

GEOLOGIC REPORT
OF THE
COVE FORT - SULPHURDALE
GEOTHERMAL UNIT AREA
MILLARD AND BEAVER COUNTIES, UTAH

UNION OIL COMPANY OF CALIFORNIA

PLATES

- I : Index map
- II : ~~Geologic map~~ *replaced by updated map*
- III : Bouguer gravity survey
- IV : Geologic cross-section A-A'
- V : Topographic map of the Cove Creek hydrologic basin, Utah with estimated ground-water elevations and direction of flow
- VI : Geochemical data points and surface geothermal indicia
- VII : Temperature gradient map
- VIII : Temperature at 250-feet-below-surface map

FIGURES

- 1 : Total intensity aeromagnetic map
- 2 : Composite static temperature profiles of all temperature gradient holes

TABLES

- I : Generalized stratigraphic section of the Cove Fort - Sulphurdale unit area, Utah
- II : Records of water wells, Cove Creek drainage basin, Utah
- III : Records of springs, Cove Creek drainage basin, Utah
- IV : Chemical analyses of springs and water wells
- V : Sample logs of water wells, Cove Creek drainage basin, Utah
- VI : Temperature gradient hole data, static temperatures and generalized lithologic logs
- VII : Mercury analyses

COVE FORT-SULPHURDALE GEOTHERMAL UNIT AREA
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INTRODUCTION:

Located where the Tushar and Pavant Ranges merge (Plate I), the proposed Cove Fort-Sulphurdale geothermal unit is located along the west edge of the Utah High Plateau province. The Pavant Range to the north is a tilted structural block located within the broad disturbed belt present east of the décollement thrusting formed during Mesozoic time in response to the Sevier orogeny in western Utah (Armstrong, 1968). Prior to the Sevier orogeny, the Cove Fort area was adjacent to the Las Vegas-Wasatch hinge along which most Paleozoic and Lower Mesozoic formations thicken westward into the Cordilleran geosyncline (Bissell, 1974). Deposition within the eastern edge of the Cordilleran geosyncline at Cove Fort is composed of a basal clastic sequence consisting of Upper Precambrian, Lower, and Middle Cambrian quartzite and argillite, overlain by a carbonate sequence consisting of Paleozoic and Lower Mesozoic dolomite and limestone, with minor shale, siltstone, sandstone and chert (Crosby, 1959, Stewart and Poole, 1974, Poole, 1974, and Bissell, 1974). The Tushar Range to the south is a moderately tilted, sedimentary block which has been submerged by the Marysvale volcanic pile located southeast of Cove Fort, one of the largest Tertiary igneous centers in the West (Molley and Kerr, 1962). The age of the bulk of the volcanics of Marysvale center is Oligocene and

structures and formation contacts have been obscured by the breakup of the region by normal faults, which generally trend N-S and NE-SW and Late Tertiary and Quaternary volcanics which are largely basalt erupted from many local vents in the Basin and Range province (Condie and Barsky, 1972, and Hoover, 1974).

The Cove Fort quadrangle has had limited geologic mapping. However, adjacent quadrangles to the east, south, and southeast have been mapped in detail by Callaghan and Parker (1961, 1962a, 1962b). Much of their conclusions on usage of formation names and stratigraphic correlation are incorporated in this report. Crosby (1959), Rodrigues (1960), Zimmerman (1961), and Caskey and Shuey (1975) have partially mapped and described the structure and stratigraphy of the Cove Fort quadrangle. Surface geology, as mapped for this project, is shown in Plate II. Reconnaissance gravity coverage metered by personnel of Union Oil, using topographic maps for vertical and horizontal control, is shown in Plate III. Some gravity stations are from published data available from the Department of Defense. The aeromagnetic map shown in Figure 1 is U.S. Geological Survey open-file coverage assembled by Shuey (1973). A composite map showing geochemical sample points and surface geothermal indicia is shown in Plate VI. Temperature gradient data contoured from measurements collected from a 17-hole drilling program completed in 1975 is shown in Plate VII. In addition, two pre-existing drill holes were also entered to obtain temperature data.

feet below the surface is shown in Plate VIII.

STRATIGRAPHY

Table I summarizes the stratigraphic section estimated to be present within the proposed geothermal unit area.

Paleozoic rocks: Over 10,000 feet of Paleozoic rocks are present in the unit area. Only the upper 2500 feet of the section crop out in the nearby southern Pavant Range (Crosby, 1959). Descriptions of the remainder of the unexposed section is obtained from regional studies by Stewart and Poole (1974), Poole (1974), and Bissell (1974). The basal Upper Precambrian, Lower, and Middle Cambrian section is well over 2000 feet thick and is composed of quartzite and argillite. The combined Middle to Upper Cambrian, Ordovician, Silurian, Devonian, Mississippian, and Pennsylvanian section is over 7000 feet thick and is composed almost entirely of carbonates. Dolomite is the dominant rock type, but the section contains some limestone, shale and sandstone. The Permian section is about 2000 feet thick and is composed of an upper limestone (Kaibab limestone), a middle sandstone (Coconino sandstone) and a lower sandy, dolomitic limestone (Pakoon limestone).

Mesozoic rocks: Nearly 3500 feet of Lower Mesozoic rocks are present on outcrop in the southern Pavant Range, northeast of Cove Fort (Crosby, 1959). The youngest unit is the Triassic-Jurassic(?) Navajo sandstone. Most of the lower Mesozoic section

TABLE I

GENERALIZED STRATIGRAPHIC SECTION OF THE COVE FORT - SULPHURDALE UNIT AREA, UTAH

<u>Estimated Thickness</u>	<u>Age</u>	<u>Formation</u>	<u>Dominant Lithology</u>
0-2000'	Tertiary (Late Oligocene-Miocene?)	Bullion Canyon volcanics	Latitic to andesitic ash flow tuffs, flows, breccias and tuffs
0-1000'	Late Cretaceous Early Tertiary	Unnamed (Claron fm.?)	Conglomerates, sandstones, and shales
0-1750'	Triassic-Jurassic(?)	Navajo sandstone	Quartzose to quartzitic sandstones
0-275'	Triassic	Chinle formation	Shales and sandstones
0-425'	Triassic	Shinarump	Chert-pebble conglomerate
0-1000'	Triassic	Moenkopi formation	Red siltstones, shales and argillaceous limestones
0-1000'	Permian	Kaibab limestone	Limestone, minor sandstones
0-500'	Permian	Coconino sandstone	Sandstones, quartzitic
0-500'	Permian	Pakoon limestone	Limestone, dolomitic
0-900'	Pennsylvanian	Oquirrh formation	Limestone, quartzitic, dolomitic
1200'	Mississippian	Redwall limestone	Limestone

Table I (cont'd)

<u>Estimated Thickness</u>	<u>Age</u>	<u>Formation</u>	<u>Dominant Lithology</u>
1500'	Devonian	Cove Fort quartzite Guilmette formation Simonson dolomite Sevy dolomite	Quartzite (83') Dolomite, with limestones and quartzites Dolomite Dolomite
500'	Silurian- Ordovician	Fish Haven dolomite	Dolomite
1000'	Ordovician	Swan Peak-Eureka quartzite Pogonip limestone	Quartzite Limestone, shale
2500'	Cambrian	Unnamed	Carbonates, dolomite
2000'+	Cambrian	Tintic quartzite	Quartzite

unit area due to pre-Tertiary uplift and erosion of the ancestral Pavant Range during Middle to Late Mesozoic time.

Tertiary rocks: Locally overlying the beveled and eroded Lower Mesozoic and Upper Paleozoic rocks is a sequence of sandy conglomerate and boulder conglomerate of Late Cretaceous(?) - Early Tertiary age. This stratigraphic interval is expected to thicken rapidly away from any positive Mesozoic structural high, such as the ancestral Pavant Range. Callaghan and Parker (1962b) have mapped this same clastic section in the adjoining Sevier quadrangle and found it to thicken rapidly eastward across the quadrangle from 400 to over 5000 feet in thickness. The 150- to 300-foot thick quartzite conglomerate found on outcrop in the southern Pavant Range is the updip termination of this thick clastic wedge present to the east. This section can be expected to range up to 1000 feet in thickness along the eastern edge of the proposed unit area.

The rocks of the Bullion Canyon volcanics represent the earliest Tertiary volcanics in the Cove Fort area. The Bullion Canyon volcanics, which is at least 5000 feet thick in the Marysvale area, is composed of latitic to andesitic tuffs, flows and agglomerates of late Oligocene age (Callaghan and Parker, 1962b, and Bassett, et al, 1963). The correlation of the Bullion Canyon volcanics at Cove Fort is problematic. Studies by Fleck, et al, (1975) and Caskey and Shuey, (1975) suggest that the Middle Tertiary volcanic rocks at Cove Fort consists of two intertonguing rock assemblages that were deposited contemporaneously but

almost entirely of regional ash-flow tuffs derived from the Great Basin sources to the west and the southeastern assemblage of lava flows, volcanic breccias and ash-flow tuffs derived and distributed around the Marysvale volcanic pile. The Bullion Canyon volcanics strike south and southwest through the unit area, continuing a southwest-trending arc of Bullion Canyon volcanics mapped by Callaghan and Parker (1962b) in the northwest part of the Sevier quadrangle, west of the Cove Fort quadrangle.

South of Cove Creek, the Bullion Canyon volcanics is overlain by the Dry Hollow formation, a unit of Miocene age composed of brownish red to gray, porphyritic, latitic lava flows and tuffs (Bassett, et al, 1963). The contact between the Dry Hollow formation and the Bullion Canyon volcanics is not well defined east of Sulphurdale. For mapping purposes, the contact was chosen at the base of a prominent tuff zone traceable from the formation contact mapped by Callaghan and Parker (1962) in the adjoining Sevier quadrangle.

STRUCTURE

North of Cove Creek the proposed unit area is centered on the tilted horst block of the southern Pavant Range (Plate II). Carbonate rocks as old as the Pennsylvanian Oquirrh formation (and possibly Mississippian rocks) are exposed on the west face of the fault block which dips 15° to 35° E-SE. The west side of the Range is sharply defined by a normal fault which faults the Upper Paleozoic section up against Middle Tertiary volcanics to

the west. The eastern and southern flanks of the unit are overlapped by outcrops of both the Upper Cretaceous(?) - Lower Tertiary quartzitic conglomerate and the Bullion Canyon volcanics. The apparent thinning of these two stratigraphic units around the southern Pavant Range indicates that the area was a positive element by Late Cretaceous time in response to the Sevier orogeny of western Utah. South of Cove Creek the structure of the unit area is a tilted fault block of Middle Tertiary volcanics which dip 10° to 15° E-SE. Antithetic faulting, structures which tend to repeat the stratigraphic section in the Middle Tertiary volcanics, are present north and east of Sulphur Peak (Caskey and Shuey, 1975), but have not been mapped in detail for Plate II.

The normal fault which bounds the west side of the southern Pavant Range continues southward across Cove Creek and bifurcates into two or more normal faults of apparently lesser displacements. Alluvium, colluvium and landslide deposits on outcrops of the Bullion Canyon volcanics tend to obscure the fault traces near Sulphurdale. Interpretation of the gravity data (Plate III) suggests that a minimum displacement of 3000 feet occurs across the north-south trending normal faults bounding the west side of the unit area. On the downfaulted block to the west the Middle Tertiary volcanics are overlain by an undetermined thickness of faulted and tilted volcanic boulder conglomerate and water-laid tuff (possibly the Sevier River formation of Late Tertiary age). This clastic sequence outcrops in a small area just west of Cove Fort and shows a marked angular unconformity with the overlying, slightly faulted basalt of the Cove Fort volcanic field (Condie

field was derived from a vent located in a
cone located in Sections 9 and 10, T.26S., R.7W 3 miles west of
Sulphurdale. This basalt field may be, in part, as young as
30,000 yrs. B.P. (Zimmerman, 1961).

The coincidence of a gravity and magnetic high from the southern
Pavant Range southward to Sulphurdale indicates a north-south
trending basement high along the west side of the unit area
(Plate III & Figure 1). This structure may be a buried uplift of
Mesozoic age.

Plate IV is a geologic cross-section of line A-A' (see Plate II
for location of the section).

GROUND-WATER RESOURCES

Little basic data and no published interpretations are available
on the water resources of the Cove Fort-Sulphurdale area. Only
the most cursory conclusions can be made at this time in regard
to ground-water aquifers, direction of ground-water flow and
ground-water quality. The basic data for this section of the
report were collected primarily between 1974 and 1976 from the
Office of the Utah State Engineer, Salt Lake City, and the Water
Resource Division, U.S. Geological Survey, Cedar City, Utah.

The proposed Cove Fort geothermal unit area is situated within
the Cove Creek basin, a rectangular-shaped basin approximately
16 miles long and 12 to 14 miles wide (Plate V). The major
drainage in the basin is Cove Creek, an east-west ephemeral
flow westward around the north end of the Mineral

near Beaver Bottoms. Perennial stream flow is found only along a 2-mile stretch of Cove Creek, downstream from springs in (C-25-5)28 cc-1*, and in Pine Creek east of (C-26-7)25. Both channels become dry where they enter alluviated valleys.

The Cove Creek area is mostly between the altitudes of 5400 and 7000 feet. The northwest flank of the Tushar and southern Pavant Ranges dominate the eastern 50 square miles of the basin where maximum elevations reach 10,000 feet. The central area is dominated by the Cove Fort volcano, a basaltic shield volcano about 6 miles in diameter and over 1000 feet higher than the surrounding terrain.

The shallow ground-water reservoir is Quaternary unconsolidated rocks consisting mainly of clay, silt, sand and gravel eroded from the mountains, and is a perched ground-water system separated from the deeper ground-water by unsaturated rocks.

Records and field observations reveal that 15 wells have been drilled within the Cove Creek basin in the past forty years (Tables II and V). Presently, two wells are used for domestic or public use, five wells are used for stock watering, one well is used for irrigation, two wells are unused, and five wells are either abandoned or plugged and destroyed. All presently productive wells produce perched ground-water from the unconsolidated rocks which fill the valleys between the mountains consisting of Paleozoic and Mesozoic carbonates, Tertiary ash-flow tuffs and Tertiary-Quaternary basaltic flows and cinder deposits. Several
also present in the basin, and are listed in Table III.

TABLE II

RECORDS OF WATER WELLS, COVE CREEK DRAINAGE BASIN, UTAH

Location	Year Constructed	Depth of Well (ft)	Altitude** (ft)	Water Level (ft)	Use	Other Data
(C-25-6)30 cc-1	-	-	6010	-	D	-
(C-25-7)17 cdd-1	1936	415	5810	Dry	A	-
(C-25-7)26 abd-1	1972	250	5935	170	S	-
(C-25-7)26 bdb-1	-	-	5900	-	S	-
(C-25-7)26 bdd-1	1966	400	5920	130	P	C
(C-25-7)26 daa-1	1972	385	5935	*94.7	U	-
(C-25-7)26 dbd-1	1964	426	5920	125	S	-
(C-25-7)26 dcc-1	1964	436	5928	123	P&A	-
(C-25-7)36 aca-1	1960	390	5980	80	P&A	-
(C-25-7)36 bad-1	1959	202	5953	117	S	-

TABLE II

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(C-25-7)17 cdd-1	1936	415	5810	Dry	A	-
(C-25-7)26 abd-1	1972	250	5935	170	S	-
(C-25-7)26 bdb-1	-	-	5900	-	S	-
(C-25-7)26 bdd-1	1966	400	5920	130	P	C
(C-25-7)26 daa-1	1972	385	5935	*94.7	U	-
(C-25-7)26 dbd-1	1964	426	5920	125	S	-
(C-25-7)26 dcc-1	1964	436	5928	123	P&A	-
(C-25-7)36 aca-1	1960	390	5980	80	P&A	-
(C-25-7)36 bad-1	1959	202	5953	117	S	-

Table II (cont'd)

Location	Year Constructed	Depth of Well (ft)	Altitude** (ft)	Water Level (ft)	Use	Other Data
(C-25-7)36 bda-1	1961	246	5955	*71.3	U	-
(C-25-8)21 aba-1	1936	320	5560	260	A	-
(C-26-7)12 dac-1	1976	400	6160	-	P&A	-
(C-26-7)26 cbd-1	-	433	6125	*243.5	I	-
(C-26-8)4 bbd-1	1944	360	5565	318	S	-

Use of well in 1976: I, irrigation; N, industrial; S, stock; U, unused; P&A, plugged and abandoned; A, abandoned; P, public supply

Other data: C, chemical analysis - Table III

*Data from W. Sandberg, U.S.G.S. Cedar City, Utah

**Altitudes interpolated from topographic maps

SAMPLE LOGS OF WATER WELLS, COVE CREEK DRAINAGE BASIN, UTAH

(source: Office of the Utah State Engineer, Salt Lake City, Utah)

	Thickness	Depth
(C-25-7)26 abd-1		
Clay, gravel and boulders; alternating chalk colored clay mixed with gravel	181	187
Clay and gravel, as above	23	210
Cobbles	5	215
Clay and cobbles	20	235
Clay and cobbles, drilled hard	15	250
(C-25-7)26 bdd-1		
Lava boulders and clay mix	127	130
Lava, little water	20	150
Lava boulders and clay layers, little water	250	400
(C-25-7)26 daa-1		
Gravel and clay	85	85
Gravel, clay and boulders	5	90
Gravel and clay	62	152
Gravel, clay and boulders	5	157
Gravel and clay	218	375
Hardpan, drilled hard	10	385
(C-25-7)26 dbd-1		
Cinders, lava boulders and clay mix	144	157
Cinders and clay mix, sandstone layers, water	43	200
Lava gravel, conglomerate and clay layers, water	226	426
(C-25-7)26 dcc-1		
Cinders, lava boulders and clay mix	140	145
Cinders, clay mix; with sandstone layers, water	45	190
Cinders, clay mix; hard sandstone layers, water	95	285
Hard lava layers and clay	75	360
Lava gravel, conglomerate	76	436

	Thickness	Depth
(C-25-7)36 aca-1		
Sand	3	12
Clay and sand	20	32
Silt and gravel	18	50
Clay	13	63
Rock	41	104
Sand and gravel	16	120
Clay	12	132
Clay and sand	19	151
Rock	19	170
Lava rock	36	206
Lava rock, broken and red cinder	184	390
(C-25-7)36 bad-1		
Sand and clay	24	36
Cinders and gravel	16	52
Clay	9	61
Rock	32	93
Lava rock boulders	8	101
Sand and gravel	16	117
Rock	9	126
Clay	6	132
Sandy clay	16	148
Rock	19	167
Gravel and boulders	11	178
Lava rock	24	202
(C-25-7)36 bda-1		
Sand	3	12
Clay and sand	20	32
Gravel	18	50
Clay	17	63
Rock	41	104
Sand and gravel	16	120
Clay	12	132
Clay and sand	19	151
Rock	19	170
Rock, lava	76	246
(C-25-8)21 aba-1		
Sand and gravel	20	20
Black lava rock	84	104
Hard sandstone	12	116
Black lava rock	104	220
White lime, water	50	270
Conglomerate, much water	10	280
Lime shells and shale	40	320

	Thickness	Depth
(C-26-7)26 cbd-1		
Clay and gravel, very hard 130-165	170	170
Clay, gravel and boulders	85	255
Clay and gravel	55	310
Clay, gravel and boulders	83	393
Clay and gravel	7	400
Clay, gravel and boulders	33	433
(C26-8)4 bbd-1		
Top soil	100	100
Black lava rock	210	310
Porphyry and granite, porous	50	360

Ground-water flow is westward toward the outlet of Cove Creek at the north end of the Mineral Mountains. What effect the Cove Fort volcano has on the ground-water flow in the central part of the basin is unknown. Water level estimates indicate a water-level gradient of 100 to 150 feet/mile in the Upper Cove Creek basin, near Cove Fort. Ground-water cascades are likely present along the break in slope at the foot of the Tushar and Pavant Ranges and 2 to 4 miles west-northwest of Cove Fort where the ground-water surface falls below the dry, 415-foot well in (C-25-7)17 cdd. Plate V shows the estimated ground-water levels and direction of flow for perched ground-water within the Cove Creek basin.

GEOHERMAL GEOLOGY

Surface geothermal indicia within the proposed unit area consist of hydrothermal alteration and mineralization, gas seeps, warm ground and warm springs (Plate VI). North of Cove Creek hydrothermal alteration and mineralization (primarily native sulphur) occurs along or adjacent to the normal fault bounding the west side of the Pavant Range and along the contact between the Bullion Canyon volcanics and either the Late Cretaceous(?) - Early Tertiary conglomerate or the pre-Tertiary carbonate section. Hydrogen sulphide gas seeps are present in the mineralized area, most notably at (C-25-6)14-cb and (C-25-6)17-bc. South of Cove Creek strong hydrogen sulphide gas seeps, warm ground, alteration and sulphur mineralization occur in and around the Sulphurdale

TABLE III

RECORDS OF SPRINGS, COVE CREEK DRAINAGE BASIN, UTAH

Location	Altitude (ft)	Temperature (°F)	Yield (gal/min)	Use	Rock Unit	Other
(C-25-6)28 dba-1	6600	68°	1	S	Altered tuff	-
(C-25-6)28 cc-1	6280	65°	100	S,I	Alluvium	-
(C-25-6)33 bcb-1	6540	93°	20	S	Tuff	C
(C-26-6)8 dbd-1	7000	67°	160	D	Tuff	-
(C-26-6)9 bcc-1	7160	57°		D	Tuff	-
(C-26-6)17 dda-1	7560	56°	-	D	Tuff	-
(C-26-6)20 ddd-1	7100	56°		S	Tuff	-

Use of water in 1976: I, irrigation; S, stock; D, domestic

Other: C, chemical analysis - Table III

TABLE IV

CHEMICAL ANALYSES OF SPRINGS AND WATER WELLS

	(C-25-6)33 bcb-1S(a)	(C-25-7)26 bdd-1(b)
Ca	34	62
Mg	-	12
Na	59	20
K	6	6
HCO ₃	142	196
CO ₃	0	0
SO ₄	20	42
Iron	-	0.54
Silica	-	49
Cl	67	43
F	0.5	0.24
NO ₃	-	0.95
B	n.d.<0.2	0.22
TDS	316	332
Zn	-	0.02
P	-	0.04
Cv	-	0.01
As	-	0.001
Hardness	-	204
pH	7.1	6.3
Turbidity	-	0.9
Conductivity	-	498
Date of Collection	22 Aug. 75	11 Sept. 74

a) Source: Union Oil Co. of Calif., Union Research Center, Brea, California

b) Source: State of Utah, Dept. of Social Services, Division of Health,
Salt Lake City

area is located above intersecting normal faults. A few fresh-water warm springs also occur in the higher elevations south of Cove Creek (Table II).

Seventeen temperature gradient wells, most between 250 and 300 feet deep, were drilled in and around the proposed unit area (Table VI). In addition, two pre-existing drill holes were entered to obtain temperature data. All temperature gradient holes within the proposed unit area show anomalously high temperature gradients between $16^{\circ}\text{F}/100\text{ft}$ and $22^{\circ}\text{F}/100\text{ft}$ (292 to 401 $^{\circ}\text{C}/\text{km}$). All temperature gradient holes except one outside the unit area have temperature gradients less than $8^{\circ}\text{F}/100\text{ft}$ (146 $^{\circ}\text{C}/\text{km}$). The statistical separation of the temperature gradient data into two groups, graphically shown in Figure 2, is thought to be caused by the rapid lateral termination of the geothermal heat cell in the subsurface. Absolute temperatures, measured or projected to 250 feet below the surface, also exhibit this statistical separation over the proposed unit area. The area encompassed by the $10^{\circ}\text{F}/100\text{ft}$ -gradient contour (Plate VII) and the 80°F -at- 250ft -contour (Plate VIII) include all surface geothermal indicia previously discussed. These two data sets are the best geologic criteria available for selecting the boundary of this unit area. All warm wells have strong temperature gradients but not all the wells with elevated gradients are clearly warm; therefore, the temperature map was used as the basic parameter for definition of the unit outline.

TEMPERATURE GRADIENT HOLE DATA
 STATIC TEMPERATURES AND GENERALIZED LITHOLOGIC LOGS

Static temperatures: Samples:

(C-25-5) 19-ccb

25'	56.0°F	0'-102'	Alluvium
50'	57.0	102'-132'	Volcanics, hard, andesitic
75'	58.0	132'-148'	Volcanics, soft, andesitic
100'	61.0	148'-227'	Volcanics, hard, andesitic
125'	64.0	227'-230'	Volcanics, soft, lost circulation, water zone
150'	66.0		
175'	68.0	230'-255'	Volcanics, hard
200'	70.0		
225'	72.5		
250'	75.0		
255'	75.5		

(C-25-6) 17-cbb

25'	58.5°F	0'-110'	Limestone
50'	65.5	110'-120'	Cavern, lost circulation
75'	72.0	120'-132'	Shale, black
100'	76.5		
125'	80.0		
132'	81.5		

(C-25-6) 19-cbb

25'	58.5°F	0'-105'	Alluvium
50'	63.5	105'-300'	Volcanics, andesitic
75'	69.5		
100'	72.5		
125'	78.0		
150'	83.5		
175'	88.5		
200'	92.5		
225'	97.0		
250'	102.5		
275'	107.5		
300'	113.0		

(C-25-6) 19-ddd

25'	60.0°F	No samples, pre-existing hole	
50'	65.5		
75'	70.5		
98'	75.5		

Static temperatures:

Samples:

(C-25-6)20-cbd

25'	61.5°F
50'	67.0
75'	73.0
100'	79.0
125'	83.0

Conglomerate, quartzitic with limestone gravel; becomes soft and porous at bottom. No returns below 50'

(C-25-6)21-daa

25'	58.0°F
50'	60.0
75'	62.0
100'	65.0
125'	68.0
150'	70.0
175'	72.0
200'	74.0
225'	76.0
250'	78.0
255'	78.5

0'-52'	Alluvium
52'-80'	Andesite, soft
80'-102'	Andesite, hard
102'-125'	Andesite, soft
125'-205'	Andesite, hard
205'-255'	Andesite, very hard

(C-25-6)28-dcb

25'	65.0°F
50'	66.5
75'	71.0
100'	75.0
125'	78.0
150'	81.0
175'	84.0
200'	88.0
225'	92.5
250'	97.5
256'	98.5

0'-23'	Alluvium
23'-32'	Volcanics, soft, weathered, andesitic
32'-58'	Volcanics, hard, andesite, likely water zone 40-50'
58'-63'	Volcanics, very hard, andesite
63'-187'	Volcanics, hard, andesite
187'-210'	Volcanics, soft
210'-255'	Volcanics, hard, andesite

(C-25-6)29-aab

25'	65.0°F
50'	71.0
75'	76.0
100'	81.0
125'	86.0
150'	90.0
175'	95.0

0'-72'	Alluvium
72'-168'	Andesite, weathered slightly altered
168'-220'	Andesite, hard
220'-264'	Andesite, soft
264'-300'	Andesite, hard

Static temperatures:

Samples:

(C-25-6) 29-aab

200'	99.5°F
225'	104.0
250'	109.0
275'	114.0
300'	119.0

(C-25-6) 29-ccc

25'	61.5°F	0'-40'	Alluvium
50'	63.0	40'-120'	Volcanics, hard, gray, andesitic
75'	67.0		
100'	71.0	120'-192'	Volcanics, very hard, andesitic
125'	75.0		
150'	79.0	192'-220'	Volcanics, soft, much water
175'	84.0		
200'	87.0	220'-285'	Volcanics, hard, andesitic
225'	90.0		
250'	93.5	285'-300'	Volcanics, very hard, andesitic
275'	97.5		
300'	101.5		

(C-25-6) 31-bcb

25'	62.5°F	0'-300'	Sandstone and gravel; lost circulation at 90'
50'	64.0		
75'	65.0		
100'	66.0		
125'	66.5		
150'	66.5		
175'	67.5		
200'	68.5		
225'	70.0		
250'	71.5		
275'	73.5		
300'	75.5		

(C-25-7) 22-cdb

25'	56.5°F	0'-7'	Alluvium
50'	58.0	7'-35'	Volcanics, hard
75'	61.0	35'-130'	Volcanics, soft, lost circulation at 105'
100'	63.5		
125'	66.0	130'-176'	Volcanics, hard, lost circulation at 162'
150'	68.0		
175'	70.0		

Static temperatures:

Samples:

(C-25-7) 23-add

25'	55.5°F
50'	56.5
75'	58.5
100'	60.0
125'	62.0
150'	64.0
175'	66.0
200'	68.0
225'	70.0
250'	72.0
256'	72.5

0'-46'	Alluvium
46'-256'	Volcanics, andesitic

(C-25-7) 26-daa

25'	59.5°F
50'	59.0
75'	59.5
100'	62.0
125'	62.5
150'	62.0
175'	62.0
200'	63.0
225'	63.0
250'	62.5
275'	63.0
300'	63.0
325'	64.0
350'	66.0
375'	68.0
380'	69.0

Water well, no samples

(C-26-6) 7-dda

25'	58.0°F
50'	60.5
75'	65.0
100'	69.0
125'	73.0
150'	77.0
175'	81.5
200'	85.5
225'	89.5
250'	93.5
255'	94.5

0'-60'	Alluvium
60'-240'	Tuff, soft, clayey, red
240'-255'	Tuff, white, biotite-rich

Static temperatures:

Samples:

(C-26-6)18-dda

25'	55.5°F
50'	56.0°
75'	56.5
100'	58.0
125'	59.5
150'	60.5
175'	62.0
200'	63.5
225'	64.5
250'	66.0

0'-255' Tuff, soft, red

(C-26-7)1-bda

25'	55.5°F
50'	57.0
75'	59.0
100'	60.5
125'	62.0
150'	63.5
175'	64.5
200'	65.0
225'	66.0
250'	66.5
275'	67.5
300'	68.5

0'-300' Alluvium

(C-26-7)12-dab

25'	61.5°F
50'	67.5
75'	72.0
100'	76.0
125'	80.0
150'	84.0
175'	88.0
200'	92.0
225'	96.0
250'	101.5
275'	105.5
298'	109.5

0'-240' Alluvium with boulders
240'-298' Volcanics, greenish gray,
andesitic

Static temperatures:

Samples:

(C-26-7)13-bdd

25'	56.0°F
50'	57.5
75'	60.0
100'	62.0
125'	64.0
150'	66.0
175'	68.0
200'	70.0
225'	71.0
250'	72.0

0'-7"	Alluvium
7'-106'	Volcanics, hard
106'-109'	Volcanics, soft
	lost circulation, tuff
109'-117'	Volcanics, hard
117'-121'	Volcanics, soft
121'-255'	Volcanics, hard

(C-26-7)21-dda

25'	55.0°F
50'	55.0
75'	56.0
100'	56.5
125'	57.0
150'	58.0
175'	58.5
200'	59.0
225'	59.0

0'-45'	Alluvium
45'-75'	Basalt, black
75'-227'	Gravel and sandstone

Some geochemical data were collected in the Cove Fort-Sulphurdale area. Drill cuttings collected during the drilling of the gradient holes were analyzed for mercury. The results are tabulated in Table VII. A few surface samples were also analyzed for mercury, demonstrating high mercury content in the hydrothermally altered host rock related to the sulphur mineralization.

