole No.:	S-3	Depth:	74'2"
Location:	6.5N + .32W	Angle:	Vertical
Elevation:	140.30'	Logged by:	D. E. Wyke

Depth	Lithology
0 - 1'0"	soil.
1'0" - 2'7"	gabbro with sulfide, pyrrhotite 1% to 5% in the form of 1/8" stringers.
2'7" - 7'3"	peridotite with some gabbro; minor sulfide, pyrrhotite 1% to 3%; peridotite and gabbro cut by 2" siliceous zones and some 1" schistose zones.
7'3" - 13'11"	peridotite with sulfide, pyrrhotite generally less than 2% although two 1/2" massive zones are present; some siliceous zones in upper 2' of division.
13'11" - 21'9"	peridotite with sulfide, pyrrhotite 1% to 2%, one 1/2" massive sulfide zone; peridotite generally talcose and serpentinized; several 2" siliceous zones.
21'9" - 27'4"	peridotite with moderate sulfide, pyrrhotite 5% to 30%, some massive.
27'4" - 33'7"	peridotite with sulfide, pyrrhotite 1% to 3%, sulfide concentration in some 1/2" to 1" zones; peridotite generally biotite rich; cut by siliceous zones with 1% sulfide in stringers.
33'7" - 34'11"	biotite schist; fine-grained, dark matrix consisting of quartz and hornblend.
34'11" - 44'10"	peridotite with calcite zones; minor sulfide, pyrrhotite to 1% in peridotite, pyrite to 1% in calcite; division is siliceous especially in the calcitic parts.

44'10" - 67'8"	peridotite with minor sulfide, pyrrhotite 1% to 2%; generally a biotite rich division; siliceous zones present are free of sulfide.
67'8" - 69'0"	peridotite with moderate to heavy sulfide, pyrrhotite 10% to 30%.
69'0" - 74'2"	peridotite with minor sulfide, pyrrhotite 1% to 2%; generally rich in biotite; some siliceous zones.

DMEA-4947
Stage I, Area 2, Phase II

DRILL LOG

Hole No.:	S-4	Depth:	61'9"
Location:	1S + 0	Angle:	vertical
Elevation:	111.20'	Logged by:	Robert S. Young

Depth			Lithology
0	-	32'0"	talcose and pyroxene peridotite; light to moderate sulfides, mostly in stringers; pyrrhotite, pyrite, very minor chalcopyrite.
32'0"	-	33'4"	altered peridotite, biotite rich.
33'4"	-	38'9"	fine-grained quartz-muscovite pegmatite.
38'9"	-	40'0"	altered peridotite, biotite rich.
40'0"	-	56'0"	talcose to pyroxene peridotite with silicified zones; moderate to heavy pyrrhotite below 51'.
56'0"	-	56'6"	biotite peridotite, alteration product.
56'6"	-	61'9"	quartz-muscovite-biotite pegmatite; fine-grained; biotite increases with depth; minor pyrrhotite.

DMEA-4947
Stage I - Area 2 - Phase II

DRILL LOG

Hole No.:	S-5	Depth:	25'9"
Location:	.65S + .30W	Angle:	vertical
Elevation:	112.50'	Logged by:	Robert S. Young

Depth	Lithology
0 - 25'9"	talcose peridotite throughout; scattered pyrrhotite throughout; 1" garnet-chlorite with chalcopyrite at 9'0"; several 1" stringers of massive pyrrhotite.

RECEIVED
SEP 16 1958

Longyear
E. J. LONGYEAR COMPANY
General Offices, 76 South 8th St.
Minneapolis 2, Minnesota, U. S. A.
TELEPHONE: FEDERAL 9-7631 • CABLE LONGCO

September 16, 1958

Roland L. Beers, Inc.
P. O. Box 1019
Troy, New York

Attention: Dr. R. S. Young

EXPLORATORY DRILLING PROGRAM -- SIMMONS AND LAMB PROPERTIES, VICINITY OF ROCKLAND, MAINE (NEAR UNION, MAINE)

Gentlemen:

1. With reference to our recent telephone conversation, we are pleased to set forth below our proposal for your contemplated exploratory drilling program which is to be carried out in the above-described area.

2. We understand that the program as now planned will consist of a minimum of three to four vertical holes, averaging approximately 400 feet in depth; and that the formations to be penetrated will consist of varying amounts of peridotite, schist, and pegmatite, very similar to the formations presently being drilled at Rockland. We further understand that the water required for the drilling operations will be available within a maximum distance of 3000 feet of any proposed drill hole.

3. For this work we propose to furnish one Longyear diamond core drill of suitable design and capacity, together with the necessary accessory equipment, including BX wire line coring tools, required to complete the work as now planned. We further propose to operate the drill on a two shift basis, six days per week.

4. We will carry public liability insurance covering personal injury and property damage, and Workmen's Compensation insurance, and also, all-risk insurance on the drilling equipment protecting against loss by theft, fire, flood, land-slides and other similar hazards.

We will also assume and pay any and all Old Age Benefit, Unemployment and Social Security taxes and contributions imposed by federal or state authorities.

Certificates showing the coverage referred to will be furnished upon request.

5. Based upon the conditions as outlined above, we are pleased to quote as follows:

a) <u>Mobilization and demobilization</u> of personnel and drilling equipment --

(1) Employing equipment and personnel now assigned to the Rockland project.....$100.00 Lump Sum

(2) Employing equipment and personnel from Connecticut or other available source in the New England area.....$300.00 Lump Sum

b) Overburden Drilling - 0 to 50 feet in depth..$ 4.00 per ft.

c) Diamond Core Drilling -

Top of Ledge to 500 feet in depth -

AX standard and/or BX wire line tools, recovering core approximately 1-3/16" in diameter.....$ 3.65 per ft.

BX standard tools, recovering core approximately 1-5/8" in diameter.....$ 3.95 per ft.

NX standard tools, recovering core approximately 2-1/8" in diameter (to be confined to the upper 50 ft. of bedrock).....$ 4.30 per ft.

d) Casing left in drill holes at your request -

NX-size.....$ 3.00 per ft.
BX-size.....$ 2.25 per ft.

e) Cementing, waiting for cement to set, and drilling out cement.....$ 8.50 per hour, plus cost of cement

f) Inclination tests.....$ 8.50 per hour

g) Delays for your convenience or for which you are responsible.....$ 7.50 per hour

h) Wooden core boxes - capacity 36 ft. of AX-size core.....$ 3.00 per box

i) Moving Allowance -- In the event that moving, rigging, and water line operations at any given location require more than 32 man hours, it is understood and agreed that we would be reimbursed for any such time in excess of 32 man hours at the rate of $3.50 per man hour.

6. The above-quoted rates would apply to work performed during the spring, summer and fall months. Should the work extend into winter months (December 1 through April 30) it is understood and agreed that we would reserve the right to request an upward adjustment in our drilling rates to cover the resultant increase in operating expenses.

7. The above-quoted drilling rates are based on wages currently being paid in the State of Maine. If during the life of this project, it becomes necessary for us to adjust the wages being paid our workmen because of demands of labor union or otherwise, it is understood and agreed that the Longyear Company reserves the right to increase drilling rates to cover resultant additional operating expenses.

8. Drill cores will be turned over to your representative at the drill site in core boxes provided by the Longyear Company as specified in paragraph 5 h).

9. Statements will be rendered as promptly as possible after the first of each month, and payment is to be made within thirty days from date of receipt of such invoices for all work done during the previous calendar month.

10. We appreciate the opportunity to consider this program. If awarded this contract, we would be prepared to start the work within a maximum of thirty days after receipt of official notice to proceed.