SELECTION OF THE BOUNDARY OF THE UNIT AREA

Geologic criteria: The 80°F-at-250ft-contour from Plate VIII was chosen to define the proposed unit outline because it best delineates those areas which possess and display evidence for the presence of a geothermal system in the area, including anomalous temperature and temperature gradients (from Figure 2), gas seeps, altered ground, warm ground and warm springs, and secondary mineralization.

Geographic criteria: All sections having 50 percent or more of the section within the geologic boundary are included within the geographic boundary of the unit area.

WELL DATA

Other than shallow water wells and gradient holes, no tests have been drilled in the area. A deep test is planned by Union Oil Company at a location in Township 25S, Range 6W, Section 29 being 310.96' west along the section line and 821.59' south at right angles from the northeast corner, and should commence drilling

in late July (U.O.C.--No. 1 Forminco).

page 12 deleted

page 13 deleted

Pages 12 and 13 have been deleted. They pertain to questions about the objective formation in the proposed unit well.

MERCURY ANALYSIS

Analytical Method: vapor detection

A. Drill cuttings from temperature gradient holes

Location	Depth (ft)	ppb Mercury
(C25-5)19-ccb	200	25
	200	25
	255	50
(C-25-6)19 cbb	290	200
	290	250
	300	275
	300	200
	300	125
(C-25-6)21 daa	200	75
	200	325
	255	125
	255	150
(C-25-6)28-dcb	255	50
	255	50
	255	50
(C-25-6)29-aab	300	525
	300	400
	300	425
(C-25-6)29-ccc	300	25
	300	50
	300	50
(C-25-6)31-bcb	300	400
	300	300
	300	575
(C-25-7)22-cdb	100	75
	100	50
	175	25
(C-25-7)23-add	250	50
	250	25
	250	200

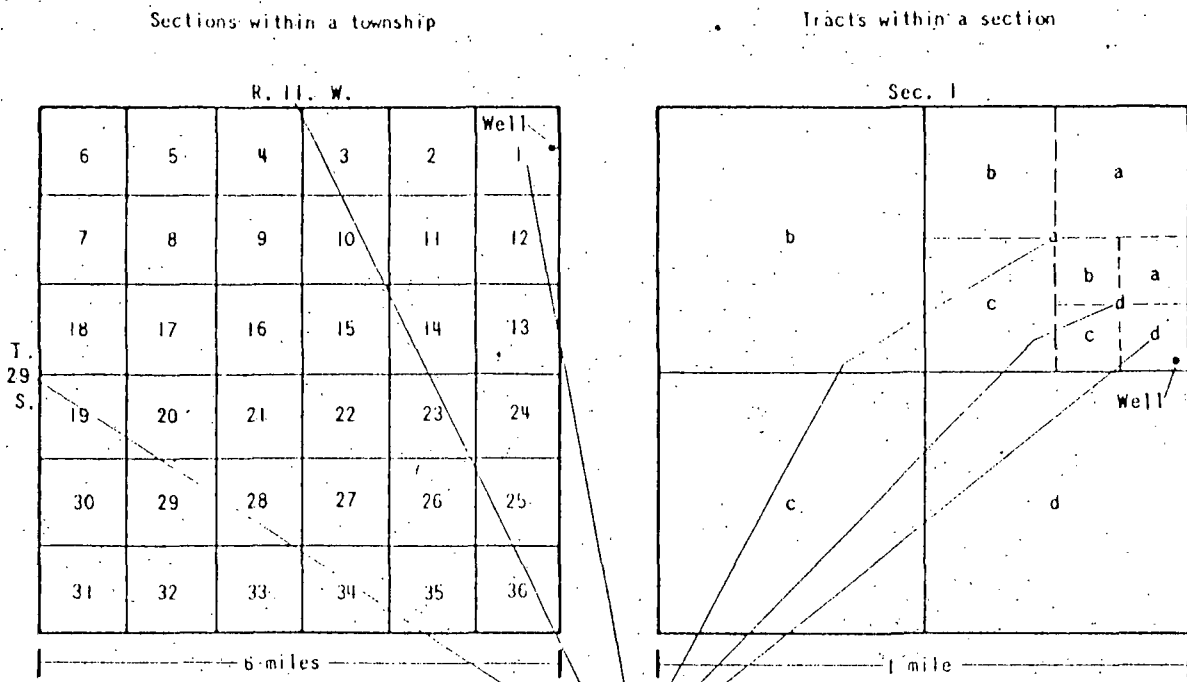
Location	Depth (ft)	ppb Mercury
(C-26-6) 7-dda	255	25
	255	50
(C-26-7) i-bda	300	75
	300	275
	300	50
(C-26-7) 12-dab	275	100
	280	125
	300	50
	300	75
	300	75
(C-26-7) 13-bdd	255	50
	255	50
	255	75
(C-26-7) 21-dda	220	825
	220	125
	220	75

B. Surface samples

Location	Sample	ppb Mercury
(C-25-6) 29-aa	#1	10,000
	#2	10,000
	#3	10,000
	#4	320
(C-26-6) 7-cc	#1	10,000
	#2	10,000
	#3	10,000
	#4	10,000
	#5	1,460

WELL AND SPRING NUMBERING SYSTEM

The system of numbering wells and springs used in this report is the same as that used by the state of Utah, and is based on the cadastral land-survey system of the U.S. Government. The number is used to designate the well and describe its position on the land net. By the land-survey system, the state of Utah is divided into four quadrants by the Salt Lake base line and meridian, and designated by the upper case letters A, B, C, and D as shown on Figure 3. Numbers designating the township and range (in that order) follow the quadrant letter, and all three are enclosed in parentheses. The number after the parentheses indicates the section, and is followed by three letters indicating the quarter section, the quarter-quarter section and the quarter-quarter-quarter section; the letters a, b, c, and d indicate, respectively, the northeast, northwest, southwest, and southeast quarters of each subdivision. The number after the letters is the serial number of the well or spring within the 10-acre tract.



(C-29-11) add-2

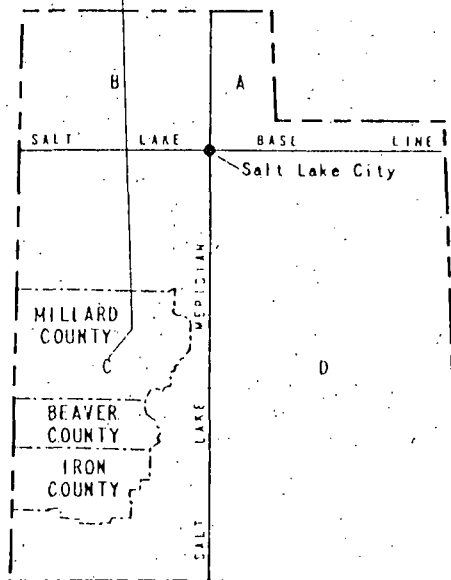


Figure 3.—Well- and spring-numbering system used in Utah.

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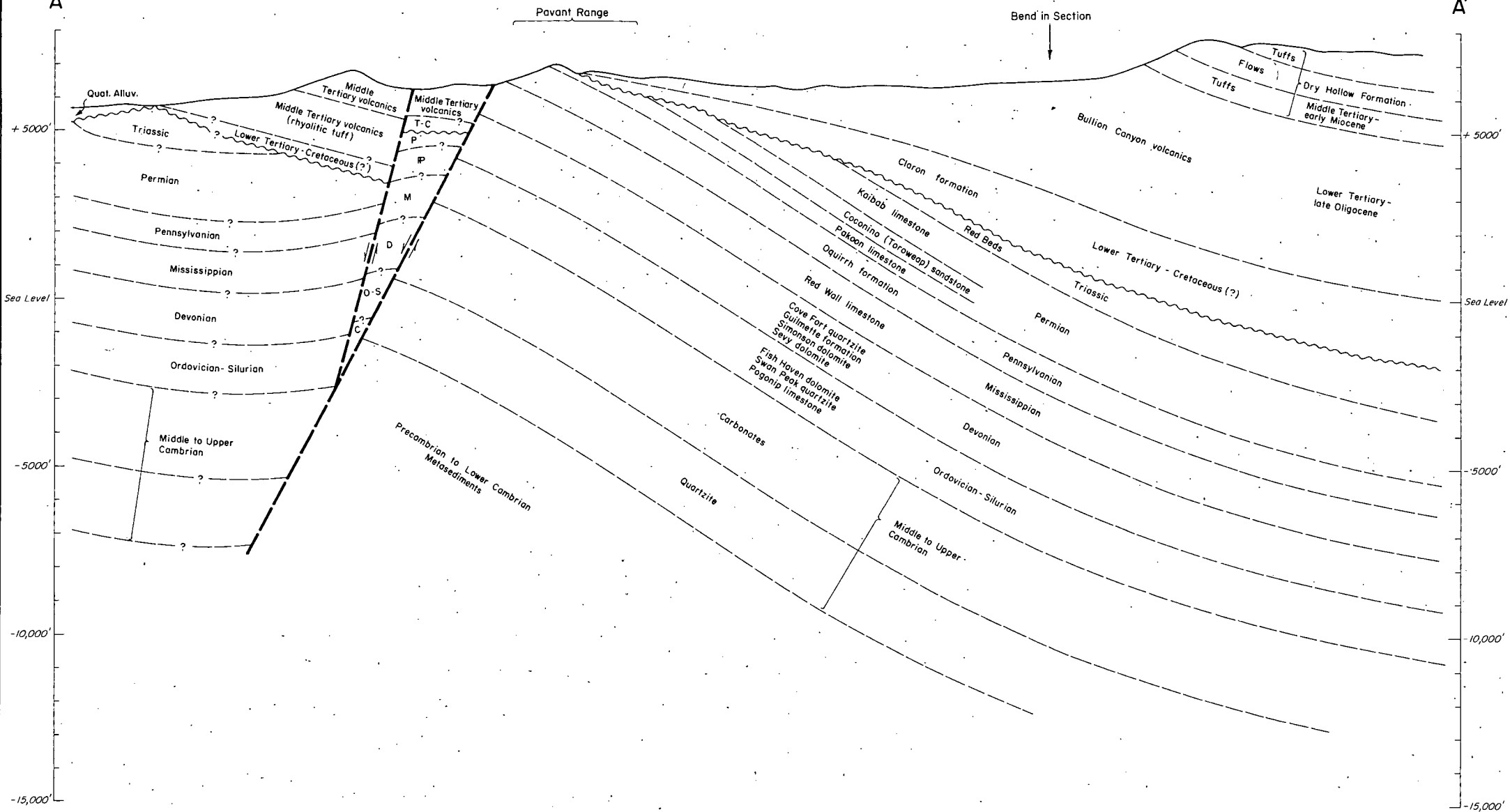
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NORTHWEST

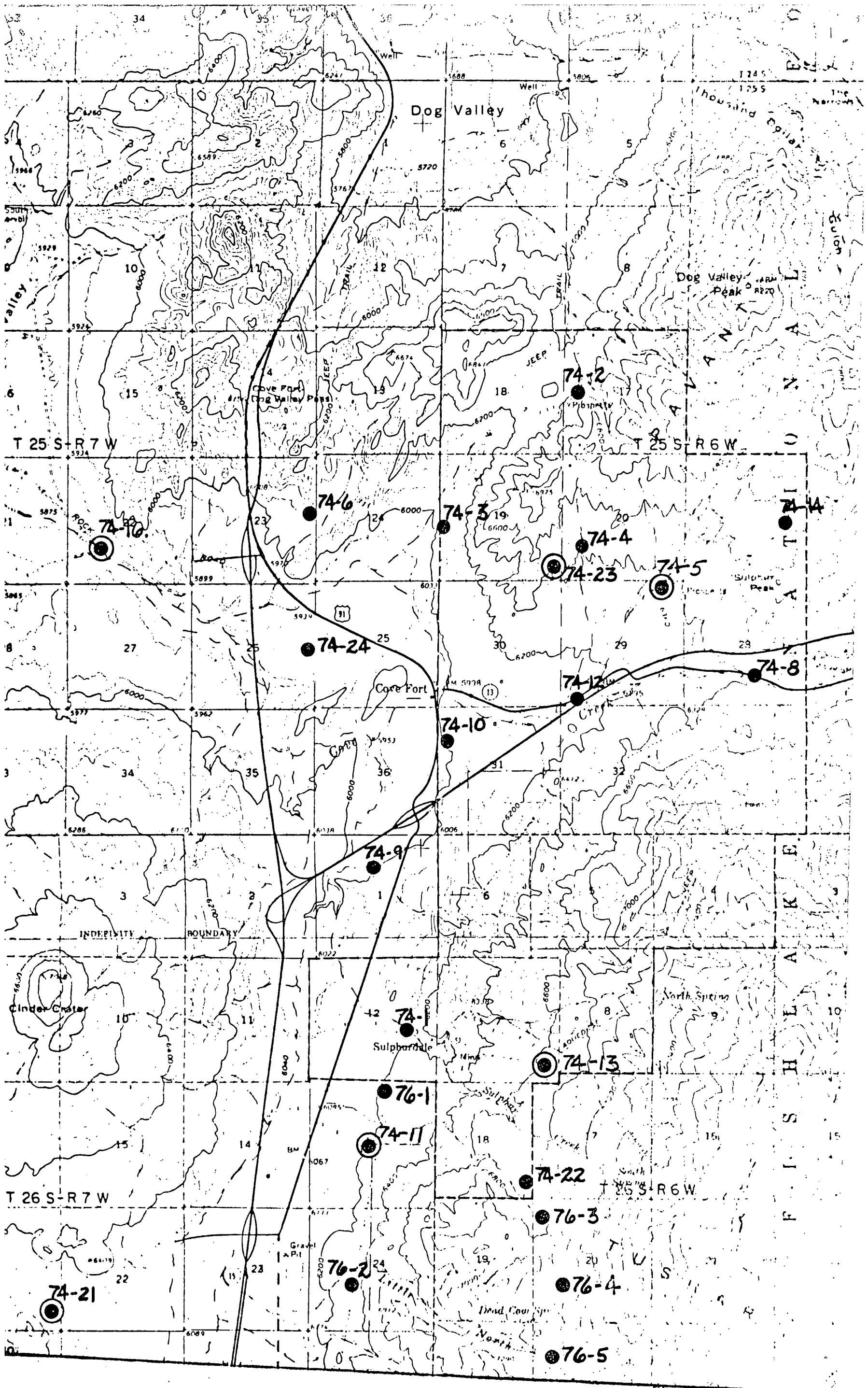
SOUTHEAST

A

A'



GEOTHERMAL DIVISION
 LOS ANGELES, CALIFORNIA
COVE FORT-SULPHURDALE UNIT AREA
 Plate IV
GEOLOGIC CROSS SECTION A-A'
 MILLARD AND BEAVER COUNTIES, UTAH
 SCALE: 1" = 4000'
 JULY, 1976



①

GEOTHERMAL
 LOS ANGELES, CALIF.

COVE FORT-SULPHUR

● 6 HOLES ● 19
 ART. 2, C. (1)a ART. 1

INDEX
 GRADIENT HOLE

MILLARD AND BEAVER

SCALE: 1" = 4000'

--- Unit area outline

No. 4

COMPOSITE STATIC TEMPERATURE PROFILES OF ALL
 TEMPERATURE GRADIENT HOLES
 COVE FORT - SULPHURDALE UNIT AREA
 MILLARD & BEAVER COUNTIES, UTAH

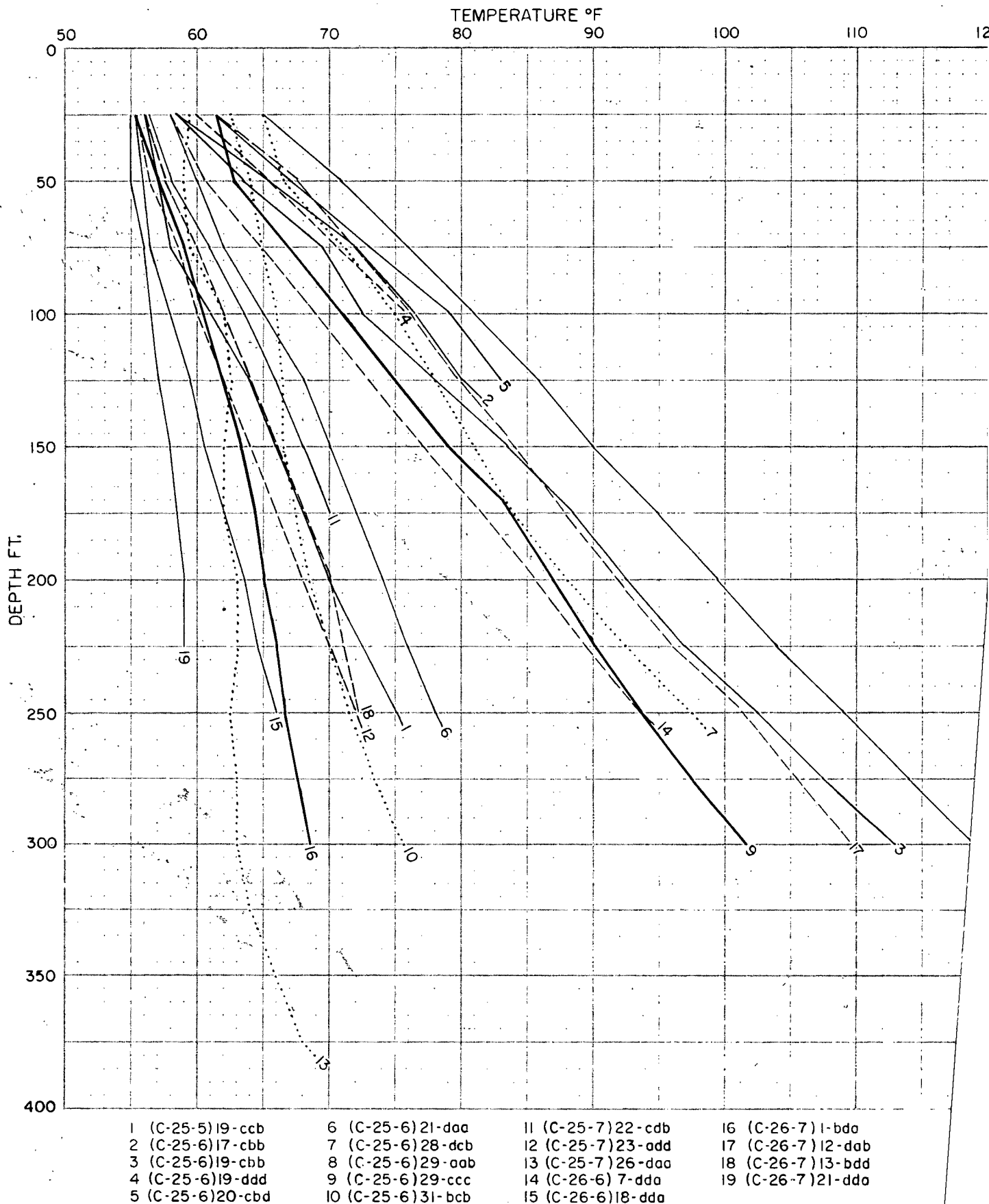


FIGURE 2

Gravity Interpretation
Cove Fort Prospect, Southwestern Utah

DATA SOURCE

The reconnaissance gravity coverage (shown in Figure 1) includes 150 stations metered by the author using 1:24,000 U.S.G.S. topographic maps for vertical and horizontal control. Other stations are from published surveys available from the Department of Defense. Data reduction and integration of the various surveys were done by Union Oil Research Center.

GRAVITY INTERPRETATION

The most prominent gravity features (Figure 1) are the north-south trending maximum east of Cove Fort (T25S-R6W) and the southwest trending maximum in the northeast quadrant of the map. The gravity maxima are marked with red anticlinal symbols. These features appear to be associated with uplifts which have placed high density Paleozoic sediments in lateral contact with relatively lower density Cenozoic sediments and volcanics. The individual

sediments, volcanics and interpreted intrusives apparently do not cause discrete gravity anomalies with this coverage. This indicates that generally, their densities are fairly uniform. Therefore, the gravity should reveal primarily the configuration at the base of Cenozoic sediments and volcanics. The thickest accumulations of these rocks should occur in the interpreted structural trough as revealed by the regional gravity minimum trending north-south through Cove Fort. The gravity minimum is marked with a blue synclinal symbol.

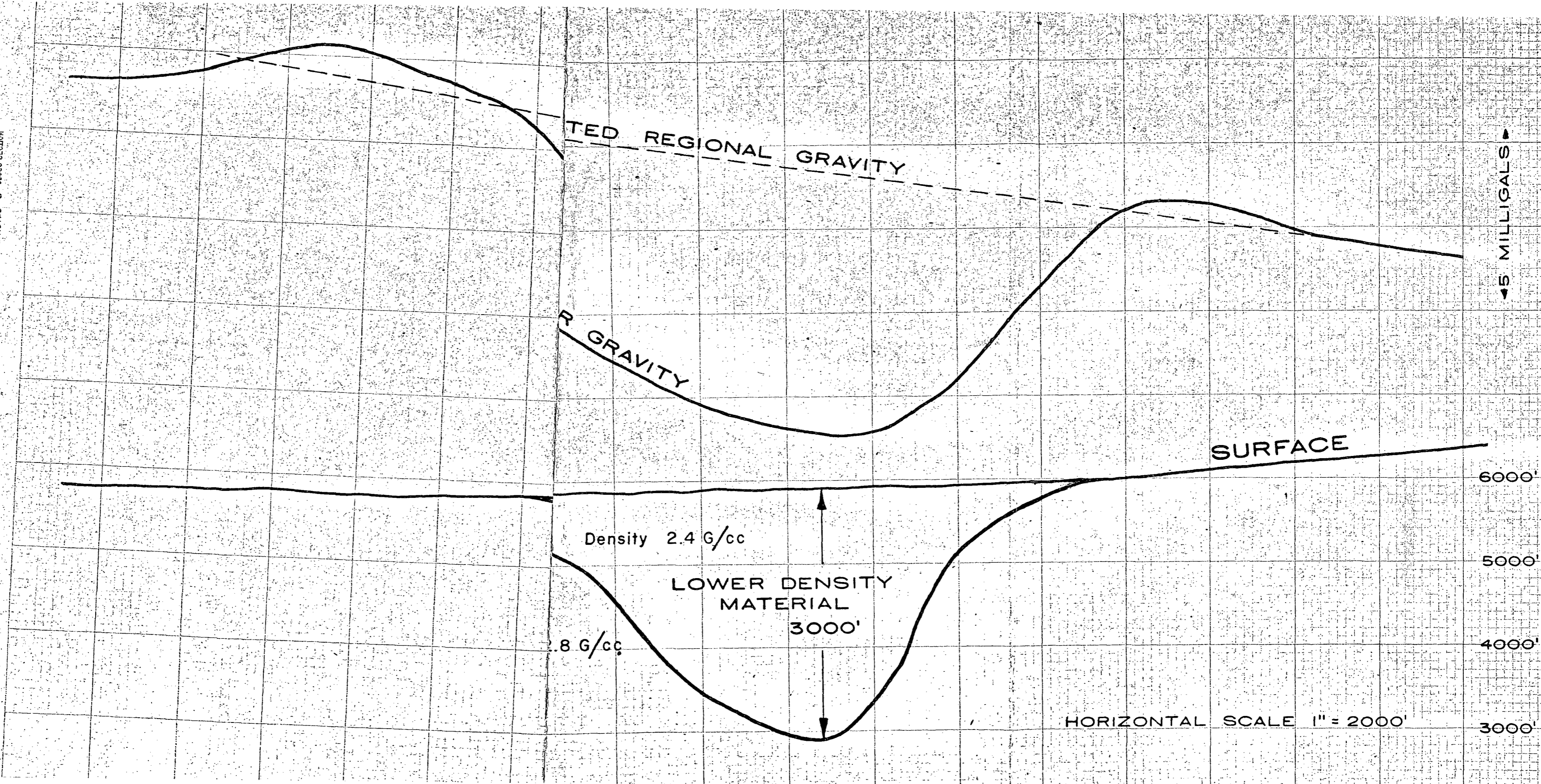
A structure profile (Plate 1) was calculated from the gravity anomaly along A-A' (encl. 1) across the regional minimum. A density contrast of 0.4 g/cc was assumed.

Skeels method (1963) yielded a thickness of 3600' which is considered as good agreement.

Only general characteristics of the interpreted trough can be inferred from gravity with such ^awide station spacing. Gradual shallowing is indicated north from A-A' with the low density body ending at Sec. 6, T25S-R6W. South of A-A' contours indicate the trough deepens and has a lower angle east from Sulphurdale south while the west flank becomes very low angle and extends over T26S-R7W.

A north-south trending gravity minimum is present at the west edge of the survey. Cenozoic rocks along this trend are most likely the thinnest at the northeast quarter of T25S-R8W, with thickening to the north and south.

10110 TO THE FEET
STANDARD © 1952 SECTION



CONCLUSIONS

Gravity features appear correlative with Paleozoic and Mesozoic structure in outcrop and should provide reliable indications to subsurface structure. Cenozoic sedimentary, volcanic and intrusive rocks may have nearly the same densities which precludes distinguishing between them using our present gravity. Precision detailed coverage might disprove this observation which is based only on reconnaissance data.

Respectfully submitted,

Joe W. Shiner

Joe W. Shiner

JWS:jml

Attachments

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GRAVITY SURVEY

LOCATION MAP

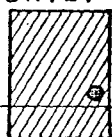


WYOMING

NEVADA

COLORADO

COVE FORT
SURVEY AREA



COVE FORT

ARIZONA

enclosed is a printout of the basic gravity data compiled for the Cove Fort area. This data includes: station number, latitude, longitude, elevation, observed gravity and Bouguer gravity anomaly values. Also listed are the latitude, curvature of the earth, free air and Bouguer corrections. The station and map numbers in the last two columns of the tabulations refer to the stations located on the original report survey map. The map numbers correspond with an author-index printout of references of non-Union gravity data recorded in the Cove Fort area. This gravity report, therefore, is a composite of Union Oil Company measurements (indicated as map #1) and other agency's data.

Types of elevation control for specific stations may be found in the original sources used for non-Union data. Union's elevation control was based on elevations obtained from a U.S. Geological Survey 1:24,000 scale, 7" topographic quadrangle map with 40' contour intervals. Measurements were read to 1 foot values, however, it is estimated that the gravity value accuracy is less than 5 feet.

Drift corrections are internal in the computer software, and therefore, are not listed in the printout. This value is incorporated into the "observed gravity" values.

Terrain corrections were calculated for Union's survey and are available through zone H, however, because most stations had less than 1 milligal of terrain correction, no overall terrain correction was applied at all to the entire composite.

Union's gravity measurements were taken with a WORDEN 808 gravimeter, supplied by United Geophysical Company, during August and October, 1974.

	GRAVITY				AIR			INNER	OUTER	TOTAL	ANOMALY + 200.0	STA #	MAP #
1	38.1917	112.9233	5698.1	1463.96	2020.36	1.48	-535.75	174.50	0.0	0.0	0.0	7.88	1-2599
1	38.2183	112.8467	5399.9	1438.30	2023.19	1.45	-507.72	165.37	0.0	0.0	0.0	6.01	1-1083
1	38.6031	112.5100	6700.0	1431.20	2056.98	1.52	-629.90	205.18	0.0	0.0	0.0	-2.58	1-1 H.D.C.
2	38.6016	112.5234	6510.0	1445.52	2056.85	1.51	-612.04	199.36	0.0	0.0	0.0	-0.16	2-1
2	38.2233	112.9133	5307.7	1500.90	2023.63	1.44	-499.06	162.54	0.0	0.0	0.0	12.34	2-1083
2	38.1950	112.9717	5227.0	1493.15	2021.15	1.44	-491.47	160.07	0.0	0.0	0.0	1.97	2-2599
3	38.2150	112.9233	5272.0	1500.73	2022.90	1.44	-495.70	161.45	0.0	0.0	0.0	10.64	3-2078
3	38.2033	112.9317	5345.1	1492.61	2021.88	1.45	-502.57	163.69	0.0	0.0	0.0	8.17	3-2599
3	38.6039	112.5489	6265.0	1463.29	2057.05	1.51	-589.02	191.86	0.0	0.0	0.0	1.89	3-1
3	38.2533	112.7750	5541.0	1463.80	2026.70	1.46	-520.98	169.69	0.0	0.0	0.0	-13.07	3-1083
3	38.2733	112.6400	5891.1	1436.34	2028.02	1.49	-553.88	180.41	0.0	0.0	0.0	-19.69	3-3685
4	38.2533	112.6417	5891.1	1435.48	2026.70	1.49	-553.88	180.41	0.0	0.0	0.0	-19.24	4-2078
4	38.0167	112.7150	5823.1	1420.98	2005.53	1.49	-547.50	178.33	0.0	0.0	0.0	-16.86	4-3507
4	38.3233	112.8467	7408.1	1377.10	2032.40	1.50	-696.44	226.87	0.0	0.0	0.0	12.77	4-2599
4	38.5944	112.5276	6620.0	1437.11	2056.22	1.52	-622.38	202.73	0.0	0.0	0.0	-0.97	4-1
4	38.4233	112.4870	7875.0	1308.32	2041.18	1.48	-740.30	241.16	0.0	0.0	0.0	-35.20	4-5131
4	38.2617	112.9517	5297.6	1504.70	2026.99	1.44	-498.10	162.23	0.0	0.0	0.0	12.13	4-1083
4	38.7717	112.0833	5344.8	1495.34	2071.81	1.45	-502.54	163.68	0.0	0.0	0.0	-39.06	4-3685
5	38.5800	112.7267	5725.0	1464.72	2054.95	1.48	-538.28	175.32	0.0	0.0	0.0	-28.75	5-2078
5	38.2350	112.2200	6001.0	1413.44	2024.66	1.50	-564.21	183.77	0.0	0.0	0.0	-32.27	5-2381
5	38.2950	113.0100	4957.3	1526.17	2038.69	1.41	-466.12	151.81	0.0	0.0	0.0	0.38	5-3817
5	38.5208	112.4803	8339.9	1321.53	2049.75	1.44	-783.93	255.40	0.0	0.0	0.0	-1.08	5-5131
5	38.5997	112.5618	6120.0	1472.14	2056.68	1.50	-575.39	187.42	0.0	0.0	0.0	1.94	5-1
5	38.3483	112.8733	6534.1	1433.20	2034.60	1.51	-614.31	200.10	0.0	0.0	0.0	11.30	5-2599
5	38.2633	112.7450	5667.3	1446.10	2027.14	1.47	-532.85	173.56	0.0	0.0	0.0	-23.22	5-1083
5	38.1417	112.6150	6404.8	1337.88	2016.48	1.51	-602.17	196.14	0.0	0.0	0.0	-24.08	5-3507
6	38.6014	112.5767	6024.0	1477.58	2058.83	1.50	-566.37	184.48	0.0	0.0	0.0	1.15	6-1
6	38.3550	112.8967	6063.9	1464.37	2035.18	1.50	-570.59	185.85	0.0	0.0	0.0	12.43	6-2599
6	38.5833	112.4650	6725.0	1420.04	2055.68	1.52	-632.25	205.95	0.0	0.0	0.0	-10.85	6-2078
6	38.2750	112.6400	5891.1	1437.30	2028.16	1.49	-553.83	180.41	0.0	0.0	0.0	-18.88	6-1083
6	38.2133	112.9250	5314.9	1499.53	2022.76	1.44	-499.74	162.76	0.0	0.0	0.0	12.35	6-3507
6	38.5663	112.2567	5592.5	1472.84	2053.92	1.47	-525.82	171.26	0.0	0.0	0.0	-23.00	6-2381
6	38.5307	112.0002	9464.9	1235.10	2050.61	1.28	-889.66	289.85	0.0	0.0	0.0	-16.99	6-5131
7	38.6267	112.1083	5250.0	1484.49	2059.05	1.44	-493.63	160.78	0.0	0.0	0.0	-43.15	7-2078
7	38.3600	112.9083	5813.0	1477.83	2035.62	1.48	-546.54	178.02	0.0	0.0	0.0	9.30	7-2599
7	38.3200	112.9700	5135.8	1519.70	2032.11	1.43	-492.90	157.28	0.0	0.0	0.0	11.78	7-1083
7	38.2367	112.3783	9545.9	1201.18	2024.80	1.27	-897.28	292.33	0.0	0.0	0.0	-19.95	7-3507
7	38.7545	112.5008	5918.9	1519.42	2070.30	1.49	-556.50	181.26	0.0	0.0	0.0	22.86	7-5131
7	38.5959	112.5806	5997.0	1474.08	2056.35	1.50	-563.83	183.65	0.0	0.0	0.0	-3.58	7-1
8	38.5849	112.5847	5980.0	1466.71	2055.38	1.49	-562.24	183.13	0.0	0.0	0.0	-11.06	8-1
8	38.3567	112.6400	6118.4	1421.70	2035.33	1.50	-575.25	187.37	0.0	0.0	0.0	-27.25	8-1083
8	38.8648	112.7097	4762.1	1581.60	2080.02	1.38	-447.77	145.84	0.0	0.0	0.0	2.13	8-5131
8	38.2583	112.7000	5487.8	1467.38	2026.70	1.46	-515.99	168.06	0.0	0.0	0.0	-12.86	8-3507
8	38.3717	112.9467	5269.0	1504.65	2036.64	1.44	-495.42	161.36	0.0	0.0	0.0	0.63	8-2599
9	38.3833	112.9750	5038.0	1515.35	2037.67	1.42	-473.71	154.28	0.0	0.0	0.0	-4.31	9-2599
9	38.4067	112.6400	6375.0	1413.00	2039.72	1.51	-599.36	195.23	0.0	0.0	0.0	-24.10	9-1083
9	38.5703	112.5903	6050.0	1461.14	2054.10	1.50	-568.82	185.28	0.0	0.0	0.0	-10.91	9-1
9	38.9035	112.4950	4683.0	1614.81	2083.43	1.37	-440.80	143.56	0.0	0.0	0.0	27.24	9-5131
10	38.4467	112.6300	6325.4	1416.10	2043.23	1.51	-594.70	193.71	0.0	0.0	0.0	-27.65	10-1083
10	38.5390	112.6042	6072.0	1450.06	2051.34	1.50	-570.88	185.95	0.0	0.0	0.0	-17.85	10-1
10	38.2950	113.0100	4957.3	1526.12	2038.69	1.41	-466.12	151.81	0.0	0.0	0.0	0.33	10-3685
10	38.3333	112.9917	4984.9	1519.57	2037.67	1.41	-468.71	152.66	0.0	0.0	0.0	-3.45	10-2599
11	38.4467	112.9900	4967.8	1525.26	2044.70	1.41	-467.11	152.13	0.0	0.0	0.0	-5.87	11-2599

				GRAVITY	AIR	INNER	OUTER	TOTAL	DUOS ANOMALY + 200.0	STA #	FAP #			
11	38.5633	112.5936	6092.0	1457.35	2053.48	1.50	-572.76	186.56	0.0	0.0	0.0	-11.43	11	1
12	38.5450	112.6017	6066.9	1452.30	2051.37	1.50	-570.41	185.79	0.0	0.0	0.0	-16.46	12	1083
12	38.5493	112.5996	6068.0	1452.13	2052.25	1.50	-570.51	185.83	0.0	0.0	0.0	-16.94	12	1
12	38.4650	112.9733	5011.1	1519.90	2044.84	1.41	-471.13	153.46	0.0	0.0	0.0	-8.64	12	2599
12	38.3967	113.0083	4957.3	1525.64	2038.84	1.41	-466.12	151.81	0.0	0.0	0.0	-0.30	12	2381
13	38.4667	112.9567	5090.9	1513.27	2044.99	1.42	-478.67	155.90	0.0	0.0	0.0	-10.37	13	2599
13	38.5271	112.6047	6110.0	1445.01	2050.30	1.50	-574.46	187.11	0.0	0.0	0.0	-19.45	13	1
13	38.5767	112.3500	5897.3	1453.50	2054.66	1.49	-554.46	180.60	0.0	0.0	0.0	-28.78	13	1083
14	38.5170	112.6047	6160.0	1440.01	2049.41	1.50	-579.15	188.84	0.0	0.0	0.0	-20.40	14	1
14	38.5317	112.4500	6536.7	1427.70	2055.10	1.51	-614.55	200.18	0.0	0.0	0.0	-14.54	14	1083
14	38.4633	112.9350	5198.1	1509.01	2045.13	1.43	-488.76	159.19	0.0	0.0	0.0	-7.99	14	2599
15	38.4717	112.9167	5332.0	1504.17	2045.43	1.45	-501.34	163.29	0.0	0.0	0.0	-4.65	15	2599
15	38.3950	113.0033	4957.0	1525.98	2038.69	1.41	-466.09	151.80	0.0	0.0	0.0	0.17	15	3507
15	38.5850	112.4067	6180.4	1447.60	2055.39	1.50	-581.07	189.27	0.0	0.0	0.0	-17.49	15	1083
15	38.5015	112.6099	6245.0	1430.48	2048.05	1.51	-587.14	191.25	0.0	0.0	0.0	-23.18	15	1
15	38.1167	112.3367	6270.0	1384.89	2014.29	1.51	-589.50	192.01	0.0	0.0	0.0	-33.42	15	3598
16	38.1733	112.2750	6061.0	1401.79	2019.25	1.50	-569.86	185.61	0.0	0.0	0.0	-34.72	16	3598
16	38.5917	112.2650	5661.7	1469.50	2055.98	1.47	-532.33	173.38	0.0	0.0	0.0	-29.01	16	1083
16	38.5086	112.6045	6260.0	1434.25	2048.67	1.51	-588.55	191.71	0.0	0.0	0.0	-19.09	16	1
16	38.4733	112.8917	5527.9	1498.34	2045.57	1.46	-519.75	169.29	0.0	0.0	0.0	1.76	16	2599
17	38.4833	112.8500	6057.1	1475.27	2046.45	1.50	-569.43	185.49	0.0	0.0	0.0	11.31	17	2599
17	38.6107	112.5991	5939.0	1479.40	2057.65	1.49	-558.38	181.88	0.0	0.0	0.0	-3.24	17	1
17	38.5933	112.4983	7230.9	1394.00	2056.12	1.51	-679.79	221.44	0.0	0.0	0.0	-5.28	17	1083
17	38.4500	112.2233	5827.1	1427.49	2043.52	1.49	-547.37	178.45	0.0	0.0	0.0	-48.10	17	3598
17	38.0850	113.2292	5171.9	1491.61	2011.51	1.43	-486.29	158.38	0.0	0.0	0.0	6.58	17	3816
18	38.6833	112.1533	5323.1	1485.79	2064.04	1.45	-500.50	163.02	0.0	0.0	0.0	-42.21	18	3598
18	33.6000	112.5067	6901.9	1417.40	2056.71	1.52	-648.87	211.36	0.0	0.0	0.0	-3.32	18	1083
18	38.6148	112.6233	5891.0	1483.15	2058.01	1.49	-553.27	180.41	0.0	0.0	0.0	2.13	18	1
18	38.4967	112.7867	7262.1	1392.17	2047.62	1.51	-682.72	222.39	0.0	0.0	0.0	3.36	18	2599
18	38.0705	112.6877	5912.7	1421.00	2010.24	1.49	-555.92	181.07	0.0	0.0	0.0	-15.89	18	4099
19	38.2392	112.6462	5918.9	1436.11	2025.02	1.49	-556.50	181.26	0.0	0.0	0.0	-15.16	19	4099
19	38.6226	112.6367	5875.0	1492.18	2058.70	1.49	-552.37	179.92	0.0	0.0	0.0	4.45	19	1
19	38.6017	112.5233	6590.5	1440.40	2056.85	1.52	-619.61	201.83	0.0	0.0	0.0	-0.19	19	1083
19	38.2625	112.1203	7944.9	1302.16	2027.07	1.47	-736.87	243.30	0.0	0.0	0.0	-22.81	19	5165
19	38.7700	112.0850	5294.9	1492.19	2071.67	1.44	-497.85	162.15	0.0	0.0	0.0	-45.22	19	3598
19	38.1500	113.0850	5369.1	1490.60	2017.21	1.45	-504.83	164.42	0.0	0.0	0.0	12.35	19	2599
20	38.2658	112.0642	8964.9	1240.13	2027.36	1.36	-842.70	274.54	0.0	0.0	0.0	-20.44	20	5165
20	38.6033	112.5533	6195.5	1467.60	2057.00	1.50	-582.49	189.73	0.0	0.0	0.0	1.85	20	1083
20	38.5655	112.5762	6358.0	1448.54	2053.67	1.51	-595.88	194.09	0.0	0.0	0.0	-4.86	20	1
20	38.3542	112.6333	6118.7	1422.25	2035.11	1.50	-575.28	187.38	0.0	0.0	0.0	-26.46	20	4099
20	38.1500	113.1300	5591.8	1471.02	2017.21	1.47	-525.76	171.24	0.0	0.0	0.0	6.86	20	2599
21	38.1550	113.1417	5240.1	1494.62	2017.65	1.44	-492.71	160.47	0.0	0.0	0.0	7.77	21	2599
21	38.6033	112.5817	5998.0	1476.10	2057.00	1.50	-563.93	183.68	0.0	0.0	0.0	-2.15	21	1083
21	38.5083	112.6042	6259.8	1434.31	2048.65	1.51	-588.53	191.70	0.0	0.0	0.0	-19.01	21	4099
21	38.5590	112.5637	6646.0	1426.86	2053.02	1.52	-624.82	203.53	0.0	0.0	0.0	-6.38	21	1
21	38.3087	112.1500	6682.1	1377.46	2031.12	1.52	-628.22	204.63	0.0	0.0	0.0	-31.59	21	5165
22	38.6267	112.2000	5410.7	1486.50	2059.05	1.45	-508.74	165.70	0.0	0.0	0.0	-30.97	22	1083
22	38.3117	112.3383	11165.0	1092.93	2031.38	0.89	-1049.34	341.92	0.0	0.0	0.0	-31.92	22	5165
22	38.5497	112.5652	6735.0	1418.69	2052.29	1.52	-633.19	206.25	0.0	0.0	0.0	-8.18	22	1
22	38.6017	112.5308	5997.7	1476.29	2056.85	1.50	-563.90	183.67	0.0	0.0	0.0	-1.83	22	4099
22	38.1567	113.2050	5047.9	1503.16	2017.79	1.42	-474.64	154.59	0.0	0.0	0.0	4.00	22	2599
22	38.1567	113.2050	5047.9	1503.51	2017.79	1.42	-474.64	154.59	0.0	0.0	0.0	4.35	22	3816
23	38.5412	112.5645	6092.0	1407.70	2051.55	1.50	-650.57	211.92	0.0	0.0	0.0	-6.71	23	1

	GRAVITY				AIR				INNER	OUTER	TOTAL	+ 200.0	#	#
23	38.3708	112.0525	9686.0	1203.98	2036.57	1.24	-910.43	296.62	0.0	0.0	0.0	-20.02	23	5165
23	38.1583	113.0800	5268.0	1495.95	2017.94	1.44	-495.33	161.33	0.0	0.0	0.0	10.57	23	2599
24	38.4025	112.0975	8567.9	1272.39	2039.35	1.41	-805.40	262.38	0.0	0.0	0.0	-25.36	24	5165
24	38.7383	112.0933	5268.0	1492.70	2068.83	1.44	-495.32	161.33	0.0	0.0	0.0	-43.63	24	1083
24	38.5320	112.5613	7189.0	1386.49	2050.73	1.51	-675.85	220.16	0.0	0.0	0.0	-10.06	24	1
24	38.8400	112.4258	4855.0	1599.15	2077.83	1.39	-456.50	148.68	0.0	0.0	0.0	27.74	24	4099
24	38.1633	113.1117	5120.1	1503.36	2018.38	1.42	-481.42	156.80	0.0	0.0	0.0	8.18	24	2599
25	38.1667	113.1400	5133.8	1501.49	2018.67	1.43	-482.72	157.22	0.0	0.0	0.0	6.90	25	2599
25	38.5215	112.5625	7140.0	1387.56	2049.81	1.51	-671.24	218.66	0.0	0.0	0.0	-11.17	25	1
25	38.7733	112.0850	5339.2	1496.30	2071.96	1.45	-502.01	163.51	0.0	0.0	0.0	-38.61	25	1083
25	38.4508	112.0533	9436.0	1225.59	2043.60	1.29	-886.95	288.97	0.0	0.0	0.0	-21.31	25	5165
25	38.9675	112.3228	5134.8	1593.27	2089.07	1.43	-432.80	157.25	0.0	0.0	0.0	28.32	25	4099
26	38.7967	112.0317	5277.2	1501.70	2074.02	1.44	-496.18	161.61	0.0	0.0	0.0	-39.18	26	1083
26	38.5113	112.5649	7299.0	1376.61	2048.91	1.51	-685.34	223.25	0.0	0.0	0.0	-11.72	26	1
26	38.4508	112.4000	11305.1	1085.67	2044.48	0.85	-1062.49	346.21	0.0	0.0	0.0	-43.37	26	5165
26	38.1667	113.1733	5075.1	1503.51	2018.67	1.42	-477.20	155.42	0.0	0.0	0.0	5.20	26	2599
27	38.5026	112.5676	6880.0	1398.01	2048.14	1.52	-646.81	210.69	0.0	0.0	0.0	-15.53	27	1
27	38.4887	112.8432	6178.1	1467.23	2046.92	1.50	-530.86	189.20	0.0	0.0	0.0	10.46	27	5165
27	38.1717	113.0800	5143.0	1504.49	2019.10	1.43	-483.58	157.50	0.0	0.0	0.0	10.04	27	2599
27	38.3967	113.0133	4957.3	1527.10	2036.84	1.41	-466.12	151.81	0.0	0.0	0.0	1.16	27	1083
28	38.4183	113.0583	5152.2	1529.50	2040.74	1.43	-434.44	157.78	0.0	0.0	0.0	13.99	28	1083
28	38.6717	112.5608	5806.1	1505.46	2063.01	1.48	-545.89	177.81	0.0	0.0	0.0	9.05	28	5165
28	38.5037	112.5828	6640.0	1412.63	2048.24	1.52	-624.26	203.34	0.0	0.0	0.0	-16.21	28	1
28	38.1733	113.2033	5037.1	1504.00	2019.25	1.41	-473.62	154.25	0.0	0.0	0.0	2.70	28	2599
29	38.5077	112.5962	6400.0	1427.52	2048.59	1.51	-601.71	195.99	0.0	0.0	0.0	-16.88	29	1
29	38.6717	112.6920	5724.1	1507.92	2063.01	1.48	-538.18	175.29	0.0	0.0	0.0	6.32	29	5165
29	38.1783	113.0250	5151.9	1505.42	2019.69	1.43	-484.41	157.77	0.0	0.0	0.0	10.94	29	2599
30	38.1783	113.0550	5138.1	1507.92	2019.69	1.43	-483.12	157.35	0.0	0.0	0.0	12.57	30	2599
30	38.5216	112.5830	6580.0	1420.79	2049.81	1.52	-618.62	201.51	0.0	0.0	0.0	-13.42	30	1
30	38.7867	112.3225	8148.9	1373.42	2073.13	1.46	-766.03	249.55	0.0	0.0	0.0	15.31	30	5165
31	38.5264	112.5945	6280.0	1437.43	2050.24	1.51	-590.43	192.32	0.0	0.0	0.0	-16.21	31	1
31	38.8317	112.3960	5076.1	1531.89	2077.10	1.42	-477.28	155.45	0.0	0.0	0.0	25.20	31	5165
31	38.0023	112.9438	6110.9	1422.00	2004.28	1.50	-574.54	187.14	0.0	0.0	0.0	3.63	31	5118
31	38.1800	113.2167	5046.9	1501.30	2019.83	1.42	-474.54	154.56	0.0	0.0	0.0	0.04	31	2599
31	38.4617	113.1283	5555.4	1515.90	2044.55	1.47	-522.34	170.13	0.0	0.0	0.0	22.09	31	1083
32	38.1950	113.1400	5028.9	1509.93	2021.15	1.41	-472.85	154.00	0.0	0.0	0.0	6.21	32	2599
32	38.4683	113.1950	5993.7	1478.90	2045.13	1.50	-563.53	183.55	0.0	0.0	0.0	12.25	32	1083
32	38.9550	112.6020	4667.0	1604.46	2087.97	1.37	-438.32	142.92	0.0	0.0	0.0	11.03	32	5165
32	38.6140	112.5803	6033.0	1477.11	2057.94	1.50	-567.22	184.75	0.0	0.0	0.0	0.13	32	1
32	38.0080	112.8172	6122.7	1416.57	2004.77	1.50	-575.65	187.50	0.0	0.0	0.0	-1.55	32	5118
33	38.0408	112.3565	6765.4	1383.33	2007.65	1.52	-636.05	207.18	0.0	0.0	0.0	3.04	33	5118
33	38.6313	112.5728	6160.0	1473.84	2059.46	1.50	-579.15	188.64	0.0	0.0	0.0	3.39	33	1
33	38.2183	113.1683	5035.1	1513.37	2023.19	1.41	-473.43	154.19	0.0	0.0	0.0	8.00	33	2599
33	38.9633	112.2325	7048.9	1468.01	2088.71	1.51	-662.67	215.86	0.0	0.0	0.0	24.60	33	5165
34	38.9792	112.2730	5599.1	1567.94	2090.10	1.47	-526.43	171.47	0.0	0.0	0.0	31.33	34	5165
34	38.6375	112.5579	6360.0	1465.11	2060.00	1.51	-597.95	194.77	0.0	0.0	0.0	6.78	34	1
34	38.0410	112.9912	6301.5	1413.20	2007.66	1.51	-592.46	192.98	0.0	0.0	0.0	3.51	34	5118
34	38.2217	113.1017	5035.1	1513.91	2023.49	1.41	-473.43	154.19	0.0	0.0	0.0	8.25	34	2599
35	38.0623	112.9185	6402.9	1408.05	2009.53	1.51	-601.98	196.08	0.0	0.0	0.0	2.91	35	5118
35	38.6238	112.5906	6060.0	1474.95	2058.80	1.50	-569.75	185.58	0.0	0.0	0.0	-1.17	35	1
35	38.2217	113.1400	5019.0	1513.47	2023.49	1.41	-471.92	153.70	0.0	0.0	0.0	6.79	35	2599
35	38.2217	113.1950	5078.1	1505.52	2023.49	1.42	-477.47	155.51	0.0	0.0	0.0	2.58	36	2599
36	38.6361	112.5969	6190.0	1470.58	2059.88	1.50	-581.97	189.56	0.0	0.0	0.0	1.61	36	1