Sincerely,

E. J. LONGYEAR COMPANY

V.W.Burnhart

Vice President and General Manager

V.W.Burnhart:bal

cc: Dr. R.S.Young, Rockport, Maine (2) (orig. + 1)
Roland F.Beers, Inc., Troy, N.Y.(3)

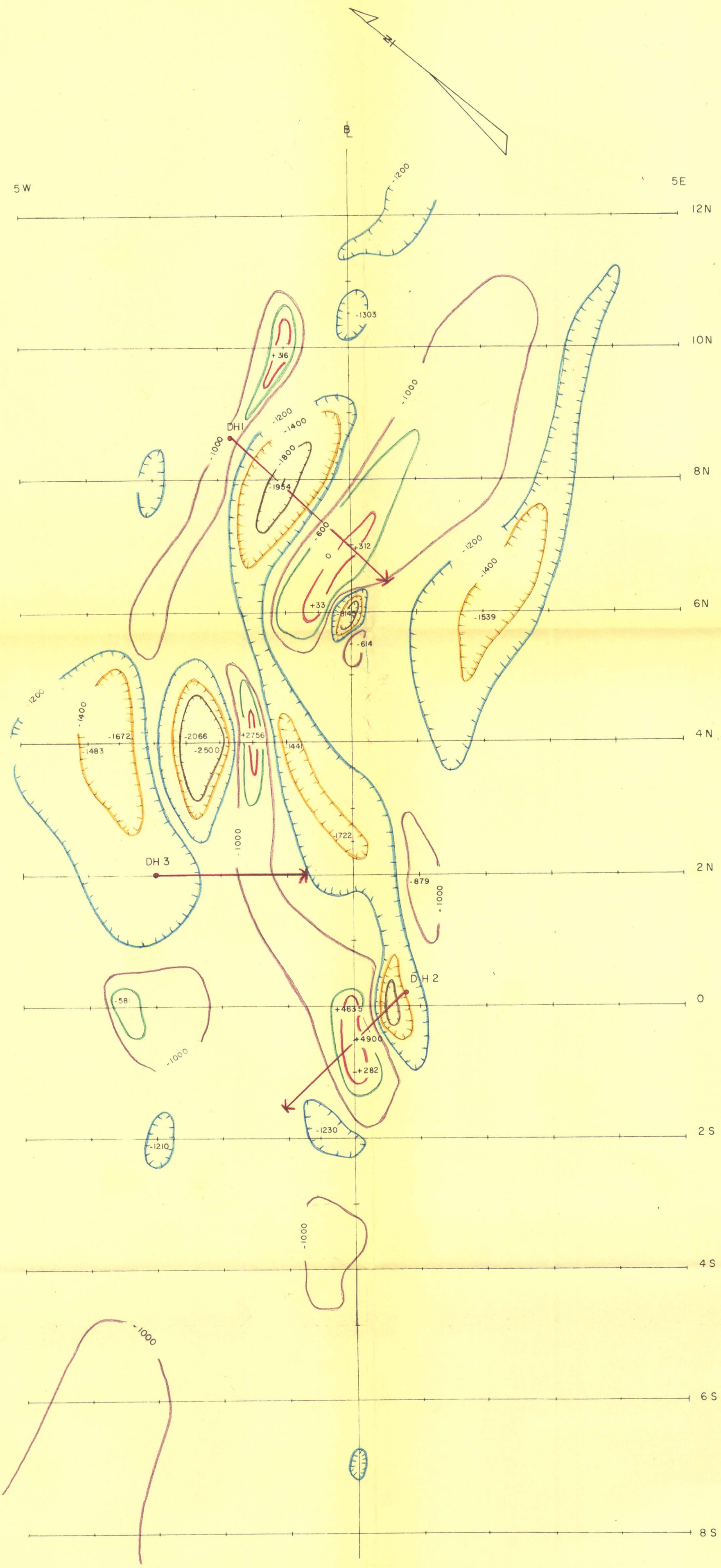
ACCEPTED:

ROLAND F. BEERS, INC.