#	GRAVITY	AIR	INNER	OUTER	TERRAIN	TOTAL	BOUG ANOMALY + 200.0	STA #	MAP #					
37	38.6466	112.5945	5900.0	1493.02	2060.80	1.49	-554.72	180.68	0.0	0.0	0.0	4.76	37	1
37	38.2217	113.2233	5214.9	1500.02	2023.49	1.43	-490.33	159.70	0.0	0.0	0.0	5.73	37	2599
38	38.6589	112.5906	5750.0	1506.52	2061.89	1.48	-540.62	176.09	0.0	0.0	0.0	7.68	38	1
38	38.2367	113.0083	5122.0	1507.63	2024.80	1.42	-431.61	156.86	0.0	0.0	0.0	6.15	38	2599
38	38.3133	112.0542	8791.0	1262.37	2031.53	1.39	-826.36	269.21	0.0	0.0	0.0	-13.40	38	5118
39	38.2367	113.0467	5073.1	1513.76	2024.80	1.42	-477.01	155.36	0.0	0.0	0.0	9.19	39	2599
39	38.6591	112.5730	5787.0	1503.99	2061.91	1.48	-544.10	177.22	0.0	0.0	0.0	7.48	39	1
39	38.3533	112.3922	10172.9	1172.80	2035.04	1.14	-956.16	311.53	0.0	0.0	0.0	-18.75	39	5118
40	38.6139	112.5432	6414.0	1454.66	2057.93	1.51	-603.02	196.42	0.0	0.0	0.0	1.82	40	1
40	38.2367	113.0833	5039.0	1512.73	2024.80	1.42	-473.80	154.32	0.0	0.0	0.0	6.00	40	2599
40	38.3697	112.2223	6166.0	1407.02	2036.47	1.50	-579.72	183.83	0.0	0.0	0.0	-40.06	40	5118
41	38.4175	112.3197	7668.0	1317.07	2040.67	1.49	-720.85	234.82	0.0	0.0	0.0	-39.06	41	5118
41	38.6212	112.5410	6520.0	1448.40	2058.58	1.51	-612.98	199.67	0.0	0.0	0.0	1.63	41	1
41	38.2400	113.2417	5665.0	1472.64	2025.09	1.47	-532.64	173.49	0.0	0.0	0.0	5.22	41	2599
42	38.6183	112.5591	6425.0	1457.82	2058.32	1.51	-604.06	196.76	0.0	0.0	0.0	5.29	42	1
42	38.4498	112.2215	5827.1	1429.31	2043.51	1.49	-547.87	178.45	0.0	0.0	0.0	-46.27	42	5118
42	38.2517	113.0650	5044.9	1512.19	2026.12	1.42	-474.36	154.50	0.0	0.0	0.0	4.52	42	2599
43	38.5203	112.3803	8272.0	1295.28	2049.70	1.45	-777.60	253.32	0.0	0.0	0.0	-31.59	43	5118
43	38.5980	112.5408	6410.0	1452.15	2056.53	1.51	-602.65	196.30	0.0	0.0	0.0	0.45	43	1
43	38.2553	113.2447	5503.9	1488.23	2026.44	1.46	-517.50	168.55	0.0	0.0	0.0	9.28	43	2599
44	38.2583	113.2257	5567.9	1484.89	2026.70	1.47	-523.51	170.51	0.0	0.0	0.0	9.72	44	2599
44	38.5942	112.5500	6500.0	1444.08	2056.20	1.51	-611.10	199.06	0.0	0.0	0.0	-1.58	44	1
44	38.5413	112.2658	5751.0	1454.42	2051.55	1.48	-540.71	176.12	0.0	0.0	0.0	-34.02	44	5118
45	38.5452	112.0900	9377.9	1231.50	2051.89	1.30	-881.49	287.19	0.0	0.0	0.0	-27.38	45	5118
45	38.5888	112.5645	6280.0	1458.42	2055.72	1.51	-590.43	192.32	0.0	0.0	0.0	-0.70	45	1
46	38.5756	112.5708	6326.0	1450.99	2054.56	1.51	-594.75	193.73	0.0	0.0	0.0	-4.06	46	1
46	38.6183	112.7208	5621.0	1510.26	2058.32	1.47	-528.50	172.14	0.0	0.0	0.0	6.83	46	5118
47	38.5513	112.5815	6320.0	1442.22	2052.42	1.51	-594.19	193.54	0.0	0.0	0.0	-11.07	47	1
47	38.6227	112.0393	9209.9	1248.38	2058.70	1.33	-865.71	282.04	0.0	0.0	0.0	-27.98	47	5118
47	38.2650	113.0567	5042.0	1512.88	2027.29	1.42	-474.08	154.41	0.0	0.0	0.0	3.85	47	2599
48	38.2650	113.0750	5028.9	1515.87	2027.29	1.41	-472.85	154.00	0.0	0.0	0.0	6.01	48	2599
48	38.5379	112.6196	6060.0	1449.67	2051.25	1.50	-569.76	185.58	0.0	0.0	0.0	-18.90	48	1
48	38.6737	112.4330	7164.0	1416.70	2063.19	1.51	-673.50	219.39	0.0	0.0	0.0	6.11	48	5118
49	38.5300	112.6372	6095.0	1446.30	2050.55	1.50	-573.05	186.65	0.0	0.0	0.0	-19.36	49	1
49	38.6877	112.2847	8325.1	1324.64	2064.42	1.44	-782.59	254.95	0.0	0.0	0.0	-13.58	49	5118
49	38.2650	113.1150	5014.1	1523.83	2027.29	1.41	-471.46	153.55	0.0	0.0	0.0	13.04	49	2599
50	38.2650	113.1833	5337.9	1498.60	2027.29	1.45	-501.90	163.47	0.0	0.0	0.0	8.29	50	2599
50	38.5162	112.6235	6140.0	1440.35	2049.34	1.50	-577.27	188.03	0.0	0.0	0.0	-21.25	50	1
51	38.7325	112.6812	5204.1	1541.07	2068.37	1.43	-489.31	159.37	0.0	0.0	0.0	1.21	51	5118
51	38.5947	112.6060	5945.0	1475.76	2056.25	1.49	-558.95	182.06	0.0	0.0	0.0	-5.09	51	1
51	38.2652	113.1017	5015.1	1522.01	2027.30	1.41	-471.55	153.58	0.0	0.0	0.0	11.27	51	2599
52	38.6755	112.5898	5694.0	1513.91	2063.35	1.48	-535.36	174.37	0.0	0.0	0.0	10.07	52	1
52	38.2652	113.1680	5275.9	1507.52	2027.30	1.44	-496.07	161.57	0.0	0.0	0.0	13.28	52	2599
52	38.7408	112.2127	7975.0	1363.82	2069.10	1.47	-749.70	244.23	0.0	0.0	0.0	-1.28	52	5118
53	38.6870	112.5874	5735.0	1516.52	2064.36	1.48	-539.21	175.63	0.0	0.0	0.0	14.26	53	1
53	38.7425	112.6003	5087.9	1555.41	2069.25	1.42	-478.39	155.81	0.0	0.0	0.0	7.32	53	5118
53	38.2653	113.0833	5025.9	1517.39	2027.32	1.41	-472.57	153.91	0.0	0.0	0.0	7.32	53	2599
54	38.6755	112.5698	5757.0	1511.87	2063.35	1.48	-541.28	176.30	0.0	0.0	0.0	12.01	54	1
54	38.7453	112.5743	5028.9	1571.16	2069.50	1.41	-472.84	154.00	0.0	0.0	0.0	19.09	54	5118
54	38.2653	113.1290	5051.3	1520.39	2027.32	1.42	-475.01	154.71	0.0	0.0	0.0	11.96	54	2599
55	38.6752	112.5505	5918.0	1500.24	2063.32	1.49	-556.41	181.23	0.0	0.0	0.0	10.60	55	1
55	38.2655	113.0650	5037.1	1514.00	2027.33	1.41	-473.62	154.25	0.0	0.0	0.0	4.62	55	2599
55	38.7543	112.3675	5575.1	1532.18	2070.29	1.47	-524.18	170.73	0.0	0.0	0.0	13.88	55	5118

				GRAVITY	AIR			ERRAIN			BOUG ANOMALY	STA	MAP	
					INNER	OUTER	TOTAL	+	200.0	#	#			
56	38.2655	113.1940	5387.1	1493.53	2027.33	1.45	-506.52	164.98	0.0	0.0	0.0	6.29	56	2599
57	38.6778	112.5359	6040.0	1492.12	2063.55	1.50	-567.87	184.97	0.0	0.0	0.0	9.97	57	1
57	38.7593	112.6025	5054.1	1564.34	2070.73	1.42	-475.22	154.78	0.0	0.0	0.0	12.63	57	5118
57	38.2657	113.0463	5053.1	1512.29	2027.34	1.42	-475.13	154.75	0.0	0.0	0.0	3.91	57	2599
58	38.2658	113.0092	5095.1	1512.87	2027.36	1.42	-479.08	156.03	0.0	0.0	0.0	7.13	58	2599
58	38.6530	112.5527	6180.0	1485.09	2061.37	1.50	-581.03	189.26	0.0	0.0	0.0	13.99	58	1
58	38.8015	112.4367	5015.1	1582.91	2074.44	1.41	-471.55	153.58	0.0	0.0	0.0	25.02	58	5118
59	38.6623	112.5625	5330.0	1503.59	2062.19	1.49	-548.14	178.54	0.0	0.0	0.0	9.52	59	1
59	38.8152	112.6548	4862.8	1573.15	2075.65	1.39	-457.24	148.92	0.0	0.0	0.0	4.43	59	5118
59	38.2658	113.0200	5088.9	1512.24	2027.36	1.42	-478.49	155.84	0.0	0.0	0.0	6.11	59	2599
60	38.6420	112.6404	5912.0	1495.48	2060.40	1.49	-555.85	181.05	0.0	0.0	0.0	8.39	60	1
60	38.8342	112.2685	10087.9	1253.56	2077.32	1.16	-948.17	308.93	0.0	0.0	0.0	14.32	60	5118
61	38.8387	112.0060	5334.0	1505.13	2077.72	1.45	-501.52	163.35	0.0	0.0	0.0	-35.86	61	5118
61	38.6563	112.6411	5945.0	1498.57	2081.66	1.49	-558.95	182.06	0.0	0.0	0.0	12.30	61	1
62	38.6629	112.6467	5992.0	1496.69	2082.24	1.50	-563.56	183.50	0.0	0.0	0.0	12.82	62	1
62	38.8482	112.5500	4693.9	1604.47	2078.55	1.37	-441.35	143.75	0.0	0.0	0.0	22.15	62	5118
63	38.6799	112.6289	6100.0	1494.25	2065.74	1.50	-573.51	186.81	0.0	0.0	0.0	15.72	63	1
63	38.8700	112.1953	9265.1	1313.81	2080.48	1.32	-870.88	283.73	0.0	0.0	0.0	19.16	63	5118
63	38.2800	113.0283	5053.1	1515.14	2028.60	1.42	-475.13	154.75	0.0	0.0	0.0	5.50	63	2599
64	38.2800	113.0467	5034.1	1516.26	2028.60	1.41	-473.34	154.16	0.0	0.0	0.0	5.42	64	2599
64	38.6755	112.6072	6080.0	1493.67	2063.35	1.50	-571.63	186.19	0.0	0.0	0.0	14.26	64	1
64	38.8773	112.4113	4821.8	1604.47	2081.12	1.39	-453.38	147.66	0.0	0.0	0.0	27.68	64	5118
65	38.6579	112.6138	6120.0	1485.85	2061.80	1.50	-575.39	187.42	0.0	0.0	0.0	10.52	65	1
65	38.9058	112.6350	4785.1	1589.32	2083.64	1.38	-449.93	146.54	0.0	0.0	0.0	7.69	65	5118
65	38.2800	113.0567	5023.9	1518.08	2028.60	1.41	-472.38	153.85	0.0	0.0	0.0	6.60	65	2599
66	38.2800	113.0650	5022.9	1519.65	2028.60	1.41	-472.29	153.82	0.0	0.0	0.0	8.10	66	2599
66	38.6360	112.6096	6156.0	1477.60	2059.88	1.50	-578.78	188.52	0.0	0.0	0.0	6.47	66	1
66	38.9213	112.2368	5989.1	1534.47	2085.00	1.50	-563.09	183.41	0.0	0.0	0.0	27.65	66	5118
67	38.5327	112.5433	5995.0	1467.86	2055.19	1.50	-563.65	183.59	0.0	0.0	0.0	-8.76	67	1
67	38.9412	112.5383	4671.9	1613.23	2086.75	1.37	-439.29	143.07	0.0	0.0	0.0	21.33	67	5118
67	38.2800	113.1050	5001.0	1526.30	2028.60	1.41	-470.23	153.15	0.0	0.0	0.0	13.36	67	2599
68	38.2800	113.1900	5482.9	1492.27	2028.60	1.46	-515.52	167.91	0.0	0.0	0.0	9.82	68	2599
68	38.5691	112.6035	6030.0	1459.14	2053.99	1.50	-566.94	184.66	0.0	0.0	0.0	-14.07	68	1
68	38.9455	112.1327	9390.1	1313.59	2087.13	1.30	-882.62	287.56	0.0	0.0	0.0	20.22	68	5118
69	38.9493	112.0208	6698.1	1464.74	2087.47	1.52	-629.72	205.12	0.0	0.0	0.0	0.34	69	5118
69	38.5450	112.6077	6050.0	1452.27	2051.87	1.50	-568.82	185.28	0.0	0.0	0.0	-17.56	69	1
70	38.5815	112.6030	6040.0	1464.75	2055.08	1.50	-567.88	184.97	0.0	0.0	0.0	-8.93	70	1
70	38.9643	112.4465	4670.9	1623.32	2088.79	1.37	-439.19	143.04	0.0	0.0	0.0	29.31	70	5118
70	38.2805	113.0092	5071.8	1514.99	2028.65	1.42	-476.89	155.32	0.0	0.0	0.0	6.49	70	2599
71	38.6072	112.5900	5942.0	1473.35	2057.34	1.49	-558.67	181.97	0.0	0.0	0.0	-3.79	71	1
71	38.9713	112.3518	4989.2	1604.32	2089.41	1.41	-469.11	152.79	0.0	0.0	0.0	29.82	71	5118
71	38.2825	113.1507	5203.1	1516.51	2028.82	1.43	-489.22	159.34	0.0	0.0	0.0	16.14	71	2599
72	38.9942	112.1387	10072.1	1270.39	2091.43	1.17	-946.69	308.45	0.0	0.0	0.0	16.04	72	5118
72	38.6306	112.6589	5844.0	1493.57	2059.40	1.49	-549.46	178.97	0.0	0.0	0.0	8.17	72	1
72	38.2833	113.0283	5044.9	1516.26	2029.33	1.42	-474.36	154.50	0.0	0.0	0.0	5.37	72	2599
73	38.2917	113.0650	4998.0	1523.97	2029.63	1.41	-469.95	153.06	0.0	0.0	0.0	9.82	73	2599
73	38.6262	112.6877	5749.0	1502.63	2059.01	1.48	-540.53	176.06	0.0	0.0	0.0	6.61	73	1
74	38.6185	112.7207	5621.0	1510.25	2058.34	1.47	-528.50	172.14	0.0	0.0	0.0	6.81	74	1
74	38.2950	113.0092	5054.1	1517.34	2029.92	1.42	-475.22	154.78	0.0	0.0	0.0	6.45	74	2599
75	38.2950	113.0283	5036.1	1517.74	2029.92	1.41	-473.53	154.22	0.0	0.0	0.0	5.71	75	2599
75	38.6350	112.7034	5698.0	1506.98	2059.78	1.48	-535.73	174.50	0.0	0.0	0.0	6.96	75	1
76	38.6555	112.6970	5774.0	1504.62	2061.59	1.48	-542.88	176.82	0.0	0.0	0.0	7.61	76	1
76	38.2950	113.0467	5019.0	1520.58	2029.92	1.41	-471.92	153.70	0.0	0.0	0.0	7.47	76	2599

				GRAVITY	AIR			INNER	OUTER	TOTAL	DOUG ANOMALY	STA	MAP	
				+	-	-	+				+ 200.0	#	#	
78	38.6911	112.6919	5700.0	1503.51	2064.72	1.48	-535.92	174.56	0.0	0.0	0.0	3.67	78	1
78	38.2983	113.0883	5003.9	1527.94	2030.21	1.41	-470.50	153.24	0.0	0.0	0.0	13.58	78	2599
79	38.3017	113.0467	5007.9	1522.94	2030.50	1.41	-470.87	153.36	0.0	0.0	0.0	8.54	79	2599
79	38.6954	112.7043	5781.0	1503.44	2065.10	1.48	-543.53	177.04	0.0	0.0	0.0	3.36	79	1
80	38.7100	112.7090	5621.0	1514.14	2066.39	1.47	-528.50	172.14	0.0	0.0	0.0	2.64	80	1
81	38.7090	112.7290	5860.0	1500.40	2066.30	1.49	-550.96	179.46	0.0	0.0	0.0	4.11	81	1
82	38.7220	112.7397	5696.0	1510.59	2067.44	1.48	-535.54	174.43	0.0	0.0	0.0	2.78	82	1
83	38.7370	112.7444	5580.0	1517.21	2068.76	1.47	-524.64	170.88	0.0	0.0	0.0	0.75	83	1
84	38.7192	112.6938	5455.0	1525.50	2067.19	1.46	-512.89	167.05	0.0	0.0	0.0	2.69	84	1
84	38.3067	113.1150	5083.0	1526.67	2030.94	1.42	-477.93	155.66	0.0	0.0	0.0	16.58	84	2599
85	38.3083	113.2333	6126.9	1462.19	2031.09	1.50	-576.05	187.63	0.0	0.0	0.0	18.02	85	2599
85	38.7328	112.6812	5204.0	1541.08	2068.39	1.43	-489.30	159.37	0.0	0.0	0.0	1.19	85	1
86	38.7176	112.6479	5497.0	1530.51	2067.05	1.46	-516.84	168.34	0.0	0.0	0.0	10.50	86	1
86	38.3093	113.0092	5029.8	1519.85	2031.22	1.41	-472.94	154.03	0.0	0.0	0.0	6.12	86	2599
87	38.3100	113.0183	5032.1	1519.85	2031.23	1.41	-473.15	154.10	0.0	0.0	0.0	6.25	87	2599
87	38.7029	112.6553	5700.0	1516.06	2065.77	1.48	-535.92	174.56	0.0	0.0	0.0	10.18	87	1
88	38.6913	112.6667	5835.0	1503.76	2064.74	1.49	-548.61	178.69	0.0	0.0	0.0	7.45	88	1
88	38.3100	113.0233	5022.9	1521.02	2031.23	1.41	-472.29	153.82	0.0	0.0	0.0	6.84	88	2599
89	38.3100	113.0367	5018.0	1522.50	2031.23	1.41	-471.83	153.67	0.0	0.0	0.0	8.01	89	2599
89	38.6748	112.6604	6020.0	1493.50	2063.29	1.50	-566.00	184.36	0.0	0.0	0.0	10.36	89	1
90	38.5280	112.6583	6091.0	1451.78	2050.37	1.50	-572.67	186.53	0.0	0.0	0.0	-13.95	90	1
90	38.3100	113.0437	5009.8	1524.41	2031.23	1.41	-471.06	153.42	0.0	0.0	0.0	9.40	90	2599
91	38.5286	112.6914	6026.0	1463.13	2050.43	1.50	-566.56	184.54	0.0	0.0	0.0	-6.77	91	1
91	38.3117	113.2150	5821.8	1477.74	2031.38	1.49	-547.38	178.29	0.0	0.0	0.0	13.96	91	2599
92	38.3133	113.2117	5837.6	1476.36	2031.53	1.49	-548.86	178.77	0.0	0.0	0.0	13.93	92	2599
92	38.5377	112.7122	5851.0	1478.20	2051.23	1.49	-550.11	179.18	0.0	0.0	0.0	-3.59	92	1
93	38.5385	112.7258	5830.0	1479.24	2051.30	1.49	-548.14	178.54	0.0	0.0	0.0	-3.95	93	1
93	38.3150	113.2050	5811.7	1478.04	2031.67	1.48	-546.42	177.98	0.0	0.0	0.0	13.33	93	2599
94	38.3150	113.2083	5896.0	1472.35	2031.67	1.49	-554.34	180.56	0.0	0.0	0.0	12.97	94	2599
94	38.5247	112.7393	5996.0	1467.38	2050.09	1.50	-563.74	183.62	0.0	0.0	0.0	-4.09	94	1
95	38.5069	112.7492	6285.0	1451.53	2048.52	1.51	-590.90	192.47	0.0	0.0	0.0	-0.07	95	1
95	38.3167	113.2017	5771.0	1479.76	2031.82	1.48	-542.60	176.73	0.0	0.0	0.0	12.32	95	2599
96	38.5456	112.7366	5750.0	1485.95	2051.93	1.48	-540.62	176.09	0.0	0.0	0.0	-2.93	96	1
97	38.5582	112.7466	5609.0	1494.73	2053.03	1.47	-532.92	173.58	0.0	0.0	0.0	-0.44	97	1
98	38.6047	112.7463	5550.0	1514.17	2057.12	1.47	-521.82	169.96	0.0	0.0	0.0	7.45	98	1
99	38.5945	112.7310	5580.0	1507.71	2056.22	1.47	-524.64	170.88	0.0	0.0	0.0	3.78	99	1
99	38.3133	113.1937	5878.9	1471.81	2031.97	1.49	-552.74	180.04	0.0	0.0	0.0	11.06	99	2599
100	38.5807	112.7036	5805.0	1489.39	2055.01	1.48	-545.79	177.77	0.0	0.0	0.0	0.92	100	1
101	38.5386	112.6899	5865.0	1489.85	2055.70	1.49	-550.96	179.48	0.0	0.0	0.0	11.9	101	1
101	38.3200	113.0467	4998.0	1527.16	2032.11	1.41	-469.95	153.06	0.0	0.0	0.0	10.53	101	2599
102	38.3200	113.0700	4991.1	1530.94	2032.11	1.41	-469.30	152.85	0.0	0.0	0.0	13.87	102	2599
102	38.5723	112.6951	5815.0	1485.73	2054.27	1.49	-546.73	178.08	0.0	0.0	0.0	-1.33	102	1
103	38.5875	112.6632	5970.0	1479.21	2055.61	1.49	-561.30	182.83	0.0	0.0	0.0	0.58	103	1
103	38.3200	113.1917	5955.4	1467.15	2032.11	1.49	-559.93	182.38	0.0	0.0	0.0	11.09	103	2599
104	38.3217	113.1867	5919.3	1470.68	2032.26	1.49	-556.53	181.27	0.0	0.0	0.0	12.19	104	2599
104	38.5991	112.6528	5959.0	1482.95	2056.63	1.49	-560.26	182.49	0.0	0.0	0.0	2.60	104	1
105	38.6132	112.6453	5865.0	1494.97	2057.87	1.49	-551.43	179.61	0.0	0.0	0.0	7.43	105	1
106	38.5814	112.6169	6137.0	1460.10	2055.07	1.50	-576.99	187.94	0.0	0.0	0.0	-7.42	106	1
106	38.3233	113.1833	5984.2	1467.15	2032.40	1.50	-562.64	183.26	0.0	0.0	0.0	12.63	106	2599
107	38.3240	113.1020	5085.9	1530.69	2032.46	1.42	-478.21	155.75	0.0	0.0	0.0	19.27	107	2599
107	38.5726	112.6384	6500.0	1435.75	2054.30	1.51	-611.10	199.06	0.0	0.0	0.0	-8.02	107	1
108	38.5798	112.6309	6350.0	1448.94	2054.94	1.51	-597.01	194.46	0.0	0.0	0.0	-4.96	108	1
108	38.3240	113.0000	5017.1	1530.15	2032.40	1.42	-471.44	152.55	0.0	0.0	0.0	6.17	108	2599

BOUGUER DENSITY = 2.40 GM/CC, TERRAIN DENSITY MULTIPLIER = 1.00, NO TERRAIN CORRECTIONS APPLIED

STA #	LAT	LONG	ELEV	OBSERVED GRAVITY	***** CORRECTIONS *****							BOUG ANOMALY + 200.0	STA #	MAP #
					*LATITUDE	CURV	FREE AIR	BOUG	--- INNER	TERRAIN OUTER	--- TOTAL			
110	38.7054	112.5649	5537.0	1538.38	2065.98	1.46	-520.60	169.57	0.0	0.0	0.0	21.97	110	1
110	38.3250	113.0367	5001.9	1525.69	2032.55	1.41	-470.32	153.18	0.0	0.0	0.0	8.87	110	2599
111	38.3250	113.0833	4991.1	1534.12	2032.55	1.41	-469.30	152.85	0.0	0.0	0.0	16.61	111	2599
112	38.3250	113.1750	6016.7	1467.00	2032.55	1.50	-565.69	184.26	0.0	0.0	0.0	14.39	112	2599
113	38.3250	113.1767	5957.3	1472.76	2032.55	1.49	-560.11	182.44	0.0	0.0	0.0	16.39	113	2599
114	38.7201	112.5615	5275.0	1551.49	2067.28	1.44	-495.98	161.54	0.0	0.0	0.0	17.21	114	1
115	38.6992	112.5906	5540.0	1530.78	2065.44	1.46	-520.88	169.66	0.0	0.0	0.0	15.11	115	1
115	38.3267	113.1700	5816.9	1482.65	2032.70	1.49	-546.91	178.14	0.0	0.0	0.0	17.24	115	2599
116	38.3267	113.1717	5791.3	1483.73	2032.70	1.48	-544.51	177.35	0.0	0.0	0.0	16.71	116	2599
116	38.7293	112.5384	5125.0	1558.54	2068.09	1.42	-481.88	156.95	0.0	0.0	0.0	13.97	116	1
117	38.7427	112.5771	5030.0	1570.59	2069.26	1.41	-472.95	154.04	0.0	0.0	0.0	18.82	117	1
118	38.7500	112.5681	5015.0	1576.17	2069.91	1.41	-471.54	153.58	0.0	0.0	0.0	22.80	118	1
118	38.3317	113.0917	5029.8	1534.12	2033.14	1.41	-472.94	154.03	0.0	0.0	0.0	18.48	118	2599
119	38.7438	112.5903	5088.0	1564.02	2069.36	1.42	-478.40	155.81	0.0	0.0	0.0	15.82	119	1
119	38.3333	113.1250	5425.8	1509.29	2033.28	1.45	-510.16	166.16	0.0	0.0	0.0	18.55	119	2599
120	38.7378	112.6157	5250.0	1547.97	2068.83	1.44	-493.63	160.78	0.0	0.0	0.0	10.56	120	1
121	38.7412	112.6377	5260.0	1543.61	2069.13	1.44	-494.57	161.08	0.0	0.0	0.0	6.53	121	1
121	38.3383	113.0283	4988.8	1526.96	2033.72	1.41	-469.08	152.78	0.0	0.0	0.0	8.14	121	2599
122	38.3383	113.0367	4983.9	1529.07	2033.72	1.41	-468.62	152.63	0.0	0.0	0.0	9.93	122	2599
122	38.7398	112.6482	5256.0	1544.49	2069.01	1.44	-494.19	160.96	0.0	0.0	0.0	7.27	122	1
123	38.7431	112.6890	5165.0	1544.57	2069.30	1.43	-485.64	158.17	0.0	0.0	0.0	1.30	123	1
123	38.3383	113.0467	4981.9	1530.89	2033.72	1.41	-468.64	152.57	0.0	0.0	0.0	11.63	123	2599
124	38.3387	113.0092	4991.1	1524.31	2033.75	1.41	-469.30	152.85	0.0	0.0	0.0	5.60	124	2599
124	38.7357	112.6633	5195.0	1544.00	2068.65	1.43	-488.45	159.09	0.0	0.0	0.0	3.28	124	1
125	38.7205	112.6370	5472.0	1533.20	2067.31	1.46	-514.49	167.57	0.0	0.0	0.0	11.34	125	1
126	38.7263	112.6139	5377.0	1540.06	2067.32	1.45	-505.56	164.67	0.0	0.0	0.0	11.68	126	1
127	38.6433	112.7319	5765.0	1505.50	2060.52	1.48	-542.03	176.55	0.0	0.0	0.0	8.98	127	1
127	38.9140	113.1410	5562.0	1459.58	2005.30	1.47	-522.96	170.33	0.0	0.0	0.0	5.44	127	5118
128	38.0217	113.1712	5460.3	1432.18	2005.97	1.46	-513.40	167.22	0.0	0.0	0.0	0.94	128	5118
128	38.6623	112.7244	5950.0	1493.95	2062.23	1.49	-529.42	182.21	0.0	0.0	0.0	7.43	128	1
129	38.6754	112.7129	6050.0	1483.08	2063.34	1.50	-568.81	185.28	0.0	0.0	0.0	3.78	129	1
129	38.0273	113.2327	5157.1	1486.34	2006.51	1.43	-484.91	157.93	0.0	0.0	0.0	5.38	129	5118
129	38.3413	113.0897	5074.1	1532.95	2034.03	1.42	-477.10	155.39	0.0	0.0	0.0	19.22	129	2599
130	38.0280	113.2100	5302.1	1478.53	2006.52	1.44	-498.54	162.37	0.0	0.0	0.0	6.73	130	5118
130	38.6924	112.7317	5930.0	1496.00	2064.84	1.49	-557.54	181.60	0.0	0.0	0.0	5.61	130	1
131	38.7036	112.7424	5940.0	1498.13	2065.82	1.49	-558.48	181.91	0.0	0.0	0.0	7.39	131	1
131	38.0315	113.0992	5897.3	1443.12	2006.83	1.49	-554.47	180.60	0.0	0.0	0.0	8.67	131	5118
131	38.3467	113.0283	4981.0	1528.29	2034.45	1.41	-468.34	152.54	0.0	0.0	0.0	8.24	131	2599
132	38.3467	113.0783	5013.1	1535.92	2034.45	1.41	-471.37	153.52	0.0	0.0	0.0	17.90	132	2599
132	38.7258	112.5745	5120.0	1561.03	2067.78	1.42	-481.41	156.79	0.0	0.0	0.0	16.44	132	1
132	38.0348	113.1397	5544.9	1459.94	2007.12	1.47	-521.36	169.81	0.0	0.0	0.0	2.90	132	5118
133	38.7151	112.5537	5460.0	1542.20	2066.84	1.46	-513.36	167.21	0.0	0.0	0.0	20.06	133	1
134	38.7232	112.5408	5503.0	1540.34	2067.55	1.46	-517.41	168.52	0.0	0.0	0.0	20.21	134	1
134	38.0587	113.2258	5263.1	1484.60	2009.21	1.44	-494.87	161.18	0.0	0.0	0.0	7.70	134	5118
135	38.0622	113.1058	5955.0	1438.34	2009.51	1.49	-559.90	182.37	0.0	0.0	0.0	4.86	135	5118
135	38.7381	112.5313	5400.0	1552.04	2068.86	1.45	-507.73	165.37	0.0	0.0	0.0	24.08	135	1
136	38.7483	112.5383	5220.0	1563.75	2069.80	1.44	-490.81	159.86	0.0	0.0	0.0	23.46	136	1
136	38.3533	113.0092	4981.9	1525.10	2035.04	1.41	-468.44	152.57	0.0	0.0	0.0	4.52	136	2599

STA #	LAT	LONG	ELEV	OBSERVED GRAVITY	***** CORRECTIONS *****							BOUG ANOMALY + 200.0	STA #	MAP #
					LATITUDE	CURV	FREE AIR	BOUG	--- TERRAIN ---*	INNER	OUTER			
140	38.3550	113.0317	5108.9	1531.27	2035.18	1.42	-480.37	156.46	0.0	0.0	0.0	18.58	140	2599
140	38.0925	113.2408	5093.5	1496.18	2012.17	1.42	-478.92	155.98	0.0	0.0	0.0	5.53	140	5118
140	38.5531	112.6848	5979.0	1467.69	2052.58	1.49	-562.14	183.10	0.0	0.0	0.0	-7.35	140	1
141	38.5115	112.6917	6242.0	1451.00	2048.93	1.51	-586.86	191.15	0.0	0.0	0.0	-3.73	141	1
141	38.3550	113.1617	6437.0	1447.22	2035.18	1.51	-605.19	197.13	0.0	0.0	0.0	18.58	141	2599
141	38.0947	113.0663	6125.6	1428.58	2012.36	1.50	-575.93	187.59	0.0	0.0	0.0	3.06	141	5118
142	38.3567	113.1083	5715.9	1494.08	2035.33	1.48	-537.42	175.04	0.0	0.0	0.0	19.65	142	2599
142	33.5173	112.6736	6144.0	1451.07	2049.44	1.50	-577.65	188.15	0.0	0.0	0.0	-10.38	142	1
143	38.6238	112.7338	5590.0	1517.06	2058.80	1.47	-525.58	171.19	0.0	0.0	0.0	11.19	143	1
144	38.6277	112.7490	5573.0	1520.90	2059.15	1.47	-523.99	170.67	0.0	0.0	0.0	13.60	144	1
144	38.1042	113.1125	5859.2	1448.98	2013.19	1.49	-550.89	179.43	0.0	0.0	0.0	5.76	144	5118
145	38.6197	112.7107	5635.0	1509.54	2058.44	1.47	-529.81	172.57	0.0	0.0	0.0	6.87	145	1
145	38.3610	113.0358	4969.1	1530.69	2035.71	1.41	-467.23	152.18	0.0	0.0	0.0	8.63	145	2599
146	38.3617	113.0583	4980.0	1534.83	2035.77	1.41	-468.25	152.51	0.0	0.0	0.0	13.40	146	2599
146	38.6234	112.6955	5735.0	1503.40	2058.77	1.48	-539.21	175.63	0.0	0.0	0.0	6.74	146	1
146	38.1147	113.2420	5076.1	1496.13	2014.11	1.42	-477.29	155.45	0.0	0.0	0.0	2.44	146	5118
147	38.6282	112.6699	5800.0	1500.95	2059.18	1.48	-545.32	177.62	0.0	0.0	0.0	7.98	147	1
147	38.3617	113.0700	5016.1	1535.02	2035.77	1.41	-471.64	153.61	0.0	0.0	0.0	15.87	147	2599
148	38.6281	112.6499	5870.0	1496.10	2059.18	1.49	-551.90	179.76	0.0	0.0	0.0	7.57	148	1
149	38.6169	112.6294	5900.0	1490.90	2058.19	1.49	-554.72	180.68	0.0	0.0	0.0	5.25	149	1
149	38.3633	113.0517	4978.0	1533.55	2035.92	1.41	-468.07	152.45	0.0	0.0	0.0	11.85	149	2599
149	38.1288	113.2147	5082.0	1498.04	2015.35	1.42	-477.84	155.63	0.0	0.0	0.0	3.48	149	5118
150	38.1290	113.1417	5465.2	1482.51	2015.37	1.46	-513.86	167.37	0.0	0.0	0.0	12.18	150	5118
151	38.3647	113.2458	6184.0	1463.33	2036.03	1.50	-581.41	189.38	0.0	0.0	0.0	17.83	151	2599
153	38.3683	113.0092	4969.1	1525.10	2036.35	1.41	-467.23	152.18	0.0	0.0	0.0	2.40	153	2599
154	38.3683	113.0283	4967.8	1528.97	2036.35	1.41	-467.11	152.15	0.0	0.0	0.0	6.19	154	2599
155	38.3683	113.0650	5022.9	1535.06	2036.35	1.41	-472.29	153.82	0.0	0.0	0.0	15.76	155	2599
157	38.3717	113.1817	6165.0	1462.67	2036.64	1.50	-579.63	188.80	0.0	0.0	0.0	15.35	157	2599
158	38.3750	113.0883	5231.9	1524.21	2036.94	1.44	-491.93	160.22	0.0	0.0	0.0	17.55	158	2599
160	38.3767	113.2367	6079.0	1472.02	2037.08	1.50	-571.55	186.16	0.0	0.0	0.0	18.82	160	2599
163	38.3850	113.2083	5964.9	1480.00	2037.82	1.49	-560.82	182.67	0.0	0.0	0.0	18.84	163	2599
164	38.3883	113.0433	5042.0	1529.85	2038.11	1.42	-474.08	154.41	0.0	0.0	0.0	10.00	164	2599
165	38.3833	113.0659	5083.0	1533.39	2038.11	1.42	-477.93	155.66	0.0	0.0	0.0	16.63	165	2599
166	38.3887	113.0368	5032.1	1528.83	2038.14	1.41	-473.15	154.10	0.0	0.0	0.0	8.33	166	2599
167	38.3900	113.0850	5170.9	1532.41	2038.26	1.43	-486.20	158.35	0.0	0.0	0.0	20.57	167	2599
168	38.3917	113.0950	5352.0	1522.22	2038.40	1.45	-503.22	163.90	0.0	0.0	0.0	21.69	168	2599
168	38.1667	113.1730	5075.0	1504.53	2018.67	1.42	-477.19	155.42	0.0	0.0	0.0	6.21	168	2
169	38.1566	113.2050	5048.0	1504.20	2017.79	1.42	-474.65	154.59	0.0	0.0	0.0	5.05	169	2
170	38.1728	113.2028	5037.0	1504.98	2019.21	1.41	-473.61	154.25	0.0	0.0	0.0	3.72	170	2
170	38.3925	113.0950	5352.0	1522.20	2038.47	1.45	-503.22	163.90	0.0	0.0	0.0	21.60	170	2599
175	38.3983	113.0275	5044.9	1526.08	2038.99	1.42	-474.36	154.50	0.0	0.0	0.0	5.54	175	2599
176	38.3983	113.0650	5121.0	1529.62	2038.99	1.42	-481.51	156.83	0.0	0.0	0.0	13.89	176	2599
180	38.4017	113.2350	6002.3	1478.19	2039.28	1.50	-564.33	183.81	0.0	0.0	0.0	17.93	180	2599
181	38.4017	113.2400	6030.2	1476.47	2039.28	1.50	-566.95	184.67	0.0	0.0	0.0	17.98	181	2599
182	38.4017	113.2433	6044.9	1475.59	2039.28	1.50	-568.34	185.12	0.0	0.0	0.0	18.03	182	2599
183	38.4017	113.2467	6154.2	1468.47	2039.28	1.50	-578.61	188.47	0.0	0.0	0.0	17.83	183	2599
184	38.4033	113.2150	5894.0	1484.76	2039.43	1.49	-554.16	180.50	0.0	0.0	0.0	17.50	184	2599
185	38.4033	113.2183	5907.8	1483.93	2039.43	1.49	-555.45	180.92	0.0	0.0	0.0	17.55	185	2599
186	38.4033	113.2233	5924.6	1479.29	2039.43	1.49	-555.45	180.92	0.0	0.0	0.0	17.55	186	2599

STA #	LAT	LONG	ELFV	OBSERVED GRAVITY	***** CORRECTIONS *****							BOUG ANOMALY + 200.0	STA #	MAP #
					*LATITUDE	CURV	FREE AIR	BOUG	--- INNER	TERRAIN OUTER	--- TOTAL			
194	38.4050	113.2067	5849.7	1485.55	2039.57	1.49	-550.00	179.14	0.0	0.0	0.0	15.34	194	2599
195	38.4050	113.2067	5850.0	1485.42	2039.57	1.49	-550.03	179.15	0.0	0.0	0.0	15.23	195	2599
196	38.4050	113.2100	5865.8	1485.40	2039.57	1.49	-551.51	179.63	0.0	0.0	0.0	16.21	196	2599
197	38.4067	113.1700	5927.1	1477.11	2039.72	1.49	-557.27	181.51	0.0	0.0	0.0	11.66	197	2599
197	38.7657	112.0762	5294.9	1493.58	2071.29	1.44	-497.85	162.15	0.0	0.0	0.0	-43.45	197	5176
198	38.7762	112.0627	5281.1	1495.11	2072.21	1.44	-496.55	161.73	0.0	0.0	0.0	-43.72	198	5176
198	38.4067	113.1733	5965.9	1474.70	2039.72	1.49	-560.91	182.70	0.0	0.0	0.0	11.70	198	2599
199	38.4067	113.1800	5974.4	1473.48	2039.72	1.49	-561.71	182.96	0.0	0.0	0.0	11.02	199	2599
199	38.7823	112.0332	5248.0	1499.29	2072.75	1.44	-493.44	160.72	0.0	0.0	0.0	-42.18	199	5176
200	38.3117	112.0147	5251.0	1505.11	2075.34	1.44	-493.72	160.81	0.0	0.0	0.0	-38.76	200	5176
200	38.4067	113.1350	5958.0	1474.41	2039.72	1.49	-560.17	182.46	0.0	0.0	0.0	10.91	200	2599
201	38.1717	113.1692	5056.0	1503.93	2019.10	1.42	-475.40	154.83	0.0	0.0	0.0	3.97	201	2
202	38.1733	113.1773	5047.0	1505.52	2019.25	1.42	-474.55	154.56	0.0	0.0	0.0	4.85	202	2
202	38.4083	113.0900	5284.1	1528.90	2039.86	1.44	-496.84	161.82	0.0	0.0	0.0	22.61	202	2599
203	38.1723	113.1862	5040.0	1507.43	2019.16	1.42	-473.90	154.34	0.0	0.0	0.0	6.40	203	2
203	38.4083	113.1633	6104.0	1465.38	2039.86	1.50	-573.89	186.93	0.0	0.0	0.0	10.98	203	2599
204	38.1710	113.1947	5025.0	1508.50	2019.05	1.41	-472.49	153.89	0.0	0.0	0.0	6.64	204	2
204	38.4083	113.1650	6006.2	1472.15	2039.86	1.50	-564.70	183.93	0.0	0.0	0.0	11.56	204	2599
205	38.1640	113.1815	5082.0	1505.59	2018.43	1.42	-477.84	155.63	0.0	0.0	0.0	7.95	205	2
205	38.4108	113.0655	5198.1	1525.88	2040.03	1.43	-488.76	159.19	0.0	0.0	0.0	13.93	205	2599
206	38.1613	113.1898	5082.0	1505.33	2018.20	1.42	-477.84	155.63	0.0	0.0	0.0	7.92	206	2
207	38.1585	113.1985	5062.0	1504.80	2017.95	1.42	-475.96	155.02	0.0	0.0	0.0	6.38	207	2
207	38.4117	113.0650	5198.1	1525.97	2040.16	1.43	-488.76	159.19	0.0	0.0	0.0	13.95	207	2599
208	38.1542	113.2133	5048.0	1502.43	2017.57	1.42	-474.65	154.59	0.0	0.0	0.0	3.50	208	2
209	38.1517	113.2216	5053.0	1501.83	2017.35	1.42	-475.12	154.74	0.0	0.0	0.0	3.43	209	2
210	38.1483	113.2342	5058.0	1501.97	2017.06	1.42	-475.59	154.90	0.0	0.0	0.0	4.18	210	2
210	38.4142	113.0540	5151.9	1528.14	2040.38	1.43	-484.41	157.77	0.0	0.0	0.0	12.97	210	2599
211	38.5000	112.9917	4969.0	1531.87	2047.92	1.41	-467.22	152.17	0.0	0.0	0.0	-2.41	211	2
211	38.4150	113.1433	5751.9	1490.90	2040.45	1.48	-540.81	176.15	0.0	0.0	0.0	13.63	211	2599
212	38.4187	113.1308	5622.0	1501.42	2040.77	1.47	-528.60	172.17	0.0	0.0	0.0	15.61	212	2599
212	38.5317	112.9917	4922.0	1541.94	2050.70	1.40	-462.80	150.73	0.0	0.0	0.0	1.91	212	2
213	38.5533	112.9866	4928.0	1546.94	2052.60	1.40	-463.36	150.92	0.0	0.0	0.0	5.38	213	2
213	38.4200	113.0300	5102.0	1525.83	2040.89	1.42	-479.72	156.24	0.0	0.0	0.0	7.00	213	2599
214	38.5850	112.9866	4910.0	1553.57	2055.39	1.40	-461.67	150.36	0.0	0.0	0.0	8.09	214	2
214	38.4200	113.0983	5374.0	1524.12	2040.89	1.45	-505.29	164.57	0.0	0.0	0.0	22.49	214	2599
215	38.7183	112.9700	4843.0	1592.47	2067.12	1.39	-455.37	148.31	0.0	0.0	0.0	31.02	215	2
215	38.4200	113.1333	5070.1	1479.31	2040.89	1.49	-551.91	179.76	0.0	0.0	0.0	9.07	215	2599
216	38.6850	112.9800	4889.0	1580.75	2064.18	1.40	-459.70	149.72	0.0	0.0	0.0	25.14	216	2
217	38.6533	112.9833	4895.0	1570.42	2061.40	1.40	-460.26	149.90	0.0	0.0	0.0	17.98	217	2
217	38.4250	113.1143	5486.9	1519.99	2041.33	1.46	-515.89	168.03	0.0	0.0	0.0	25.06	217	2599
218	38.6183	112.9850	4858.0	1562.09	2058.32	1.39	-456.78	148.77	0.0	0.0	0.0	10.39	218	2
219	38.7483	112.9550	4841.0	1599.00	2069.76	1.39	-455.18	148.25	0.0	0.0	0.0	34.78	219	2
219	38.4267	113.0283	5085.9	1526.42	2041.48	1.42	-478.21	155.75	0.0	0.0	0.0	5.98	219	2599
220	38.7750	112.9317	4910.0	1596.24	2072.11	1.40	-461.67	150.36	0.0	0.0	0.0	34.04	220	2
220	38.4333	113.0100	5015.1	1524.66	2042.06	1.41	-471.55	153.58	0.0	0.0	0.0	-0.84	220	2599
221	38.8017	112.8967	4867.0	1594.35	2074.46	1.39	-457.63	149.05	0.0	0.0	0.0	27.08	221	2
222	38.8350	112.8483	4872.0	1593.07	2077.39	1.40	-458.10	149.20	0.0	0.0	0.0	23.13	222	2
222	38.4350	113.1333	5555.1	1503.44	2042.21	1.47	-522.21	172.17	0.0	0.0	0.0			

BOUGUER DENSITY = 2.40 GM/CC, TERRAIN DENSITY MULTIPLIER = 1.00, NO TERRAIN CORRECTIONS APPLIED

STA #	LAT	LONG	ELEV	OBSERVED GRAVITY	***** CORRECTIONS *****			BOUG	***** TERRAIN *****			BOUG ANOMALY + 200.0	STA #	MAP #
					*LATITUDE	CURV	FREE AIR		--- INNER	OUTER	--- TOTAL			
227	38.4383	113.1283	5447.3	1512.09	2042.50	1.46	-512.22	166.83	0.0	0.0	0.0	13.52	227	2599
227	38.6250	112.6350	5875.0	1493.64	2058.91	1.49	-552.37	179.92	0.0	0.0	0.0	5.70	227	2
228	38.6283	112.6800	5789.0	1500.85	2059.20	1.48	-544.29	177.28	0.0	0.0	0.0	7.17	228	2
228	38.4390	113.0892	5353.9	1521.96	2042.56	1.45	-503.87	164.11	0.0	0.0	0.0	17.71	228	2599
229	38.6200	112.7200	5621.0	1510.46	2058.46	1.47	-528.50	172.14	0.0	0.0	0.0	6.88	229	2
230	38.6333	112.7600	5570.0	1522.47	2059.64	1.47	-523.70	170.58	0.0	0.0	0.0	14.49	230	2
230	38.4400	113.1250	5434.0	1513.57	2042.64	1.46	-510.93	166.41	0.0	0.0	0.0	13.99	230	2599
231	38.4400	113.1533	5553.1	1503.16	2042.64	1.47	-522.12	170.06	0.0	0.0	0.0	11.11	231	2599
231	38.6450	112.7967	5429.0	1532.36	2060.67	1.46	-510.45	166.26	0.0	0.0	0.0	14.43	231	2
232	38.6817	112.8483	5190.0	1556.07	2063.89	1.43	-487.99	158.94	0.0	0.0	0.0	19.80	232	2
233	38.7017	112.8183	5273.0	1543.79	2065.65	1.44	-495.79	161.48	0.0	0.0	0.0	11.00	233	2
233	38.4417	113.0283	5069.9	1528.14	2042.79	1.42	-476.70	155.26	0.0	0.0	0.0	5.37	233	2599
234	38.7300	112.7967	5187.0	1551.36	2068.15	1.43	-487.71	158.85	0.0	0.0	0.0	10.64	234	2
234	38.4417	113.1183	5413.0	1516.07	2042.79	1.45	-508.95	165.77	0.0	0.0	0.0	15.01	234	2599
235	38.4417	113.1217	5421.9	1514.74	2042.79	1.45	-509.79	166.04	0.0	0.0	0.0	14.24	235	2599
235	38.6217	112.8733	5094.0	1550.40	2058.61	1.42	-478.97	156.00	0.0	0.0	0.0	13.33	235	2
236	38.6117	112.9000	5035.0	1548.46	2057.73	1.41	-473.42	154.19	0.0	0.0	0.0	8.54	236	2
236	38.4417	113.1677	5698.1	1493.44	2042.79	1.48	-535.75	174.50	0.0	0.0	0.0	10.42	236	2599
237	38.4425	113.2313	6139.1	1471.69	2042.87	1.50	-577.19	188.00	0.0	0.0	0.0	16.51	237	2599
237	38.5533	112.9433	5025.0	1541.02	2052.60	1.41	-472.48	153.89	0.0	0.0	0.0	5.60	237	2
237	38.6100	112.9433	4957.0	1551.41	2057.59	1.41	-466.09	151.80	0.0	0.0	0.0	6.71	237	2
238	38.5000	112.9633	5023.0	1529.00	2047.92	1.41	-472.29	153.82	0.0	0.0	0.0	-1.86	238	2
239	38.4433	113.0433	5129.9	1531.18	2042.94	1.43	-482.34	157.10	0.0	0.0	0.0	12.06	239	2599
239	38.1967	113.2717	5168.0	1493.24	2021.30	1.43	-485.93	158.26	0.0	0.0	0.0	3.18	239	2
240	38.1950	113.3033	5162.0	1493.42	2021.15	1.43	-485.36	158.08	0.0	0.0	0.0	3.12	240	2
240	38.4433	113.1133	5473.1	1514.79	2042.94	1.46	-514.60	167.61	0.0	0.0	0.0	17.38	240	2599
241	38.4433	113.1167	5474.1	1513.17	2042.94	1.46	-514.69	167.64	0.0	0.0	0.0	15.82	241	2599
241	38.1950	113.3333	5202.0	1491.48	2021.15	1.43	-489.12	159.31	0.0	0.0	0.0	-1.29	241	2
242	38.1800	113.3067	5123.0	1497.64	2019.83	1.42	-481.70	156.89	0.0	0.0	0.0	1.19	242	2
242	38.4450	113.1100	5460.6	1517.44	2043.09	1.46	-513.43	167.23	0.0	0.0	0.0	19.10	242	2599
243	38.4467	113.1033	5435.3	1520.33	2043.23	1.46	-511.05	166.45	0.0	0.0	0.0	20.74	243	2599
243	38.1800	113.2883	5094.0	1500.14	2019.83	1.42	-478.97	156.00	0.0	0.0	0.0	1.86	243	2
244	38.1800	113.2600	5072.0	1501.53	2019.83	1.42	-476.90	155.32	0.0	0.0	0.0	1.86	244	2
244	38.4467	113.1067	5447.8	1519.11	2043.23	1.46	-512.22	166.83	0.0	0.0	0.0	19.81	244	2599
245	38.1650	113.3033	5088.0	1497.15	2018.52	1.42	-478.41	155.81	0.0	0.0	0.0	-0.20	245	2
246	38.1650	113.2800	5052.0	1500.94	2018.52	1.42	-475.02	154.71	0.0	0.0	0.0	1.31	246	2
246	38.4483	113.0983	5406.5	1521.76	2043.38	1.45	-508.34	165.57	0.0	0.0	0.0	19.70	246	2599
247	38.4483	113.1008	5418.0	1521.96	2043.38	1.45	-509.42	165.92	0.0	0.0	0.0	20.63	247	2599
247	38.1650	113.2500	5043.0	1502.32	2018.52	1.42	-474.18	154.44	0.0	0.0	0.0	2.12	247	2
248	38.1650	113.3350	5104.0	1494.91	2018.52	1.42	-479.91	156.30	0.0	0.0	0.0	-1.43	248	2
248	38.4483	113.1617	5696.8	1493.89	2043.38	1.48	-535.63	174.46	0.0	0.0	0.0	10.20	248	2599
249	38.1367	113.3300	5072.0	1489.63	2016.04	1.42	-476.90	155.32	0.0	0.0	0.0	-6.25	249	2
249	38.4500	113.0967	5393.7	1522.05	2043.52	1.45	-507.14	165.18	0.0	0.0	0.0	19.03	249	2599
250	38.4517	113.0900	5368.4	1524.46	2043.67	1.45	-504.76	164.40	0.0	0.0	0.0	19.70	250	2599
250	38.1300	113.2933	5059.0	1491.17	2015.45	1.42	-475.68	154.93	0.0	0.0	0.0	-4.95	250	2
251	38.1300	113.2817	5062.0	1496.21	2015.45	1.42	-475.96	155.02	0.0	0.0	0.0	0.28	251	2
251	38.4517	113.0933	5380.9	1522.34	2043.67	1.45	-505.93	164.78	0.0	0.0	0.0	18.87	251	2599
252	38.1200	113.3466	5113.0	1486.03	2014.58	1.42	-480.76	156.58	0.0	0.0	0.0	-5.80	252	2
253	38.1167	113.3333	5355.0	1483.28	2014.29	1.45	-502.50	162.00	0.0	0.0	0.0			

#			ELEV	OBSERVED GRAVITY	*LATITUDE	CURV	FREE AIR	BOUG	*****CORRECTIONS*****			BOUG ANOMALY + 200.0	STA #	MAP #
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									INNER	OUTER	TOTAL			
256	38.4550	113.0853	5377.9	1526.23	2043.96	1.45	-505.55	164.69	0.0	0.0	0.0	21.78	256	2599
257	38.0700	113.4467	5268.0	1487.23	2010.20	1.44	-495.33	161.33	0.0	0.0	0.0	9.59	257	2
258	38.0433	113.4450	5114.0	1490.29	2007.87	1.42	-480.85	156.61	0.0	0.0	0.0	5.24	258	2
258	38.4567	113.0083	4957.0	1530.05	2044.11	1.41	-466.09	151.80	0.0	0.0	0.0	-1.18	258	2599
259	38.4567	113.0783	5440.3	1522.10	2044.11	1.46	-511.51	166.60	0.0	0.0	0.0	21.44	259	2599
259	38.0050	113.4333	5081.0	1473.81	2004.51	1.42	-477.75	155.60	0.0	0.0	0.0	-9.97	259	2
260	38.4567	113.0300	5426.5	1523.53	2044.11	1.46	-510.22	166.18	0.0	0.0	0.0	22.00	260	2599
260	38.0050	113.4583	5086.0	1481.28	2004.51	1.42	-478.22	155.75	0.0	0.0	0.0	-2.18	260	2
261	38.0000	113.4933	5305.0	1480.49	2004.07	1.44	-498.81	162.46	0.0	0.0	0.0	11.32	261	2
261	38.4567	113.1600	5721.1	1494.82	2044.11	1.48	-537.91	175.20	0.0	0.0	0.0	11.94	261	2599
262	38.0283	113.4050	5083.0	1473.11	2006.55	1.42	-477.94	155.66	0.0	0.0	0.0	-12.58	262	2
263	38.0267	113.3650	5096.0	1474.30	2006.41	1.42	-479.16	156.06	0.0	0.0	0.0	-10.43	263	2
263	38.4577	113.2325	6287.1	1467.81	2044.20	1.51	-591.09	192.53	0.0	0.0	0.0	20.66	263	2599
264	38.0267	113.3300	5116.0	1477.18	2006.41	1.42	-481.04	156.67	0.0	0.0	0.0	-6.28	264	2
264	38.4597	113.1232	5556.1	1514.64	2044.37	1.47	-522.40	170.15	0.0	0.0	0.0	21.05	264	2599
265	38.0567	113.3300	5095.0	1480.85	2009.03	1.42	-479.07	156.03	0.0	0.0	0.0	-6.57	265	2
265	38.4600	113.0283	5018.0	1533.44	2044.40	1.41	-471.83	153.67	0.0	0.0	0.0	5.78	265	2599
266	38.4600	113.1017	5437.0	1520.78	2044.40	1.46	-511.21	166.50	0.0	0.0	0.0	19.62	266	2599
266	38.3098	112.8802	7430.0	1373.56	2031.22	1.50	-698.50	227.54	0.0	0.0	0.0	11.80	266	2
267	38.1150	113.2933	5063.0	1492.69	2014.14	1.42	-476.06	155.05	0.0	0.0	0.0	-1.86	267	2
268	38.1000	113.3133	5074.0	1489.13	2012.33	1.42	-477.09	155.39	0.0	0.0	0.0	-3.41	268	2
268	38.4633	113.1583	5717.8	1496.34	2044.70	1.48	-537.60	175.10	0.0	0.0	0.0	12.66	268	2599
269	38.1000	113.2717	5081.0	1493.97	2012.83	1.42	-477.75	155.60	0.0	0.0	0.0	1.87	269	2
270	38.0783	113.3417	5107.0	1482.09	2010.93	1.42	-480.19	156.40	0.0	0.0	0.0	-6.46	270	2
270	38.4687	113.1908	5993.1	1477.78	2045.16	1.50	-563.47	183.53	0.0	0.0	0.0	11.06	270	2599
271	38.0567	113.3667	5036.0	1476.78	2009.03	1.42	-478.22	155.75	0.0	0.0	0.0	-11.21	271	2
271	38.4700	113.0600	5179.1	1536.73	2045.28	1.43	-486.97	158.61	0.0	0.0	0.0	18.38	271	2599
272	38.0550	113.2983	5100.0	1483.44	2008.89	1.42	-479.54	156.18	0.0	0.0	0.0	-3.52	272	2
272	38.4700	113.2183	6303.1	1462.63	2045.28	1.51	-592.61	193.03	0.0	0.0	0.0	15.42	272	2599
273	38.0550	113.2533	5113.0	1489.31	2008.89	1.42	-480.76	156.58	0.0	0.0	0.0	3.18	273	2
273	38.4703	113.1525	5728.0	1499.08	2045.31	1.48	-538.56	175.41	0.0	0.0	0.0	15.43	273	2599
274	38.4733	113.1367	5724.1	1502.57	2045.57	1.48	-538.19	175.29	0.0	0.0	0.0	18.41	274	2599
274	38.0563	113.2330	5212.0	1488.09	2009.00	1.43	-490.06	159.61	0.0	0.0	0.0	8.10	274	2
275	38.4767	113.1200	5668.0	1510.03	2045.87	1.47	-532.91	173.58	0.0	0.0	0.0	22.03	275	2599
275	38.0563	113.2143	5369.0	1478.98	2009.00	1.45	-504.82	164.42	0.0	0.0	0.0	8.93	275	2
276	38.0267	113.2983	5123.0	1479.80	2006.41	1.42	-481.70	156.89	0.0	0.0	0.0	-3.22	276	2
277	38.0267	113.2683	5137.0	1484.60	2006.41	1.43	-483.01	157.32	0.0	0.0	0.0	2.47	277	2
277	38.4783	113.1012	5430.1	1523.87	2046.01	1.46	-510.56	166.29	0.0	0.0	0.0	20.67	277	2599
278	38.0280	113.2330	5157.0	1486.91	2006.52	1.43	-484.89	157.93	0.0	0.0	0.0	5.92	278	2
279	38.0280	113.2102	5302.0	1478.81	2006.52	1.44	-498.52	162.37	0.0	0.0	0.0	7.00	279	2
280	38.0133	113.1778	5367.0	1465.26	2005.24	1.45	-504.63	164.36	0.0	0.0	0.0	-1.16	280	2
280	38.4833	113.0733	5193.9	1536.43	2046.45	1.43	-488.35	159.06	0.0	0.0	0.0	17.84	280	2599
281	38.4833	113.1333	5886.1	1497.27	2046.45	1.49	-553.42	180.26	0.0	0.0	0.0	22.49	281	2599
281	38.0350	113.1400	5557.0	1460.19	2007.14	1.47	-522.49	170.18	0.0	0.0	0.0	3.90	281	2
282	38.0658	113.1095	5996.0	1438.43	2009.84	1.50	-563.75	183.62	0.0	0.0	0.0	7.22	282	2
284	38.4867	113.2117	6253.9	1467.24	2046.75	1.51	-587.98	191.52	0.0	0.0	0.0	15.45	284	2599
285	38.4867	113.2450	6868.1	1437.46	2046.75	1.52	-645.69	210.33	0.0	0.0	0.0	24.56	285	2599
288	38.4975	113.1967	6150.9	1473.80	2047.70	1.50	-578.30	188.37	0.0	0.0	0.0	14.53	288	2599
290	38.4995	113.0940	5376.0	1530.54	2047.87	1.45	-505.47	164.63	0.0	0.0	0.0	22.05	290	2599
292	38.5033	113.0183	4966.8	1539.38	2048.21	1.41	-467.02	152.10	0.0	0.0	0.0	4.68	292	2599
293	38.5033	113.2383	6688.0	1448.83	2048.21	1.52	-628.77	204.81	0.0	0.0	0.0		293	2599
294	38.5033	113.2383	6688.0	1449.08	2048.21	1.52	-628.77							