By: _____

Date: _____

N
5W
5E
12N
10N
8N
6N
4N
2N
0
2S
4S
6S
8S
DH1
DH2
DH3
S P TREND
CONTOUR INTERVAL : 50 MILLIVOLTS
ALL VALUES PLOTTED NEGATIVE
DRILL HOLE
Drawn by:
Approved by:
Stage 1
Area 2
Phase 2
ROLAND F. BEERS, INC. TROY, N.Y.
SIMMONS GRID
SELF-POTENTIAL SURVEY
County : KNOX
Twnp : WARREN
Scale : 1in. = 100ft.



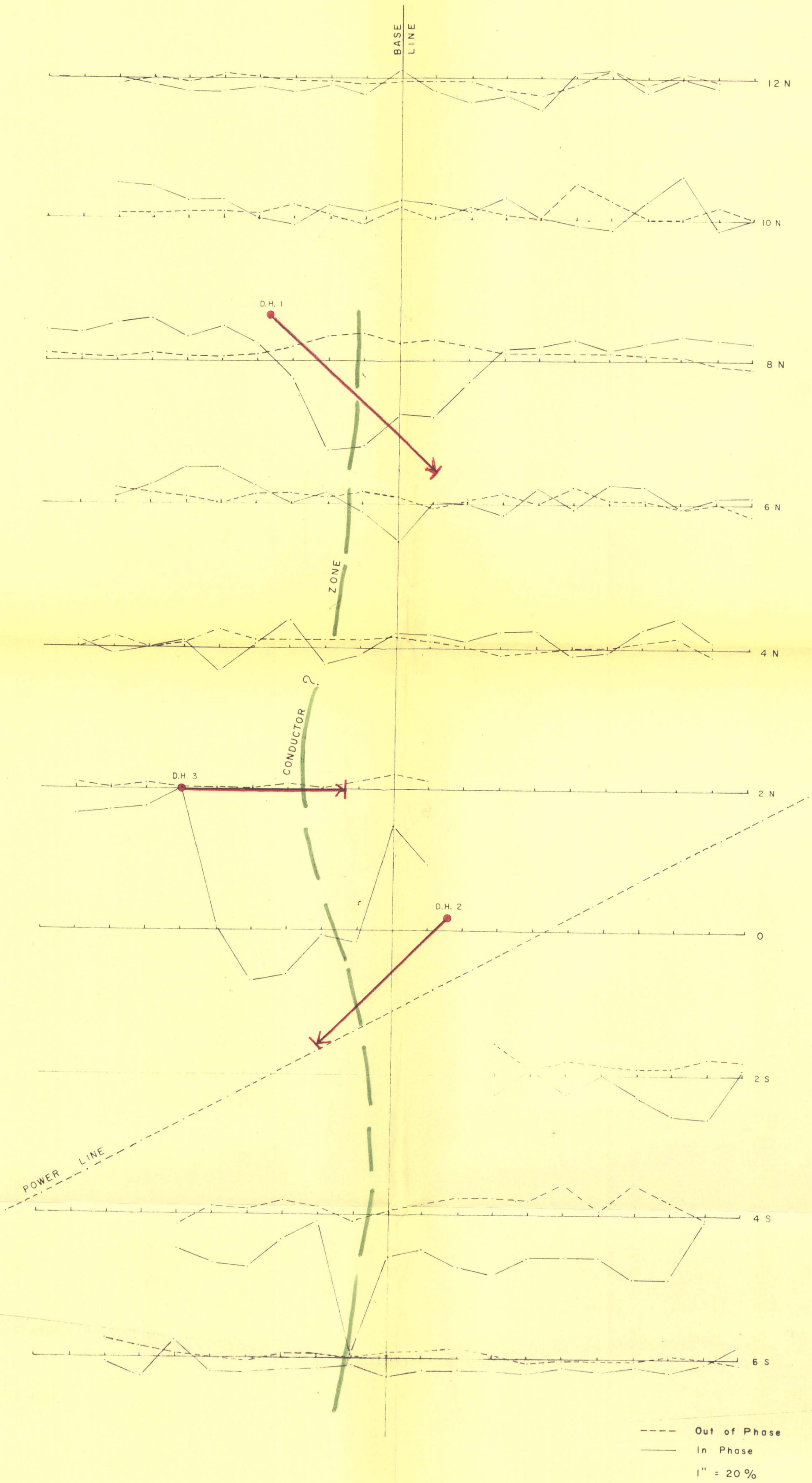
CONTOUR INTERVALS AS SHOWN
CONTOURS BASED ON 50' STATIONS

0 γ
-600 γ } POSITIVE CONTOURS
-1000 γ

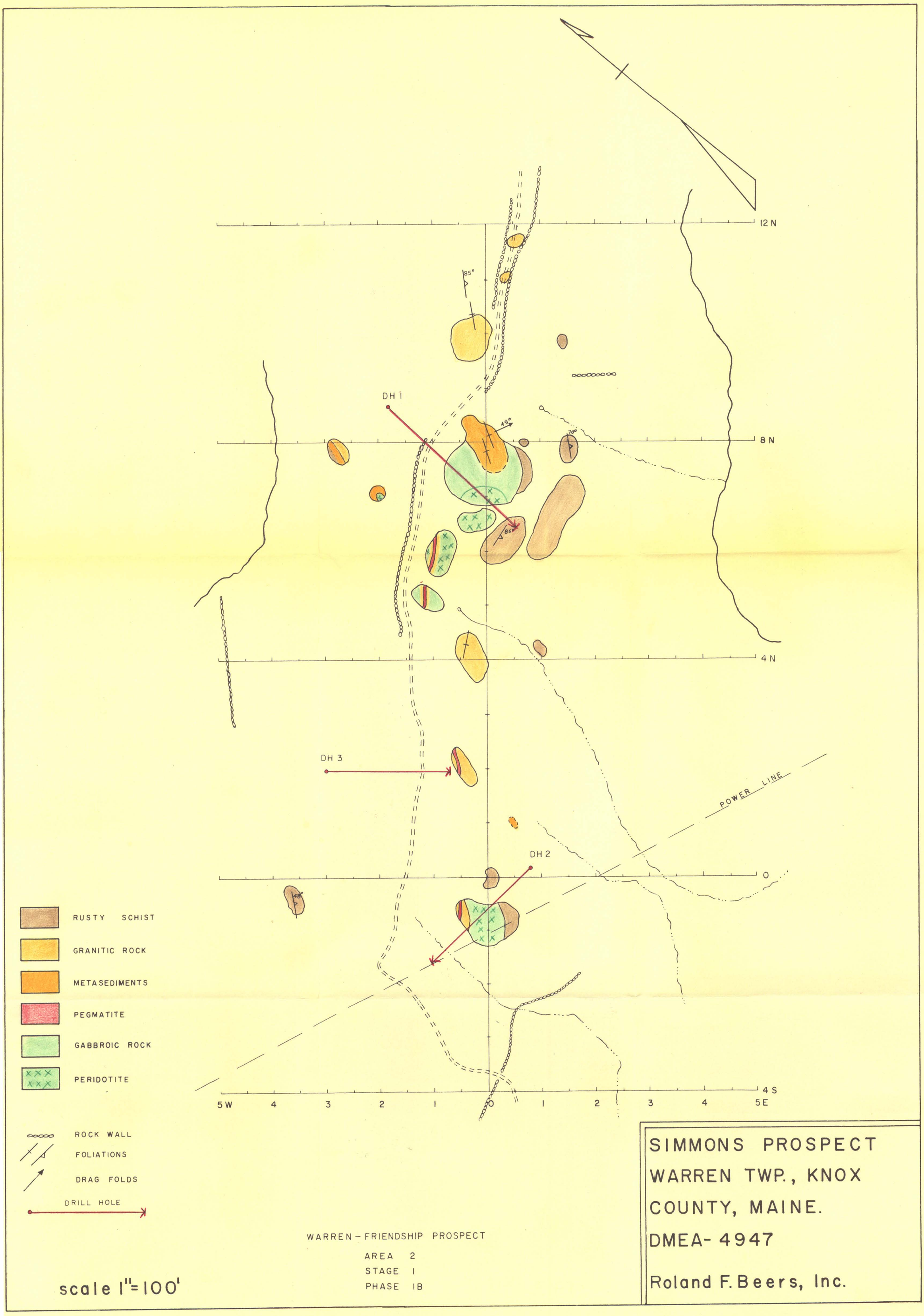
BACKGROUND : -1000 to -1200 γ