STA #	LAT	LONG	ELEV	OBSERVED GRAVITY	***** CORRECTIONS *****				***** TERRAIN *****			BOUG ANOMALY + 200.0	STA #	MAP #
					*LATITUDE	CURV	FREE AIR	BOUG	INNER	OUTER	TOTAL			
301	38.3410	112.9170	5857.0	1478.19	2033.95	1.49	-550.68	179.36	0.0	0.0	0.0	14.06	301	2
302	38.5217	113.0983	5639.1	1519.85	2049.82	1.47	-530.20	172.69	0.0	0.0	0.0	26.06	302	2599
302	38.3387	112.8970	6436.0	1442.03	2033.75	1.51	-605.09	197.10	0.0	0.0	0.0	14.77	302	2
303	38.3297	112.8760	7300.0	1490.71	2032.96	1.51	-686.28	223.56	0.0	0.0	0.0	118.97	303	2
304	38.3500	112.9273	5588.0	1492.53	2034.74	1.47	-525.40	171.13	0.0	0.0	0.0	10.59	304	2
304	38.5250	113.1183	6295.9	1482.21	2050.11	1.51	-591.93	192.81	0.0	0.0	0.0	29.71	304	2599
305	38.5267	113.1567	6016.1	1495.79	2050.26	1.50	-565.63	184.24	0.0	0.0	0.0	25.42	305	2599
305	38.2795	112.9617	5220.0	1510.36	2028.56	1.44	-490.81	159.85	0.0	0.0	0.0	11.32	305	2
306	38.2800	112.9532	5309.0	1507.72	2028.60	1.44	-499.18	162.58	0.0	0.0	0.0	14.27	306	2
306	38.5267	113.1950	6118.1	1482.90	2050.26	1.50	-575.22	187.36	0.0	0.0	0.0	18.99	306	2599
307	38.2680	112.9180	5846.0	1476.47	2027.55	1.49	-549.65	179.03	0.0	0.0	0.0	18.05	307	2
308	38.2773	112.9148	6108.0	1460.14	2028.37	1.50	-574.27	187.05	0.0	0.0	0.0	17.49	308	2
309	38.2780	112.9048	6328.0	1447.71	2028.43	1.51	-594.95	193.79	0.0	0.0	0.0	18.93	309	2
310	38.5317	113.1817	5972.1	1495.12	2050.70	1.49	-581.49	182.89	0.0	0.0	0.0	21.53	310	2599
310	38.2905	112.8983	6667.0	1427.04	2029.52	1.52	-626.80	204.17	0.0	0.0	0.0	18.63	310	2
311	38.5378	113.1688	5832.0	1507.62	2051.24	1.49	-548.33	178.60	0.0	0.0	0.0	24.62	311	2599
311	38.2202	112.9232	5278.0	1502.02	2023.35	1.44	-496.27	161.63	0.0	0.0	0.0	11.86	311	2
312	38.2370	112.9103	5566.0	1487.27	2024.83	1.47	-523.33	170.45	0.0	0.0	0.0	13.85	312	2
313	38.2483	112.9032	5762.0	1479.19	2025.83	1.48	-541.75	176.46	0.0	0.0	0.0	17.18	313	2
314	38.2633	112.8952	6074.0	1461.53	2027.14	1.50	-571.08	186.01	0.0	0.0	0.0	17.95	314	2
315	38.2708	112.8865	6310.0	1446.33	2027.80	1.51	-593.25	193.24	0.0	0.0	0.0	17.04	315	2
316	38.2942	112.8515	7533.0	1366.18	2029.85	1.50	-708.18	230.69	0.0	0.0	0.0	12.32	316	2
317	38.2860	112.8667	6832.0	1412.38	2029.13	1.52	-642.31	209.22	0.0	0.0	0.0	14.82	317	2
317	38.5433	113.0133	4905.8	1548.55	2051.73	1.40	-461.28	150.24	0.0	0.0	0.0	6.47	317	2599
318	38.5433	113.0467	4924.9	1554.69	2051.73	1.40	-463.07	150.82	0.0	0.0	0.0	13.81	318	2599
318	38.2585	112.7392	5521.0	1468.76	2026.72	1.46	-519.10	169.08	0.0	0.0	0.0	-9.39	318	2
319	38.3013	112.7967	5891.0	1458.47	2030.47	1.49	-553.88	180.41	0.0	0.0	0.0	-0.02	319	2
319	38.5433	113.0650	5014.1	1555.77	2051.73	1.41	-471.46	153.55	0.0	0.0	0.0	20.54	319	2599
320	38.5433	113.0817	5214.9	1549.93	2051.73	1.43	-490.33	159.70	0.0	0.0	0.0	27.40	320	2599
320	38.3020	112.8315	6472.0	1433.83	2030.53	1.51	-608.48	198.20	0.0	0.0	0.0	12.06	320	2
321	38.3258	112.7853	6036.0	1455.19	2032.62	1.50	-567.50	184.85	0.0	0.0	0.0	3.73	321	2
322	38.2882	112.7750	5599.0	1465.11	2029.32	1.47	-526.43	171.45	0.0	0.0	0.0	-10.71	322	2
322	38.5500	113.1858	5961.9	1502.30	2052.31	1.49	-560.54	182.58	0.0	0.0	0.0	26.46	322	2599
323	38.3058	112.9215	6196.0	1456.83	2030.87	1.50	-532.54	189.75	0.0	0.0	0.0	17.25	323	2
324	38.3053	112.9040	6687.0	1423.80	2030.83	1.52	-628.63	204.78	0.0	0.0	0.0	15.36	324	2
324	38.5583	113.0233	4898.9	1551.89	2053.04	1.40	-460.63	150.02	0.0	0.0	0.0	8.06	324	2599
325	38.5583	113.1017	5274.9	1549.04	2053.04	1.44	-495.97	161.54	0.0	0.0	0.0	28.99	325	2599
325	38.3068	112.8380	7153.0	1396.33	2030.96	1.51	-672.94	219.21	0.0	0.0	0.0	17.59	325	2
326	38.2853	112.9368	5616.0	1493.18	2029.07	1.47	-528.03	171.98	0.0	0.0	0.0	18.68	326	2
327	38.3207	112.9365	5753.0	1484.91	2032.17	1.48	-540.91	176.18	0.0	0.0	0.0	15.99	327	2
327	38.5622	113.1537	5607.9	1531.87	2053.38	1.47	-527.27	171.74	0.0	0.0	0.0	32.55	327	2599
328	38.5633	113.0467	4919.9	1552.97	2053.48	1.40	-462.61	150.67	0.0	0.0	0.0	10.02	328	2599
328	38.6967	112.8983	5052.0	1576.17	2065.21	1.42	-475.02	154.71	0.0	0.0	0.0	29.85	328	2
329	38.7250	112.8983	5072.0	1581.00	2067.71	1.42	-476.90	155.32	0.0	0.0	0.0	33.45	329	2
329	38.5633	113.1233	5444.9	1539.80	2053.48	1.46	-511.94	166.74	0.0	0.0	0.0	30.06	329	2599
330	38.7617	112.8783	5072.0	1576.43	2070.93	1.42	-476.90	155.32	0.0	0.0	0.0	25.70	330	2
331	38.5643	113.1838	5887.1	1511.11	2053.57	1.49	-553.51	180.29	0.0	0.0	0.0	29.27	331	2599
337	38.5733	113.0833	5109.9	1549.18	2054.36	1.42	-480.46	156.49	0.0	0.0	0.0	17.37	337	2599
338	38.5735	113.2038	6230.0	1492.89	2054.38	1.51	-585.73	190.79	0.0	0.0	0.0	31.95	338	2599
339	38.5750	113.2257	6748.0	1463.33	2054.51	1.52	-634.41	206.65	0.0	0.0	0.0	35.06	339	2599
340	38.5757	113.1775	5841.8	1516.61	2054.57	1.49	-549.25	178.90	0.0	0.0	0.0		340	2599

STA #	LAT	LONG	ELEV	OBSERVED GRAVITY	***** CORRECTIONS *****							BOUG ANOMALY + 200.0	STA #	MAP #
					*LATITUDE	CURV	FREE AIR	BOUG	--- INNER ---	TERRAIN OUTER	--- TOTAL ---			
349	38.5883	113.0650	5025.9	1552.31	2055.68	1.41	-472.57	153.91	0.0	0.0	0.0	13.87	349	2599
352	38.5900	113.1022	5195.8	1549.95	2055.83	1.43	-438.54	159.12	0.0	0.0	0.0	22.11	352	2599
353	38.5933	113.1483	5448.1	1543.10	2056.12	1.46	-512.25	166.84	0.0	0.0	0.0	30.93	353	2599
354	38.5967	113.1633	5580.0	1538.17	2056.42	1.47	-524.65	170.88	0.0	0.0	0.0	34.05	354	2599
355	38.5967	113.1650	5582.0	1537.98	2056.42	1.47	-524.83	170.94	0.0	0.0	0.0	33.99	355	2599
358	38.6017	113.1950	5971.1	1514.97	2056.85	1.49	-561.40	182.86	0.0	0.0	0.0	35.16	358	2599
361	38.6067	113.1800	5756.9	1529.14	2057.29	1.48	-541.27	176.30	0.0	0.0	0.0	35.33	361	2599
363	38.6107	113.0870	5054.1	1559.11	2057.65	1.42	-475.22	154.78	0.0	0.0	0.0	20.49	363	2599
364	38.6117	113.1567	5513.1	1544.45	2057.73	1.46	-518.36	168.83	0.0	0.0	0.0	34.78	364	2599
365	38.6137	113.2025	6044.9	1511.27	2057.91	1.50	-563.34	185.12	0.0	0.0	0.0	35.08	365	2599
366	38.6167	113.1400	5341.8	1554.24	2058.17	1.45	-502.26	163.59	0.0	0.0	0.0	33.29	366	2599
368	38.6183	113.1450	5384.8	1552.83	2058.32	1.45	-506.30	164.90	0.0	0.0	0.0	34.45	368	2599
372	38.6317	113.0183	4860.9	1575.16	2059.49	1.39	-457.05	148.86	0.0	0.0	0.0	20.47	372	2599
373	38.6317	113.0467	4880.9	1576.31	2059.49	1.40	-458.94	149.47	0.0	0.0	0.0	25.38	373	2599
374	38.6317	113.0750	4955.0	1570.98	2059.49	1.41	-466.00	151.77	0.0	0.0	0.0	24.31	374	2599
375	38.6317	113.1617	6012.1	1515.87	2059.49	1.50	-565.26	184.12	0.0	0.0	0.0	36.02	375	2599
377	38.6360	113.2047	5622.0	1535.10	2059.87	1.47	-528.59	172.17	0.0	0.0	0.0	30.18	377	2599
384	38.6457	113.0653	4893.0	1580.23	2060.72	1.40	-460.08	149.84	0.0	0.0	0.0	28.34	384	2599
385	38.6467	113.1017	5042.0	1576.08	2060.81	1.42	-474.08	154.41	0.0	0.0	0.0	33.52	385	2599
386	38.6483	113.1767	5431.1	1553.26	2060.96	1.46	-510.65	166.32	0.0	0.0	0.0	35.17	386	2599
387	38.6490	113.2220	5361.9	1550.54	2061.02	1.45	-504.14	164.20	0.0	0.0	0.0	28.01	387	2599
390	38.6633	113.2250	5140.1	1565.91	2062.23	1.43	-433.30	157.41	0.0	0.0	0.0	28.09	390	2599
391	38.6650	113.1717	5116.1	1569.51	2062.43	1.42	-481.04	156.68	0.0	0.0	0.0	30.03	391	2599
392	38.6650	113.1867	5099.1	1564.49	2062.43	1.42	-479.44	156.15	0.0	0.0	0.0	23.93	392	2599
393	38.6650	113.2067	5118.1	1564.94	2062.43	1.42	-481.23	156.74	0.0	0.0	0.0	25.58	393	2599
396	38.6682	113.0527	4863.8	1590.88	2062.70	1.39	-457.33	143.95	0.0	0.0	0.0	35.16	396	2599
397	38.6683	113.2200	5078.1	1569.46	2062.72	1.42	-477.47	155.51	0.0	0.0	0.0	27.28	397	2599
400	38.6750	113.0833	5020.0	1582.36	2063.30	1.41	-472.01	153.73	0.0	0.0	0.0	35.92	400	2599
405	38.6827	113.0413	4883.8	1591.27	2063.98	1.40	-459.21	149.56	0.0	0.0	0.0	35.54	405	2599
408	38.6947	113.2310	4730.0	1593.73	2065.04	1.38	-444.75	144.85	0.0	0.0	0.0	27.22	408	2599
409	38.6950	113.2317	4730.0	1593.91	2065.06	1.38	-444.75	144.85	0.0	0.0	0.0	27.37	409	2599
410	38.6957	113.1667	4734.9	1590.73	2065.12	1.38	-445.21	145.00	0.0	0.0	0.0	24.44	410	2599
411	38.6963	113.2048	4751.9	1591.71	2065.18	1.38	-446.81	145.52	0.0	0.0	0.0	26.44	411	2599
412	38.6967	113.2050	4752.9	1591.78	2065.21	1.38	-446.91	145.55	0.0	0.0	0.0	26.54	412	2599
413	38.6968	113.1533	4759.0	1592.74	2065.23	1.38	-446.63	145.46	0.0	0.0	0.0	27.30	413	2599
414	38.6970	113.1158	5069.9	1582.48	2065.24	1.42	-476.70	155.26	0.0	0.0	0.0	37.26	414	2599
415	38.6977	113.1342	4827.1	1592.94	2065.30	1.39	-453.88	147.82	0.0	0.0	0.0	32.30	415	2599
418	38.6988	113.0888	5212.9	1573.35	2065.40	1.43	-490.14	159.64	0.0	0.0	0.0	37.02	418	2599
421	38.7020	113.0627	5070.8	1582.34	2065.68	1.42	-476.79	155.29	0.0	0.0	0.0	36.74	421	2599
423	38.7060	113.0428	4987.3	1587.88	2066.03	1.41	-468.99	152.75	0.0	0.0	0.0	36.68	423	2599
424	38.7067	113.1167	4896.0	1594.14	2066.09	1.40	-460.35	149.93	0.0	0.0	0.0	37.07	424	2599
425	38.7080	113.2117	4661.1	1598.97	2066.21	1.37	-438.27	142.74	0.0	0.0	0.0	26.93	425	2599
426	38.7117	113.0283	4921.9	1591.49	2066.53	1.40	-462.79	150.73	0.0	0.0	0.0	35.62	426	2599
427	38.7117	113.2433	4596.1	1598.98	2066.53	1.36	-432.17	140.75	0.0	0.0	0.0	22.50	427	2599
429	38.7150	113.0117	4855.0	1595.12	2066.83	1.39	-456.59	148.71	0.0	0.0	0.0	34.78	429	2599
434	38.7233	113.1333	4642.0	1600.57	2067.56	1.36	-436.48	142.16	0.0	0.0	0.0	25.97	434	2599
435	38.7250	113.1017	4976.0	1591.69	2067.71	1.41	-467.88	152.39	0.0	0.0	0.0	38.07	435	2599
436	38.7250	113.2135	4528.9	1605.93	2067.71	1.35	-425.84	138.69	0.0	0.0	0.0	24.03	436	2599
438	38.7325	113.1952	4523.9	1605.73	2068.37	1.35	-425.38	138.54	0.0	0.0	0.0	22.86	438	2599
439	38.7325	113.2138	4523.9	1604.80	2068.37	1.35	-425.38	138.54	0.0	0.0	0.0	22.86	438	2599

STA #	LAT	LONG	ELEV	OBSERVED GRAVITY	***** CORRECTIONS *****				*****			BOUG ANOMALY + 200.0	STA #	MAP #
					LATITUDE	CURV	FREE AIR	BOUG	--- TERRAIN ---	BOUG	TOTAL			
1003	38.3233	112.9533	5304.0	1510.47	2032.41	1.44	-498.71	162.43	0.0	0.0	0.0	12.90	1003	2
1004	38.3383	112.9350	5531.0	1496.49	2033.72	1.46	-520.04	169.38	0.0	0.0	0.0	11.97	1004	2
1005	38.3383	112.9533	5233.0	1511.88	2033.72	1.44	-492.03	160.26	0.0	0.0	0.0	8.50	1005	2
1006	38.3533	112.9533	5244.0	1509.26	2035.04	1.44	-493.07	160.59	0.0	0.0	0.0	5.26	1006	2
1007	38.3683	112.9716	5074.0	1516.47	2036.35	1.42	-477.09	155.39	0.0	0.0	0.0	0.40	1007	2
1008	38.3967	112.9900	4955.0	1522.56	2038.84	1.41	-465.90	151.74	0.0	0.0	0.0	-3.52	1008	2
1009	38.4117	112.9533	5119.0	1510.63	2040.16	1.42	-481.32	156.76	0.0	0.0	0.0	-6.40	1009	2
1010	38.3967	112.9533	5131.0	1511.11	2038.84	1.43	-482.45	157.13	0.0	0.0	0.0	-3.84	1010	2
1011	38.3817	112.9533	5164.0	1510.74	2037.52	1.43	-485.55	158.14	0.0	0.0	0.0	-0.81	1011	2
1012	38.3817	112.9400	5278.0	1504.34	2037.52	1.44	-496.26	161.63	0.0	0.0	0.0	0.00	1012	2
1013	38.4142	112.9242	5364.0	1499.77	2040.38	1.45	-504.35	164.27	0.0	0.0	0.0	-1.98	1013	2
1014	38.4333	112.9000	5604.0	1488.42	2042.06	1.47	-526.90	171.62	0.0	0.0	0.0	0.18	1014	2
1015	38.4333	112.8833	5775.0	1480.07	2042.06	1.48	-542.97	176.85	0.0	0.0	0.0	2.65	1015	2
1016	38.4158	112.8325	6511.0	1432.34	2040.52	1.51	-612.14	199.39	0.0	0.0	0.0	3.05	1016	2
1017	38.3883	112.8375	6334.0	1447.05	2038.11	1.51	-595.51	193.97	0.0	0.0	0.0	8.97	1017	2
1018	38.4325	112.9175	5450.0	1495.66	2041.99	1.46	-512.43	166.90	0.0	0.0	0.0	-2.26	1018	2
1019	38.4308	112.9308	5316.0	1501.68	2041.84	1.44	-499.83	162.80	0.0	0.0	0.0	-4.57	1019	2
1020	38.4417	112.9533	5104.0	1510.91	2042.79	1.42	-479.91	156.30	0.0	0.0	0.0	-9.70	1020	2
1021	38.4550	112.9733	5033.0	1518.11	2043.96	1.41	-473.23	154.13	0.0	0.0	0.0	-8.16	1021	2
1022	38.4417	112.9716	5004.0	1519.23	2042.79	1.41	-470.51	153.24	0.0	0.0	0.0	-7.71	1022	2
1023	38.4300	112.9883	4957.0	1523.98	2041.77	1.41	-466.09	151.80	0.0	0.0	0.0	-4.90	1023	2
1024	38.4275	112.9716	5039.0	1515.99	2041.55	1.42	-473.80	154.31	0.0	0.0	0.0	-7.49	1024	2
1025	38.5000	112.9350	5076.0	1523.60	2047.92	1.42	-477.28	155.45	0.0	0.0	0.0	-3.91	1025	2
1026	38.5183	112.9267	5130.0	1524.13	2049.53	1.43	-482.35	157.10	0.0	0.0	0.0	-1.57	1026	2
1027	38.5433	112.9000	5187.0	1530.69	2051.73	1.43	-487.71	158.85	0.0	0.0	0.0	6.39	1027	2
1028	38.5533	112.8792	5339.0	1530.25	2052.60	1.45	-501.99	163.50	0.0	0.0	0.0	14.69	1028	2
1029	38.5533	112.8500	5764.0	1516.61	2052.60	1.48	-541.94	176.52	0.0	0.0	0.0	27.94	1029	2
1030	38.5542	112.8250	6379.0	1475.93	2052.68	1.51	-599.73	195.35	0.0	0.0	0.0	26.12	1030	2
1031	38.3392	112.9908	5005.0	1522.71	2033.79	1.41	-470.60	153.27	0.0	0.0	0.0	4.84	1031	2
1032	38.3453	112.9808	5030.0	1520.99	2034.38	1.41	-472.95	154.04	0.0	0.0	0.0	4.11	1032	2
1033	38.3625	112.9908	4992.0	1521.63	2035.84	1.41	-469.38	152.87	0.0	0.0	0.0	0.89	1033	2
1034	38.3100	112.9908	5043.0	1520.60	2031.23	1.42	-474.18	154.44	0.0	0.0	0.0	7.69	1034	2
1035	38.2875	112.9908	5078.0	1516.51	2029.26	1.42	-477.47	155.51	0.0	0.0	0.0	7.79	1035	2
1036	38.2800	112.9725	5143.0	1513.28	2028.60	1.43	-483.58	157.50	0.0	0.0	0.0	9.33	1036	2
1037	38.2975	112.9675	5198.0	1513.92	2030.14	1.43	-488.75	159.18	0.0	0.0	0.0	11.91	1037	2
1038	38.2650	112.9350	5526.0	1495.30	2027.29	1.46	-519.57	169.23	0.0	0.0	0.0	16.90	1038	2
1039	38.3017	112.9417	5738.0	1486.41	2030.50	1.48	-539.50	175.72	0.0	0.0	0.0	18.20	1039	2
1040	38.3058	112.9117	6481.0	1442.77	2030.87	1.51	-609.32	198.47	0.0	0.0	0.0	21.24	1040	2
1041	38.2658	112.9583	5298.0	1504.52	2027.36	1.44	-498.14	162.25	0.0	0.0	0.0	11.62	1041	2
1042	38.2625	112.9767	5123.0	1511.52	2027.07	1.42	-481.70	156.89	0.0	0.0	0.0	7.84	1042	2
1043	38.2367	113.0650	5059.0	1513.39	2024.80	1.42	-474.83	154.65	0.0	0.0	0.0	7.35	1043	2
1044	38.2216	113.0833	5042.0	1512.95	2023.49	1.42	-474.08	154.41	0.0	0.0	0.0	7.73	1044	2
1045	38.2225	113.0650	5059.0	1514.57	2023.56	1.42	-475.68	154.93	0.0	0.0	0.0	10.35	1045	2
1046	38.2250	113.0458	5082.0	1515.96	2023.78	1.42	-477.84	155.63	0.0	0.0	0.0	12.97	1046	2
1047	38.2250	113.0283	5105.0	1511.98	2023.78	1.42	-480.00	156.34	0.0	0.0	0.0	10.45	1047	2
1048	38.2225	113.0092	5128.0	1508.05	2023.56	1.43	-482.17	157.04	0.0	0.0	0.0	8.19	1048	2
1049	38.2216	112.9592	5208.0	1500.30	2023.49	1.43	-489.69	159.49	0.0	0.0	0.0	5.58	1049	2
1050	38.2142	112.8783	5343.0	1501.90	2022.83	1.45	-502.37	163.62	0.0	0.0	0.0	16.37	1050	2
1051	38.2017	112.8450	5397.0	1487.03	2021.73	1.45	-507.45	165.28	0.0	0.0	0.0	6.02	1051	2
1052	38.2216	112.9142	5308.0	1501.82	2023.49	1.46	-499.02	162.55	0.0	0.0	0.0	12.52	1052	2

STA #	LAT	LONG	ELEV	OBSERVED GRAVITY	***** CORRECTIONS *****							BOUG ANOMALY + 200.0	STA #	MAP #
					LATITUDE	CURV	FREE AIR	BOUG	--- INNER	TERRAIN OUTER	--- TOTAL			
1058	38.1833	112.9425	5470.0	1482.69	2020.13	1.46	-514.31	167.51	0.0	0.0	0.0	7.90	1058	2
1059	38.1675	112.9233	5820.0	1464.23	2018.74	1.49	-547.21	173.23	0.0	0.0	0.0	12.98	1059	2
1060	38.1592	112.9067	6043.0	1452.38	2018.01	1.50	-568.63	185.21	0.0	0.0	0.0	16.29	1060	2
1061	38.1625	112.9550	5527.0	1478.82	2018.30	1.46	-519.67	169.26	0.0	0.0	0.0	9.26	1061	2
1062	38.1483	112.9592	5577.0	1472.17	2017.06	1.47	-524.37	170.79	0.0	0.0	0.0	7.22	1062	2
1063	38.1308	112.9758	5803.0	1460.02	2015.53	1.48	-545.61	177.71	0.0	0.0	0.0	10.91	1063	2
1064	38.1317	112.9942	5888.0	1456.33	2015.60	1.49	-553.60	180.31	0.0	0.0	0.0	12.57	1064	2
1065	38.1783	112.9733	5320.0	1490.45	2019.69	1.45	-500.21	162.92	0.0	0.0	0.0	6.61	1065	2
1066	38.1550	113.0350	5399.0	1488.81	2017.65	1.45	-507.64	165.34	0.0	0.0	0.0	12.01	1066	2
1067	38.1292	113.1417	5459.0	1483.02	2015.38	1.46	-513.28	167.13	0.0	0.0	0.0	12.28	1067	2
1068	38.1925	113.1533	5028.0	1509.99	2020.93	1.41	-472.77	153.98	0.0	0.0	0.0	6.44	1068	2
1069	38.2066	113.1592	5021.0	1513.17	2022.17	1.41	-472.11	153.76	0.0	0.0	0.0	7.93	1069	2
1070	38.2066	113.1400	5022.0	1513.87	2022.17	1.41	-472.20	153.79	0.0	0.0	0.0	8.69	1070	2
1071	38.2066	113.1017	5041.0	1513.18	2022.17	1.42	-473.99	154.38	0.0	0.0	0.0	9.21	1071	2
1072	38.1925	113.1025	5045.0	1513.34	2020.93	1.42	-474.37	154.50	0.0	0.0	0.0	10.86	1072	2
1073	38.1783	113.1025	5064.0	1509.46	2019.69	1.42	-476.15	155.08	0.0	0.0	0.0	9.43	1073	2
1074	38.2066	113.0467	5084.0	1515.25	2022.17	1.42	-478.03	155.69	0.0	0.0	0.0	14.00	1074	2
1075	38.1925	113.0467	5093.0	1513.69	2020.93	1.42	-478.88	155.97	0.0	0.0	0.0	14.25	1075	2
1076	38.2066	113.1208	5032.0	1515.67	2022.17	1.41	-473.14	154.10	0.0	0.0	0.0	11.13	1076	2
1077	38.2216	113.1208	5022.0	1516.20	2023.49	1.41	-472.20	153.79	0.0	0.0	0.0	9.71	1077	2
1078	38.2258	113.1583	5047.0	1513.83	2023.85	1.42	-474.55	154.56	0.0	0.0	0.0	8.55	1078	2
1079	38.1925	113.1950	5038.0	1508.33	2020.93	1.42	-473.71	154.28	0.0	0.0	0.0	5.41	1079	2
1080	38.2208	113.1000	5047.0	1514.45	2023.42	1.42	-474.55	154.56	0.0	0.0	0.0	9.61	1080	2
1081	38.2367	113.1575	5095.0	1512.03	2024.80	1.42	-479.06	156.03	0.0	0.0	0.0	8.84	1081	2
1082	38.2517	113.1575	5151.0	1512.79	2026.12	1.43	-484.33	157.74	0.0	0.0	0.0	11.83	1082	2
1083	38.2066	113.1950	5046.0	1507.48	2022.17	1.42	-474.46	154.53	0.0	0.0	0.0	3.82	1083	2
1084	38.2066	113.2450	5198.0	1499.96	2022.17	1.43	-488.75	159.18	0.0	0.0	0.0	5.92	1084	2
1085	38.2133	113.2708	5268.0	1493.83	2022.76	1.44	-495.33	161.33	0.0	0.0	0.0	3.63	1085	2
1086	38.2250	113.3033	5320.0	1492.70	2023.78	1.45	-500.21	162.92	0.0	0.0	0.0	4.77	1086	2
1087	38.2375	113.3367	5426.0	1489.21	2024.88	1.46	-510.18	166.17	0.0	0.0	0.0	6.89	1087	2
1088	38.2333	113.3633	5514.0	1474.79	2024.51	1.46	-518.45	168.86	0.0	0.0	0.0	-1.60	1088	2
1089	38.2267	113.3983	5722.0	1468.77	2023.93	1.48	-537.99	175.23	0.0	0.0	0.0	6.13	1089	2
1090	38.1967	113.4300	6204.0	1438.37	2021.30	1.51	-583.29	189.99	0.0	0.0	0.0	8.87	1090	2
1091	38.2133	113.2250	5102.0	1501.17	2022.75	1.42	-479.72	156.24	0.0	0.0	0.0	0.47	1091	2
1092	38.1925	113.2500	5139.0	1501.19	2020.93	1.43	-483.20	157.38	0.0	0.0	0.0	4.66	1092	2
1093	38.1783	113.2500	5077.0	1502.00	2019.69	1.42	-477.37	155.48	0.0	0.0	0.0	2.79	1093	2
1095	38.1292	113.2142	5082.0	1497.97	2015.38	1.42	-477.84	155.63	0.0	0.0	0.0	3.38	1095	2
1096	38.1133	113.2133	5107.0	1493.73	2014.43	1.42	-480.19	156.40	0.0	0.0	0.0	1.67	1096	2
1097	38.0858	113.2300	5172.0	1491.91	2011.59	1.43	-486.30	158.39	0.0	0.0	0.0	6.81	1097	2
1098	38.1150	113.2417	5076.0	1497.08	2014.14	1.42	-477.23	155.45	0.0	0.0	0.0	3.35	1098	2
1099	38.1333	113.2417	5065.0	1497.52	2015.75	1.42	-476.25	155.11	0.0	0.0	0.0	1.49	1099	2
1100	38.1408	113.2483	5063.0	1499.03	2016.40	1.42	-476.06	155.05	0.0	0.0	0.0	2.22	1100	2
1101	38.2508	113.1017	5025.0	1518.31	2026.04	1.41	-472.48	153.89	0.0	0.0	0.0	9.45	1101	2
1102	38.2508	113.0833	5030.0	1514.98	2026.04	1.41	-472.96	154.04	0.0	0.0	0.0	6.44	1102	2
1103	38.5000	113.0275	4984.0	1541.09	2047.92	1.41	-468.63	152.63	0.0	0.0	0.0	7.76	1103	2
1104	38.5000	113.0458	5030.0	1544.32	2047.92	1.41	-472.95	154.04	0.0	0.0	0.0	13.90	1104	2
1105	38.4850	113.0458	5030.0	1542.23	2046.60	1.41	-472.95	154.04	0.0	0.0	0.0	13.13	1105	2
1106	38.4708	113.0458	5031.0	1541.86	2045.35	1.41	-473.05	154.07	0.0	0.0	0.0	14.07	1106	2
1107	38.4708	113.0275	4991.0	1536.54	2045.35	1.41	-469.29	152.84	0.0	0.0	0.0	6.22	1107	2

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 IEF285I VOL SER NOS= COVE KEPT
 IEF280E K 284, COVE , GRDSPOTM, GO

STEP GO END 12:54:07 11/07/74 REAL = 00:02:21 CPU = 00:01:02.4 REGION = 180K CORE USED = 140K
 JOB GRDSPOTM END 12:54:07 11/07/74 REAL = 00:02:22 CPU = 00:01:02.4

AUTHOR-INDEX FILE SELECT/PRINT PROGRAM

PROGRAM NUMBER ULB052-01

10/24/73

- 137 WOOLLARD, G. P.
THE GRAVITY METER AS A GEODETIC INSTRUMENT
GEOPHYSICS, VOL. 15, NO. 1, JAN, 1950, 148 PTS.
- 393 HOLMER, R. C. AND QURESHY, M. N.
PART 1-A REGIONAL GRAVITY SURVEY OF COLORADO, 1954
PART 2-GRAVITY ANOMALIES AND COMPUTED VARIATIONS IN
THICKNESS OF THE EARTH'S CRUST IN COLORADO, 1958
COLORADO SCHOOL OF MINES, 1455 PTS.
- 603 WOOLLARD, G. P. AND OTHERS
GRAVITY STANDARDIZATION STUDIES
WHOI, REF. 62-23, WORK CARRIED OUT BY AIR
PHOTOGRAPHIC AND CHARTING SERVICE, ORLANDO AIR FORCE
BASE, JULY 1962, FL, 59 PTS.
- 764 BONINI, W. E.
GRAVITY ANOMALIES IN IDAHO, WYOMING, MONTANA,
WASHINGTON AND OREGON
IDAHO BUREAU OF MINES AND GEOLOGY, 1963, ID,
5465 PTS.
- 1083 COAST AND GEODETIC SURVEY, U.S. (NOAA)
NATIONAL GRAVIMETER BASE NETWORK
USC AND GS, 3836 PTS.
- 2051 WOOLLARD, G. P.
TRIP BS, SERIES LK
UNIVERSITY OF WISCONSIN, 1961, 349 PTS.
- 2078 WOOLLARD, G. P.
TRIP SS, ROCKIES
AUTHORITY UNKNOWN, 1029 PTS.
- 2085 DE NOYER, J.
TRIP MI, SERIES JD
UNIVERSITY OF MICHIGAN, 80 PTS.
- 2094 COAST AND GEODETIC SURVEY, U.S. (NOAA)
USC AND GS SURVEY AREA GRAVITY SURVEYS
USC AND GS, US, 8926 PTS.
- 2151 GEOLOGICAL SURVEY, U.S.
CRUSTAL STUDIES, SAN JUAN MOUNTAINS, COLORADO
USGS, CO, 107 PTS.
- 2152 KARIG, D. E.
GRAVITY SURVEY IN THE SAN LUIS VALLEY AREA, COLORADO
USGS, NOV. 1963, CO, 507 PTS.

2185 GEOLOGICAL SURVEY, U.S.
GRAVITY REDUCTIONS, CRUSTAL STUDIES
USGS, AUG. 1963, 732 PTS.

2182 GEOLOGICAL SURVEY, U.S.
GRAVITY REDUCTIONS, COLORADO PLATEAU PROJECT,
MONUMENT VALLEY AREA
USGS, DEPT. OF INTERIOR, UT, 492 PTS.

2183 GEOLOGICAL SURVEY, U.S.
GRAVITY REDUCTIONS, COLORADO PLATEAU PROJECT, VENTURE
USGS, DEPT. OF INTERIOR, UT, 951 PTS.

2184 GEOLOGICAL SURVEY, U.S.
GRAVITY REDUCTIONS, COLORADO PLATEAU PROJECT,
THOMPSON
USGS, UT, 684 PTS.

2185 GEOLOGICAL SURVEY, U.S.
GRAVITY REDUCTIONS, COLORADO PLATEAU PROJECT, CARRIZO
MOUNTAIN AREA, ARIZONA AND NEW MEXICO
USGS, AZ, AND NM, 559 PTS.

2186 GEOLOGICAL SURVEY, U.S.
GRAVITY REDUCTIONS, COLORADO PLATEAU PROJECT,
ORANGE CLIFFS AREA
USGS, UT, 85 PTS.

2187 GEOLOGICAL SURVEY, U.S.
GRAVITY REDUCTIONS, COLORADO PLATEAU PROJECT
BOUNDARY BUTTE AREA, UTAH
USGS, UT, 344 PTS.

2188 GEOLOGICAL SURVEY, U.S.
GRAVITY REDUCTIONS, COLORADO PLATEAU PROJECT
UTE MOUNTAINS AREA, COLORADO
USGS, CO, 50 PTS.

2211 GEOLOGICAL SURVEY, U.S.
GRAVITY REDUCTIONS, WHITE CANYON, UTAH
USGS, UT, 426 PTS.

2213 GEOLOGICAL SURVEY, U.S.
GRAVITY REDUCTIONS, COLORADO PLATEAU PROJECT,
LA SAL MOUNTAINS, UTAH
USGS, 645 PTS.

2234 GEOLOGICAL SURVEY, U.S.
GRAVITY REDUCTIONS, COLORADO PLATEAU PROJECT,
URAVAN AREA, COLORADO
USGS, CO, 746 PTS.

PRINCIPAL FACTS FOR GRAVITY STATIONS ALONG THE
CENTRAL AND SOUTHERN WASATCH FRONT, UTAH
USGS, UT, 1082 PTS.

2381 NAVAL OCEANOGRAPHIC OFFICE
GRAVITY DATA, CHANNEL ISLANDS, CALIFORNIA
NAVOCEANO, 1963, 753 PTS.

2506 ARMY MAP SERVICE (USATOPCOM)
ARIZONA GRAVITY SURVEY
AMS, 530 PTS.

2510 GEODETIC SURVEY SQUADRON, 1381ST (1ST GSS) (C)
REPORTING GEODETIC AND GEOPHYSICAL SURVEY DATA,
NORTH DAKOTA
1381ST GSS, 1965, 40 PTS. GROUP 3

2599 PETERSON, D. L.
PRINCIPAL FACTS FOR GRAVITY STATION IN THE SAN
FRANCISCO DISTRICT, UTAH
USGS, 1961-1965, 447 PTS.

2646 GEOLOGICAL SURVEY, U.S.
GRAVITY DATA, ROBERTS TUNNEL, COLORADO
USGS, 31 PTS.

2651 GEOLOGICAL SURVEY, U.S.
PRINCIPAL FACTS FOR GRAVITY STATIONS IN THE SOUTH
COLORADO PLATEAU, RIO GRANDE TROUGH AND JEMEZ
MOUNTAINS, NEW MEXICO
USGS, 1963, 976 PTS.

267A UNIVERSITY OF WYOMING
WYOMING GRAVITY SURVEY
UNIV. OF WYOMING, 295 PTS.

2690 GEOLOGICAL SURVEY, U.S.
GRAVITY DATA, TRINIDAD, COLORADO
USGS, 1966, 475 PTS.

2691 GEOLOGICAL SURVEY, U.S.
GRAVITY DATA, KEMMERER, WYOMING
USGS, 1965, 18 PTS.

2702 GEOLOGICAL SURVEY, U.S.
GRAND CANYON GRAVITY SURVEY
USGS, 1965, 558 PTS.

2733 GEODETIC SURVEY SQUADRON, 1ST
NATIONAL GRAVITY BASE NET AND EXCENTERS
1ST GSS, 1967, 252 PTS.

3035 ARMY MAP SERVICE (USATOPOCOM)

ARIZONA BASE NET

AMS, 1968, 71 PTS.

3038 ARMY MAP SERVICE (USATOPOCOM)

GREAT SALT LAKE

AMS, 1968, 64 PTS.

3049 BYERLY, P. E. AND JOESTING, H. R.
REGIONAL GEOPHYSICAL INVESTIGATIONS OF THE HIBBON

VALLEY AREA UTAH AND COLORADO

USGS PROFESSIONAL PAPER, 1959, 933 PTS.

3097 UNIVERSITY OF ARIZONA

GRAVITY DATA IN ARIZONA

UNIV. OF ARIZ. THRU USATOPOCOM, 1967, 2033 PTS.

3277 UNITED STATES ARMY TOPOGRAPHIC COMMAND

ARIZONA REGIONAL GRAVITY SURVEY AND BASE NETWORK,

PRELIMINARY REPORT

USATOPOCOM, SEPT. 1969, 5852 PTS.

3390 USATOPOCOM

NEW MEXICO STATE GRAVITY BASE NETWORK

USATOPOCOM, 28 APRIL 1970, 46 PTS.

3398 PETERSON, D. L.

PRINCIPAL FACTS FOR GRAVITY STATIONS IN HEBER AND

RHODES VALLEYS, WASATCH CO., UTAH

U.S. GEOLOGICAL SURVEY, 1970, 129 PTS.

3399 PETERSON, D. L.

GRAVITY DATA, MALAD VALLEY, IDAHO

U.S. GEOLOGICAL SURVEY, 1970, 199 PTS.

3401 PETERSON, D. L.

GRAVITY DATA CACHE VALLEY, UTAH AND IDAHO

U.S. GEOLOGICAL SURVEY, 1970, 300 PTS.

3449 UNITED STATES ARMY TOPOGRAPHIC COMMAND

NEW MEXICO SECONDARY GRAVITY BASE TIES

USATOPOCOM, REPORT NO. 4-A, 1971, 10 PTS.

3450 UNITED STATES ARMY TOPOGRAPHIC COMMAND

ARIZONA REGIONAL GRAVITY SURVEY

USATOPOCOM, REPORT NO. 29, 1971, 270 PTS.

3463 UNITED STATES ARMY TOPOGRAPHIC COMMAND

ARIZONA REGIONAL GRAVITY SURVEY

USATOPOCOM, REPORT NO. 31, MAR. 1971, 176 PTS.

3483 UNITED STATES ARMY TOPOGRAPHIC COMMAND
NEW MEXICO REGIONAL GRAVITY SURVEY JUN.-NOV. 1970
USATOPOCOM, REPORT NO. 33, 1971, 211 PTS.

3494 BRINKWORTH, G. L.
GRAVITY STATIONS IN THE AREA WEST OF DENVER, COLORADO
USGS, 1971, CO, 1684 PTS.

3495 PETERSON, D. L.
GRAVITY DATA FROM THE PUEBLO, COLORADO SURVEY
USGS, 1971, CO, 3495 PTS.

3496 BEHRENDT, J. C. AND POPENOE, P.
PRINCIPAL FACTS FOR GRAVITY STATIONS IN THE NORTH
PARK-MIDDLE PARK AREA, COLORADO
USGS, 1971, CO, 2595 PTS.

3497 KLEINKOPF, M. D.
GRAVITY DATA FROM THE SILVER CLIFF, COLORADO SURVEY
USGS, 1971, CO, 127 PTS.

3502 PEMBERTON
TRIP AD, SERIES PI
UNIVERSITY OF WISCONSIN, 1954, 820 PTS.

3503 WOOLLARD, G. P.
TRIP AE, SERIES B
PRINCETON UNIVERSITY, 1939, 573 PTS.

3506 THIEL, E. C.
TRIP AH, SERIES T
UNIVERSITY OF WISCONSIN, 1955, 436 PTS.

3507 MACK, J. AND IVERSON, R. M.
TRIP AI, SERIES M
UNIVERSITY OF WISCONSIN, 1955, 435 PTS.

3515 WOLFE
TRIP AR, SERIES PW
UNIVERSITY OF WISCONSIN, 1952, 352 PTS.

3523 MOWER, L.
TRIP AZ, SERIES Y
UNIVERSITY OF WISCONSIN, 859 PTS.

3557 BLACK, W. E.
TRIP DE, SERIES G
UNIVERSITY OF WISCONSIN, 1951, 101 PTS.

3575 ROSE, J. C.
TRIP TT, SERIES F
UNIVERSITY OF WISCONSIN, 1949, 913 PTS.

- TRIP TW, SERIES F
UNIVERSITY OF WISCONSIN, 1950, 756 PTS.
- 3598 OSTENSO, N.
TRIP ZZ, SERIES NI
UNIVERSITY OF WISCONSIN, 1953, 1082 PTS.
- 3603 GEOLOGICAL SURVEY, U.S.
GRAVITY DATA FROM THE CURLEW VALLEY, UTAH AND IDAHO
SURVEY
USGS, 1971, CO, 110 PTS.
- 3604 GEOLOGICAL SURVEY, U.S.
GRAVITY DATA FROM THE LOWER MALAD VALLEY, UTAH SURVEY
USGS, 1971, CO, 177 PTS.
- 3634 ARMY MAP SERVICE (USATOPCOM)
ARIZONA REGIONAL GRAVITY SURVEY
AMS, REPORT NO. 24-A, 1970-1971, AZ, 122 PTS.
- 3638 ARMY MAP SERVICE, (USATOPCOM)
NEW MEXICO REGIONAL GRAVITY SURVEY
AMS, REPORT NO. 331, 1971, 258 PTS.
- 3662 UNITED STATES ARMY TOPOGRAPHIC COMMAND
NEW MEXICO REGIONAL GRAVITY SURVEY
USATOPCOM, AUG.-OCT. 1970, NM, 249 PTS.
- 3664 UNITED STATES ARMY TOPOGRAPHIC COMMAND
NEW MEXICO REGIONAL GRAVITY SURVEY
USATOPCOM, APR.-JUN. 1971, NM, 216 PTS.
- 3683 UNITED STATES ARMY TOPOGRAPHIC COMMAND
ARIZONA REGIONAL GRAVITY SURVEY
USATOPCOM, REPORTS 52 AND 31E, NOV. 1971, 769 PTS.
- 3685 COOK, K. L. AND OTHERS
GRAVITY BASE STATION NETWORK IN UTAH-1967
UTAH GEOLOGICAL AND MINERALOGICAL SURVEY,
BULLETIN 92, OCTOBER 1971, 46 PTS.
- 3814 PLOUFF, D.
USGS GRAVITY DATA, COLORADO NEAR SAN JUAN MOUNTAINS
USGS, JUN. 1972, CO, 2873 PTS.
- 3816 DEFENSE MAPPING AGENCY TOPOGRAPHIC CENTER
NEVADA REGIONAL GRAVITY SURVEY
DMATC, JUN. 1972, NV, 109 PTS.

3817 DEFENSE MAPPING AGENCY TOPOGRAPHIC CENTER
NEVADA GRAVITY BASE SURVEY
DMATC, MAY 1972, NV, 12 PTS.

3872 DEFENSE MAPPING AGENCY TOPOGRAPHIC CENTER
NEVADA REGIONAL GRAVITY SURVEY 79-B
DMATC, SEPT. 1972, NV, 14 PTS.

3925 UNITED STATES GEOLOGICAL SURVEY
GRAVITY DATA IN IDAHO, MONTANA AND WYOMING
USGS, 1972, ID, MT, WY, 977 PTS

3932 DEFENSE MAPPING AGENCY TOPOGRAPHIC CENTER
UTAH REGIONAL GRAVITY SURVEY
DMATC, REPORT 95A, FEB. 1973, UT, 15 PTS.

3948 DEFENSE MAPPING AGENCY TOPOGRAPHIC CENTER
UTAH REGIONAL GRAVITY SURVEY
DMATC, REPORT 95-B, MAR. 1973, UT, 47 PTS.

4059 UNIVERSITY OF HAWAII
TRIP GB, SERIES AS, GRAVITY STATIONS IN UTAH,
COLORADO, NORTH DAKOTA AND SOUTH DAKOTA
UNIVERSITY OF HAWAII, 2,67 PTS.

4060 UNIVERSITY OF HAWAII
TRIP GB, SERIES AV, GRAVITY STATIONS IN WYOMING
UNIVERSITY OF HAWAII, 1945-1949, 5206 PTS.

4099 ARMY MAP SERVICE (USATOPOCOM)
GRAVITY DATA IN THE UNITED STATES
NORTH-SOUTH PROFILES
HAWAII INST. OF GEOPHYSICS, 1967, 1,651 PTS.

5117 GEODETIC SURVEY SQUADRON, 1ST
GRAVITY DATA FOR NEW MEXICO
1ST GSS, 1969, 1227 PTS.

5118 GEODETIC SURVEY SQUADRON, 1ST
UTAH REGIONAL GRAVITY SURVEY

5119 1ST GSS, 1972, 567 PTS.
THERE IS NO INFORMATION AVAILABLE FOR THIS POINT.

5131 GEODETIC SURVEY SQUADRON, 1ST
GRAVITY DATA FOR UTAH
1ST GSS, 1969, 117 PTS.

5132 GEODETIC SURVEY SQUADRON, 1ST
GRAVITY DATA FOR THE STATE OF COLORADO
1ST GSS, 1970, 636 PTS.

GRAVITY DATA FOR THE STATE OF MONTANA

(C)

1ST GSS, 1971, 686 PTS.

GROUP 3

5161 GEODETIC SURVEY SQUADRON, 1ST
GRAVITY DATA FOR THE STATE OF UTAH
1ST GSS, 1971, 83 PTS.

5165 GEODETIC SURVEY SQUADRON, 1ST
UTAH REGIONAL GRAVITY SURVEY
1ST GSS, 1972, 284 PTS.

5167 GEODETIC SURVEY SQUADRON, 1ST
COLORADO REGIONAL GRAVITY SURVEY
1ST GSS, 1971, 276 PTS.

5173 DMAAC GEODETIC SURVEY SQUADRON
UTAH REGIONAL GRAVITY SURVEY
DMAAC/GSSQ, 1972, UT, 164 PTS.

5175 DMAAC GEODETIC SURVEY SQUADRON
WYOMING REGIONAL GRAVITY SURVEY
DMAAC/GSSQ, 1972, WY, 231 PTS.

(C)

Ex. 3

5176 GEODETIC SURVEY SQUADRON, 1ST
UTAH REGIONAL GRAVITY SURVEY
1ST GSS, 1972, 490 PTS.

UNION OIL COMPANY
OF CALIFORNIA
COVE FORT PROSPECT
BEAVER AND MILLARD COUNTIES, UTAH

DEPTH SOUNDING
SNN

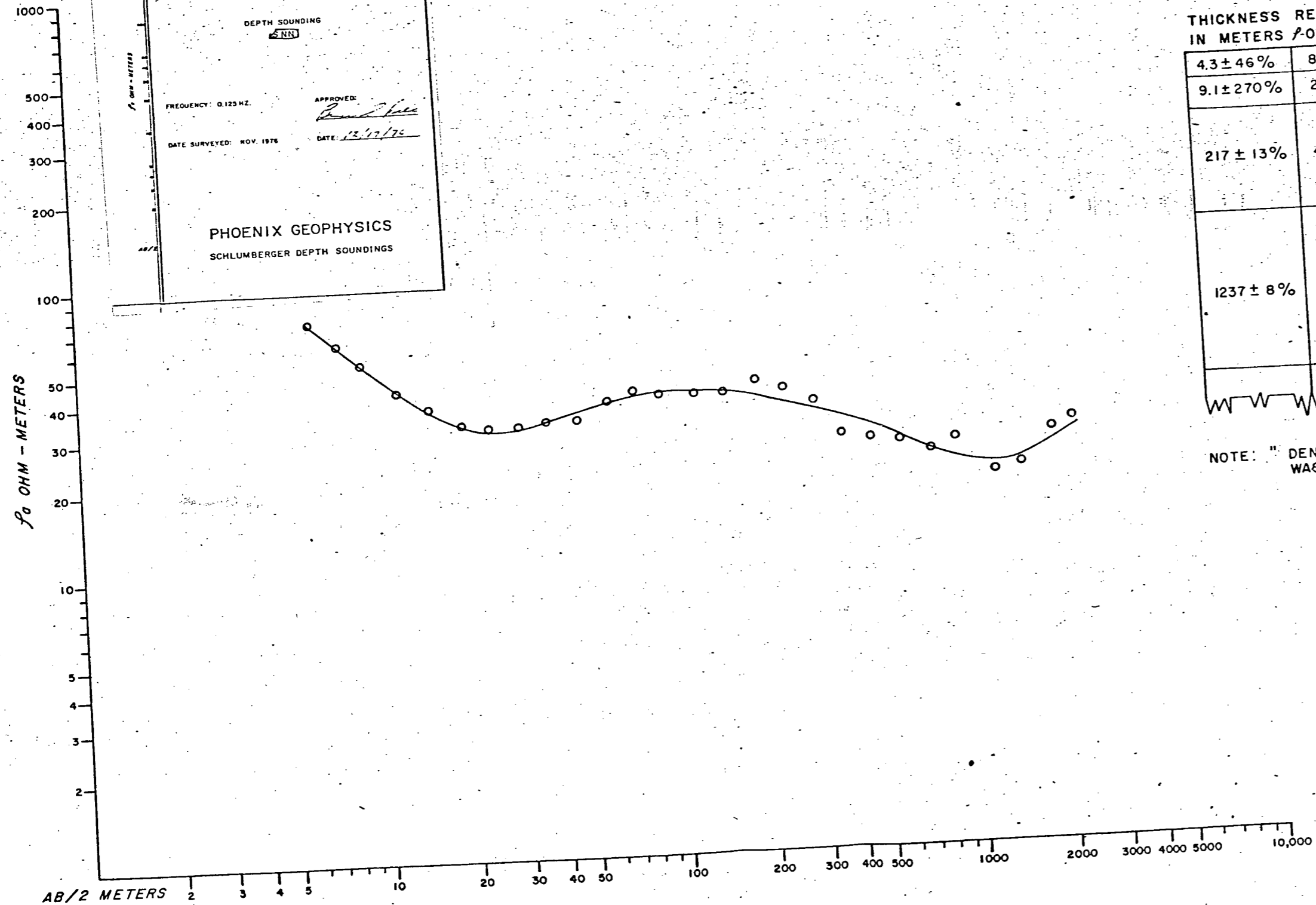
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APPROVED:

DATE SURVEYED: NOV. 1976

DATE: 12/17/76

PHOENIX GEOPHYSICS
SCHLUMBERGER DEPTH SOUNDINGS



CALCULATED THICKNESS
AND RESISTIVITY

THICKNESS RESISTIVITY
IN METERS rho-OHM METERS

4.3 ± 46%	87 ± 22%
9.1 ± 270%	21.5 ± 100%
217 ± 13%	41 ± 6%
1237 ± 8%	16"
	318"

NOTE: " DENOTES PARAMETER
WAS FIXED.

UNION OIL COMPANY
OF CALIFORNIA

COVE FORT PROSPECT
BEAVER AND MILLARD COUNTIES, UTAH

DEPTH SOUNDING

SNN

FREQUENCY: 0.125 HZ.

APPROVED:

DATE SURVEYED: NOV. 1976

DATE: 12/17/76

#6

PHOENIX GEOPHYSICS
SCHLUMBERGER DEPTH SOUNDINGS

UNION OIL COMPANY
OF CALIFORNIA

COVE FORT PROSPECT
BEAVER AND MILLARD COUNTIES, UTAH

DEPTH SOUNDING
SMM

FREQUENCY: 0.125 HZ.