-1200 γ
-1400 γ } NEGATIVE CONTOURS
-1800 γ

Drawn by : R. Burns Approved by :	Stage 1 Area 2 Phase 2	ROLAND F. BEERS, INC. TROY, N.Y. SIMMONS GRID MAGNETIC MAP County : KNOX · Twnp. : WARREN · Scale : 1in. = 100 ft.



Stage 1 Area 2 Phase 1(b)	ROLAND F. BEERS, INC. TROY, N.Y. SIMMONS PROSPECT HORIZONTAL LOOP EM SURVEY County: KNOX · Twnp. WARREN · Scale 1in. = 100 ft.


12 N
8 N
4 N
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4 S
5W
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3
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1
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1
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3
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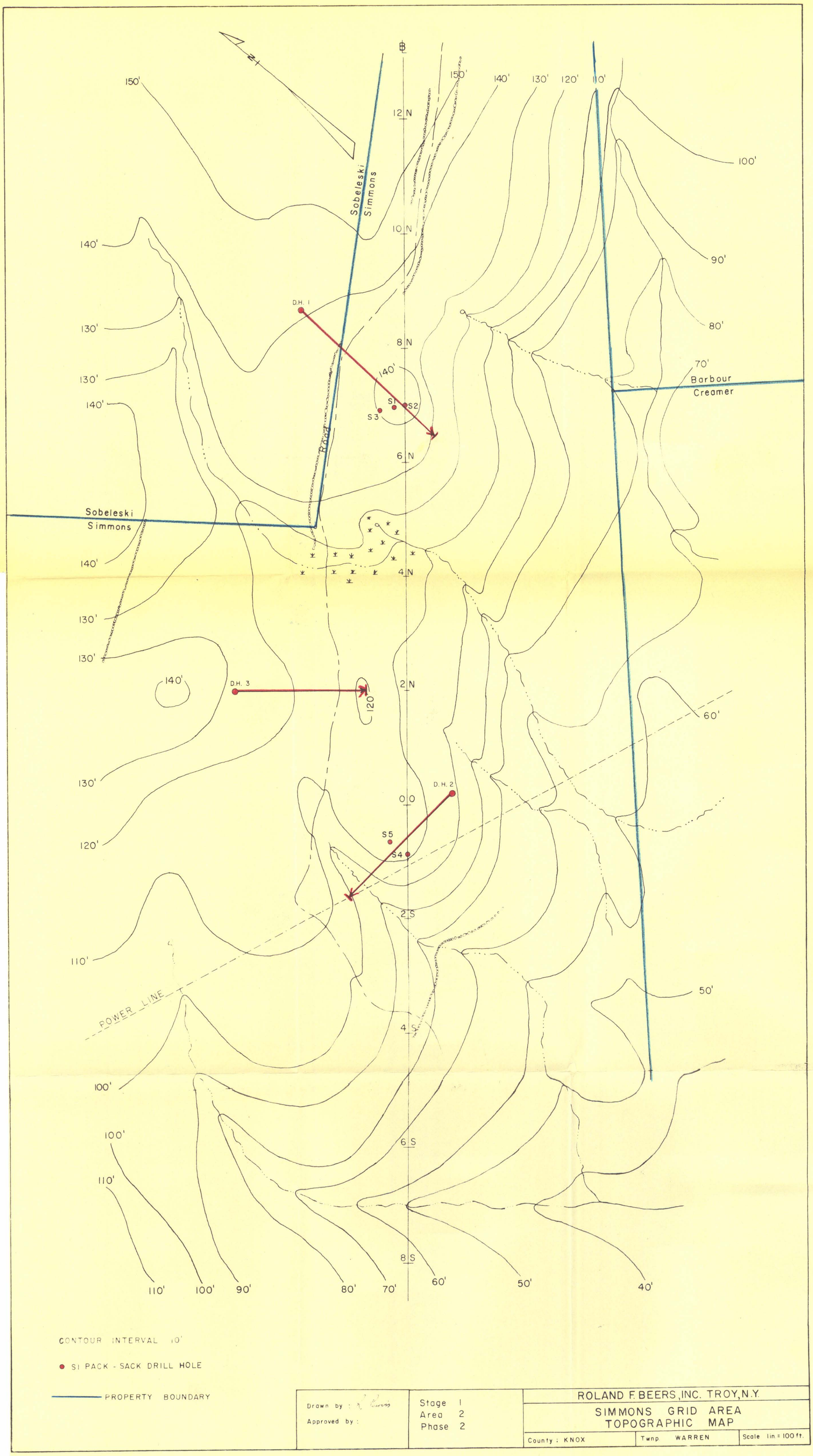
5E
DH 1
DH 2
DH 3
POWER LINE
85°
45°
70°
85°
48°
RUSTY SCHIST
GRANITIC ROCK
METASEDIMENTS
PEGMATITE
GABBROIC ROCK
PERIDOTITE
ROCK WALL
FOLIATIONS
DRAG FOLDS
DRILL HOLE
WARREN - FRIENDSHIP PROSPECT
AREA 2
STAGE 1
PHASE 1B
scale 1" = 100'
SIMMONS PROSPECT
WARREN TWP., KNOX
COUNTY, MAINE.
DMEA- 4947
Roland F. Beers, Inc.


N
Sobeleski
Simmons
Barbour
Creamer
Road
POWER LINE
D.H. 1
D.H. 2
D.H. 3
S1
S2
S3
S4
S5
12 N
10 N
8 N
6 N
4 N
2 N
0 0
2 S
4 S
6 S
8 S
150'
140'
130'
120'
110'
100'
90'
80'
70'
60'
50'
40'
CONTOUR INTERVAL 10'
SI PACK - SACK DRILL HOLE
PROPERTY BOUNDARY
Drawn by :
Approved by :
Stage 1
Area 2
Phase 2
ROLAND F. BEERS, INC. TROY, N.Y.
SIMMONS GRID AREA
TOPOGRAPHIC MAP
County : KNOX
Twnp. WARREN
Scale 1in. = 100 ft.

69°20'
69°15'
69°10'
44°15'
44°10'
44°5'
NORTH UNION
APPLETON
HOPE
SENNEBEC POND
UNION
LILY POND
MANSFIELD POND
ALFORD LAKE
HOBBS POND
FISH POND
LERMOND POND
EAST UNION
SOUTH HOPE
GRASSY POND
HOPE
ROCKPORT
ROC
MUD POND
ROUND POND
SEVEN TREE POND
SOUTH UNION
CRAWFORD POND
UNION
WARREN
LITTLE MEDOMAK POND
MANKS CORNER
CO
CO
WALDOBORO
WARREN
NORTH POND
WARREN
WARREN STATION
SOUTH POND
LINCOLN
KNOX
SIDENSPARKER POND
HAVENER POND
WARREN
ROCKLAND
THOMASTON
N
LEGEND
County Lines
9.0-1- Prefix to lease No's. in Knox Co.
9.0-4- Prefix to lease No's. in Lincoln Co.
Great ponds, mineral claims held by R.F. Beers, Inc. Oct. 9, 1958
0
1/2
1 mi.
PROPERTY MAP
WARREN - FRIENDSHIP
&
HOPE - LINCOLNVILLE AREAS
R. F. BEERS, INC. TROY, N.Y.
KNOX & LINCOLN Counties, Maine
SCALE: 4 in. = 1 mi.