APPROVED:

[Signature]

DATE SURVEYED: NOV. 1976

DATE: 12/17/76

#6

PHOENIX GEOPHYSICS

DWG. NO. - R. - U. - S - 5026 - 14

UNION OIL COMPANY
OF CALIFORNIA

COVE FORT PROSPECT
BEAVER AND MILLARD COUNTIES, UTAH

DEPTH SOUNDING
SMM

FREQUENCY: 0.125 HZ. APPROVED: *[Signature]*

DATE SURVEYED: NOV. 1976 DATE: 12/17/76

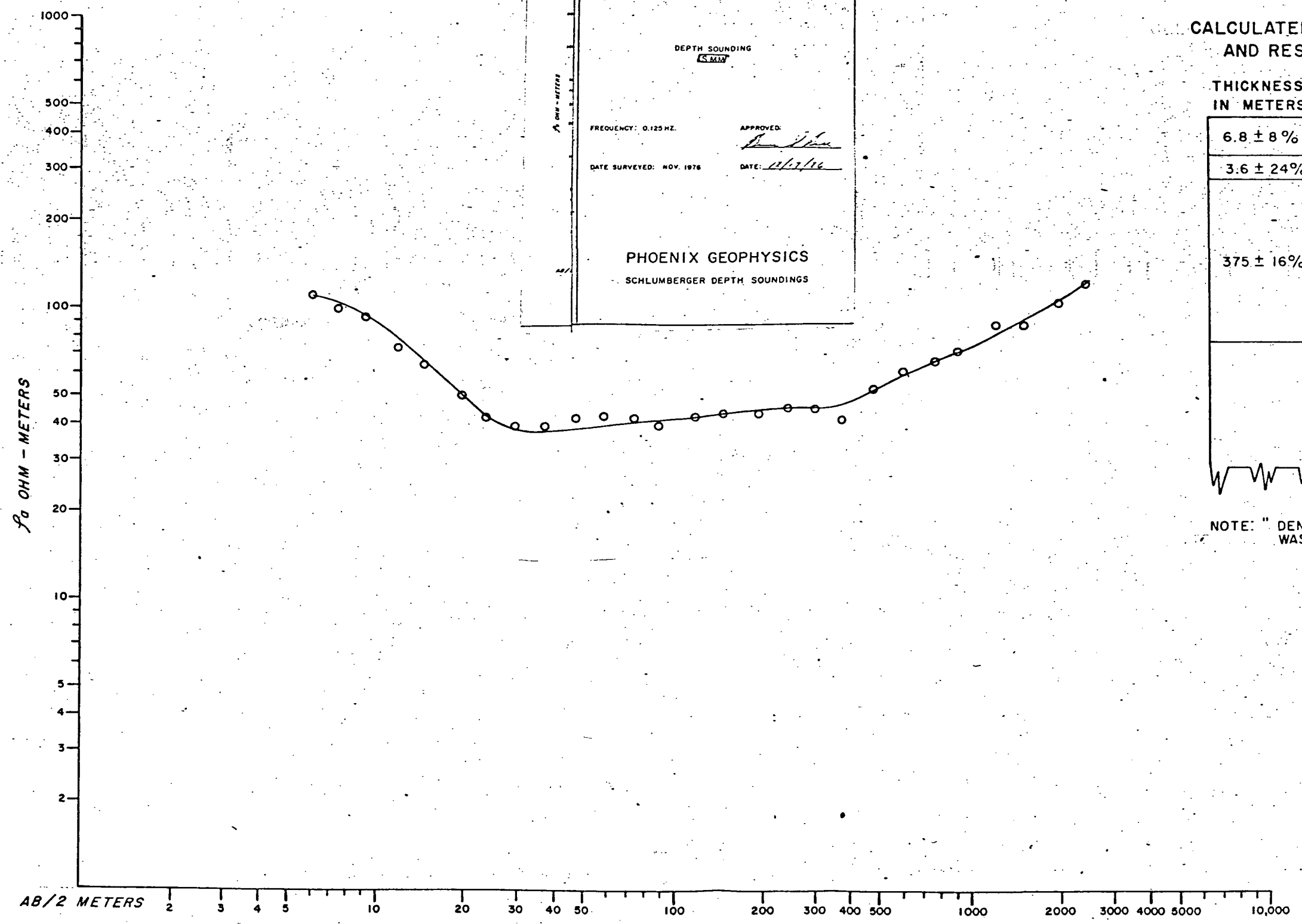
PHOENIX GEOPHYSICS
SCHLUMBERGER DEPTH SOUNDINGS

CALCULATED THICKNESS
AND RESISTIVITY

THICKNESS RESISTIVITY
IN METERS / OHM METERS

6.8 ± 8%	121 ± 7%
3.6 ± 24%	11"
375 ± 16%	45 ± 4%
	169 ± 17%

NOTE: " DENOTES PARAMETER
WAS FIXED.



UNION OIL COMPANY
OF CALIFORNIA
COVE FORT PROSPECT
BEAVER AND MILLARD COUNTIES, UTAH

DEPTH SOUNDING
SHH

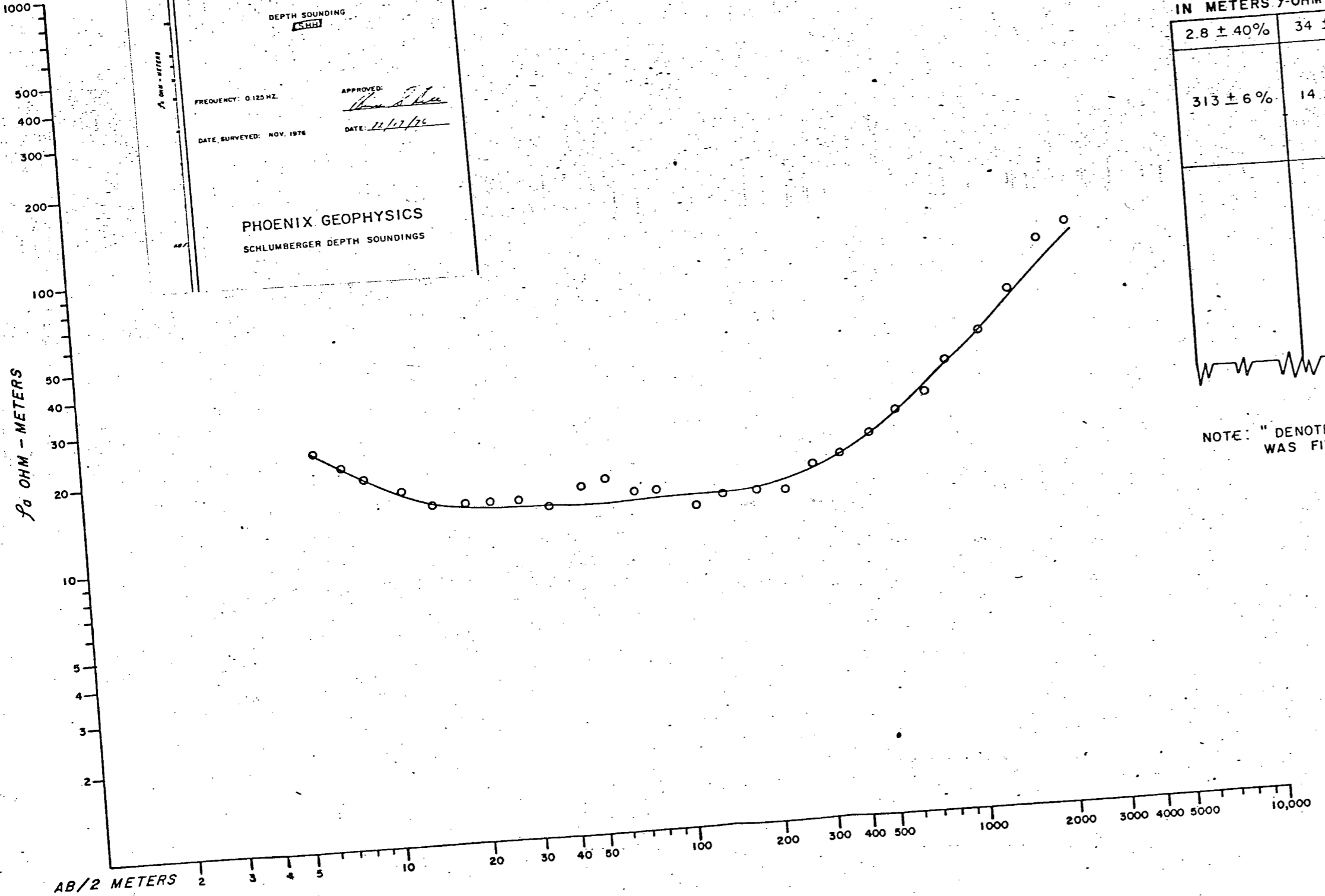
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APPROVED:

DATE SURVEYED: NOV. 1976

DATE: 12/17/76

PHOENIX GEOPHYSICS
SCHLUMBERGER DEPTH SOUNDINGS



CALCULATED THICKNESS
AND RESISTIVITY

THICKNESS RESISTIVITY
IN METERS / OHM METERS

2.8 ± 40%	34 ± 55%
313 ± 6%	14 ± 3%
	318"

NOTE: " DENOTES PARAMETER
WAS FIXED.

UNION OIL COMPANY
OF CALIFORNIA

COVE FORT PROSPECT
BEAVER AND MILLARD COUNTIES, UTAH

DEPTH SOUNDING
SHH

FREQUENCY: 0.125 HZ.

APPROVED:

DATE SURVEYED: NOV. 1976

DATE: 12/17/76

#6
PHOENIX GEOPHYSICS
SCHLUMBERGER DEPTH SOUNDINGS

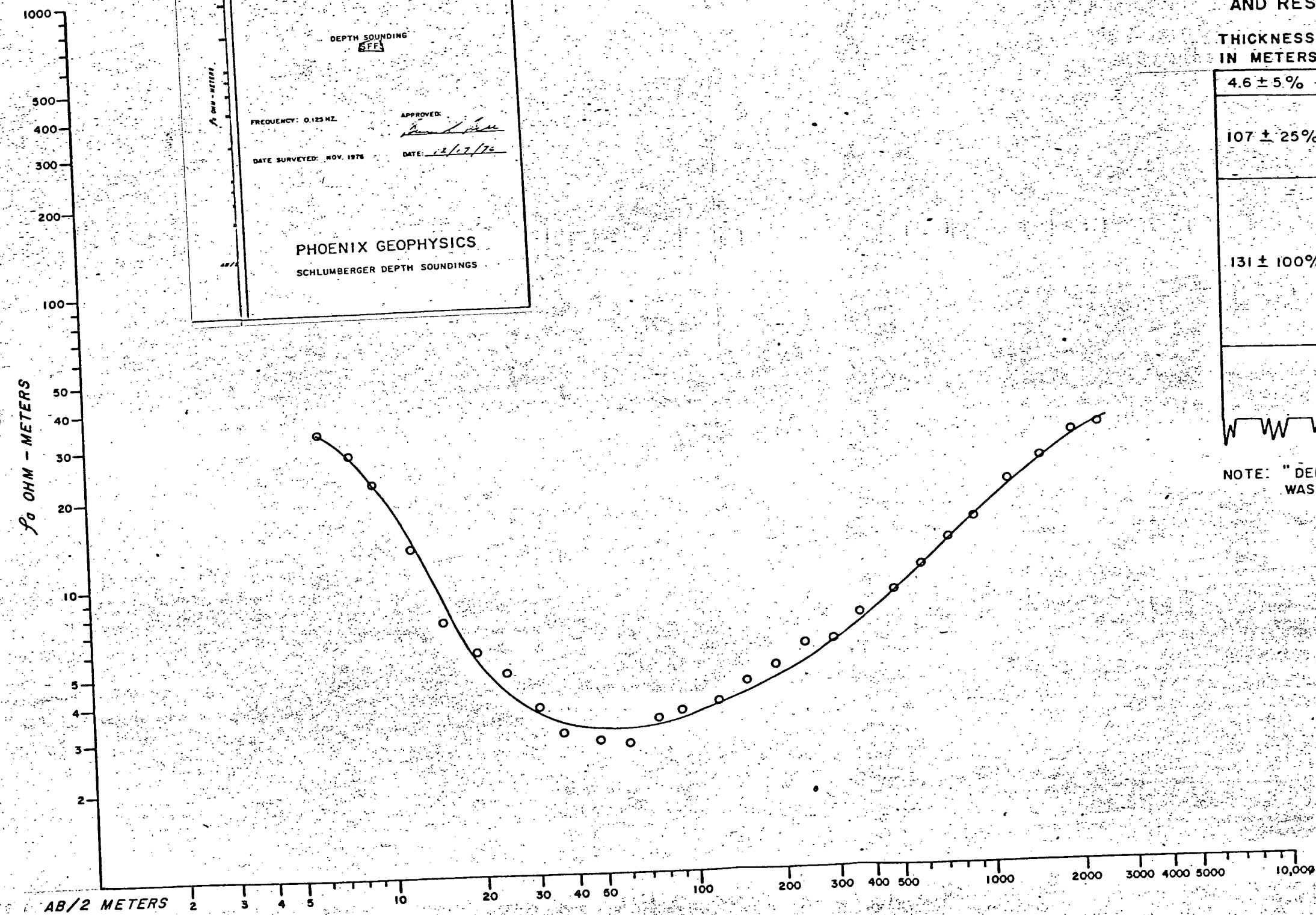
COVE FORT
 BEAVER AND MILLARD COUNTIES, UTAH

DEPTH SOUNDING
 SFF

FREQUENCY: 0.125 HZ. APPROVED: *[Signature]*

DATE SURVEYED: NOV. 1976 DATE: 12/17/76

PHOENIX GEOPHYSICS
 SCHLUMBERGER DEPTH SOUNDINGS



CALCULATED THICKNESS AND RESISTIVITY

THICKNESS RESISTIVITY
 IN METERS / OHM METERS

4.6 ± 5%	44 ± 10%
107 ± 25%	3.2 ± 5%
131 ± 100%	9.1"
	82 ± 40%

NOTE: " DENOTES PARAMETER WAS FIXED.

UNION STATE COMPANY
 OF CALIFORNIA

COVE FORT PROSPECT
 BEAVER AND MILLARD COUNTIES, UTAH

DEPTH SOUNDING
 SFF

FREQUENCY: 0.125 HZ.

APPROVED:

[Signature]

DATE SURVEYED: NOV. 1976

DATE: 12/17/76

#6

PHOENIX GEOPHYSICS

SCHLUMBERGER DEPTH SOUNDINGS

UNION OIL COMPANY
OF CALIFORNIA
COVE FORT PROSPECT
BEAVER AND MILLARD COUNTIES, UTAH

DEPTH SOUNDING
SEE

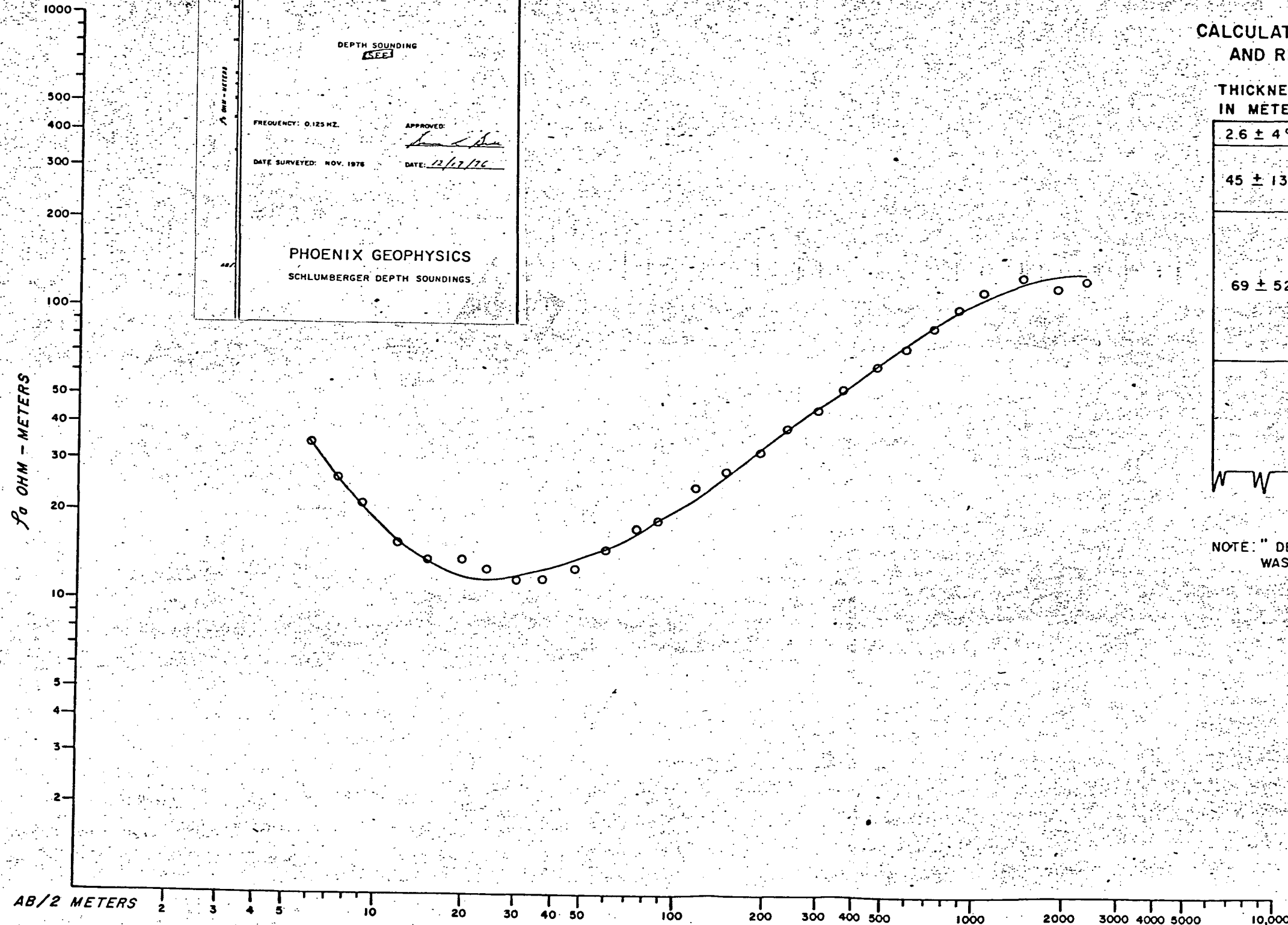
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APPROVED:

DATE SURVEYED: NOV. 1976

DATE: 12/17/76

PHOENIX GEOPHYSICS
SCHLUMBERGER DEPTH SOUNDINGS



CALCULATED THICKNESS
AND RESISTIVITY

THICKNESS RESISTIVITY
IN METERS / OHM METERS

2.6 ± 4%	80"
45 ± 13%	12.1 ± 4%
69 ± 52%	48"
	183 ± 7%

NOTE: " DENOTES PARAMETER
WAS FIXED.

UNION OIL COMPANY
OF CALIFORNIA

COVE FORT PROSPECT
BEAVER AND MILLARD COUNTIES, UTAH

DEPTH SOUNDING
SEE

FREQUENCY: 0.125 HZ.

APPROVED:

[Signature]

DATE SURVEYED: NOV. 1976

DATE: 12/17/76

#6

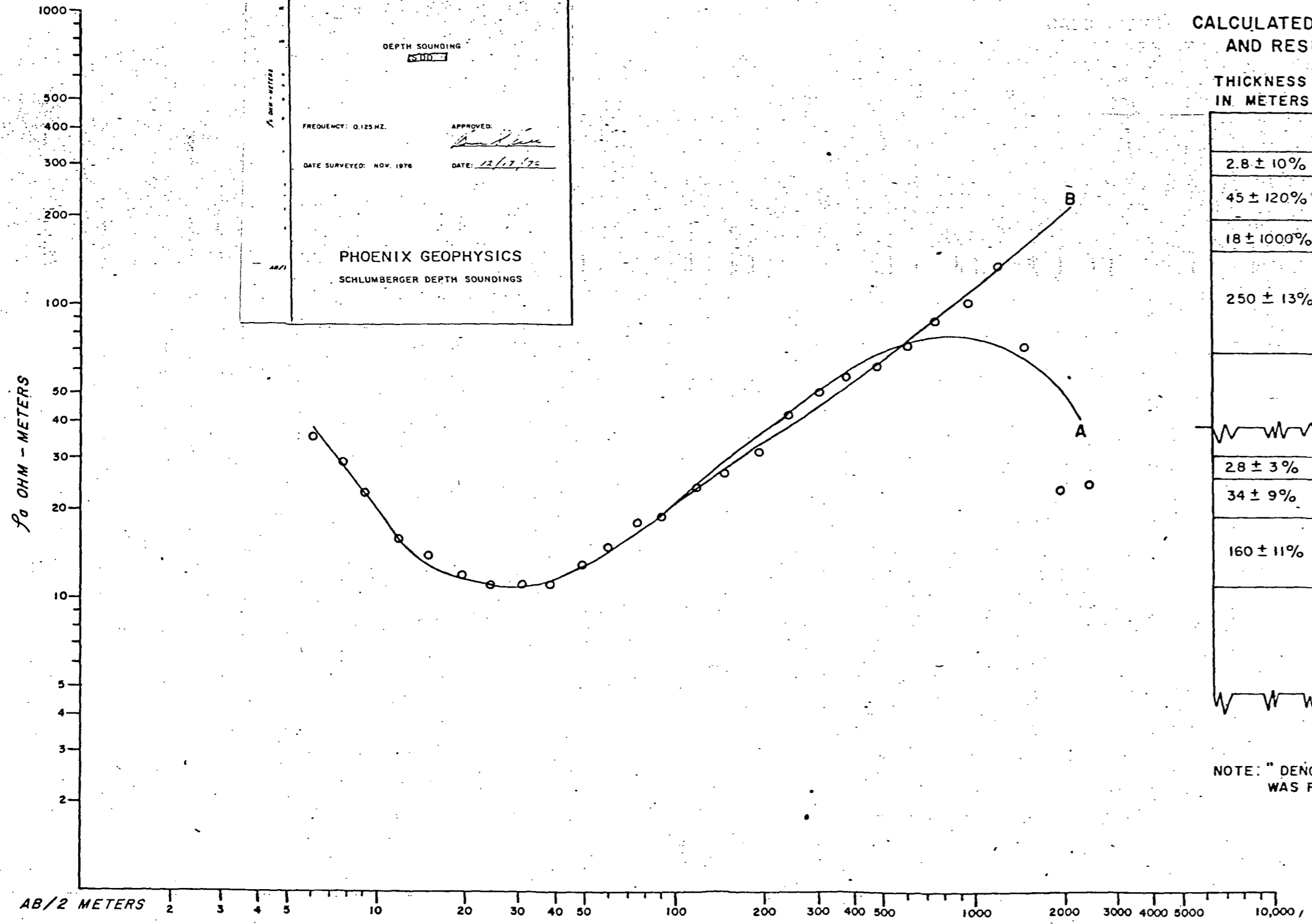
PHOENIX GEOPHYSICS

UNION OIL COMPANY
 OF CALIFORNIA
 COVE FORT PROSPECT
 BEAVER AND MILLARD COUNTIES, UTAH

DEPTH SOUNDING
 SDD

FREQUENCY: 0.125 HZ.
 APPROVED: *[Signature]*
 DATE SURVEYED: NOV. 1976
 DATE: 12/17/76

PHOENIX GEOPHYSICS
 SCHLUMBERGER DEPTH SOUNDINGS



CALCULATED THICKNESS AND RESISTIVITY

THICKNESS RESISTIVITY
 IN METERS / OHM METERS

A -	
2.8 ± 10%	80"
45 ± 120%	10.5 ± 13%
18 ± 1000%	48"
250 ± 13%	318"
	4.8"
B	
2.8 ± 3%	80"
34 ± 9%	10.4 ± 5%
160 ± 11%	48"
	480"

NOTE: " DENOTES PARAMETER WAS FIXED.

UNION OIL COMPANY
 OF CALIFORNIA
 COVE FORT PROSPECT
 BEAVER AND MILLARD COUNTIES, UTAH

DEPTH SOUNDING
 SDD

FREQUENCY: 0.125 HZ.

APPROVED: *[Signature]*

DATE SURVEYED: NOV. 1976

DATE: 12/17/76

#6
 PHOENIX GEOPHYSICS
 SCHLUMBERGER DEPTH SOUNDINGS

UNION OIL COMPANY
OF CALIFORNIA
COVE FORT PROSPECT
BEAVER AND MILLARD COUNTIES, UTAH

DEPTH SOUNDING
SCC

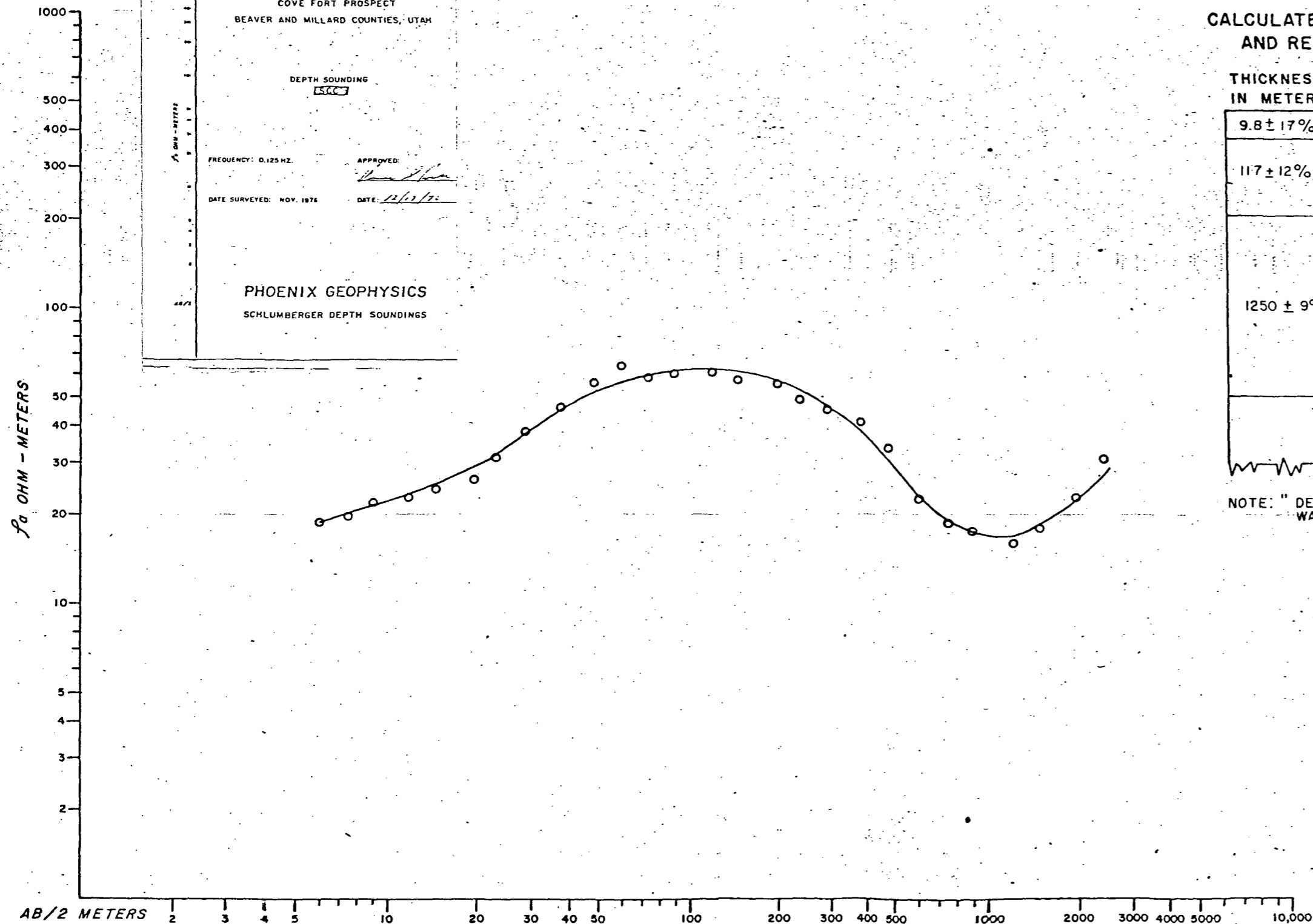
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APPROVED:

DATE SURVEYED: NOV. 1976

DATE: 12/17/76

PHOENIX GEOPHYSICS
SCHLUMBERGER DEPTH SOUNDINGS



CALCULATED THICKNESS
AND RESISTIVITY

THICKNESS RESISTIVITY
IN METERS / OHM METERS

9.8 ± 17%	19.7 ± 7%
117 ± 12%	84 ± 10%
1250 ± 9%	16"
	159"

NOTE: " DENOTES PARAMETER
WAS FIXED

UNION OIL COMPANY
OF CALIFORNIA

COVE FORT PROSPECT
BEAVER AND MILLARD COUNTIES, UTAH

DEPTH SOUNDING

SCC

FREQUENCY: 0.125 HZ.

APPROVED:

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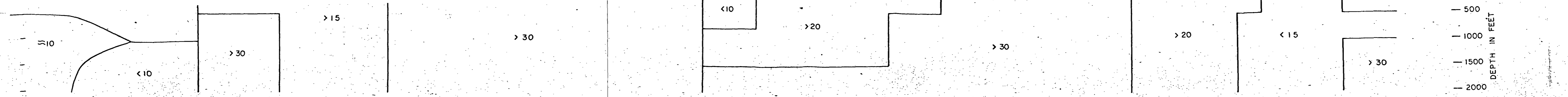
DATE SURVEYED: NOV. 1976

DATE: 12/17/76

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PHOENIX GEOPHYSICS

SCHLUMBERGER DEPTH SOUNDINGS



TRUE RESISTIVITY IN OHM METERS

360W 350W 340W 330W 320W 310W 300W 290W 280W 270W 260W 250W 240W 230W 220W 210W 200W 190W 180W 170W

DWG NO - R - U - 2672-2

UNION OIL COMPANY OF CALIFORNIA
 COVE FORT PROSPECT
 BEAVER AND MILLARD COUNTIES, UTAH

LINE NO - 11 (2 x 1000 FT)
 LINE NO - 11 (2 x 1000 FT)

ELECTRODE CONFIGURATION

PLOTTING POINT

SURFACE PROJECTION OF ANOMALOUS ZONES

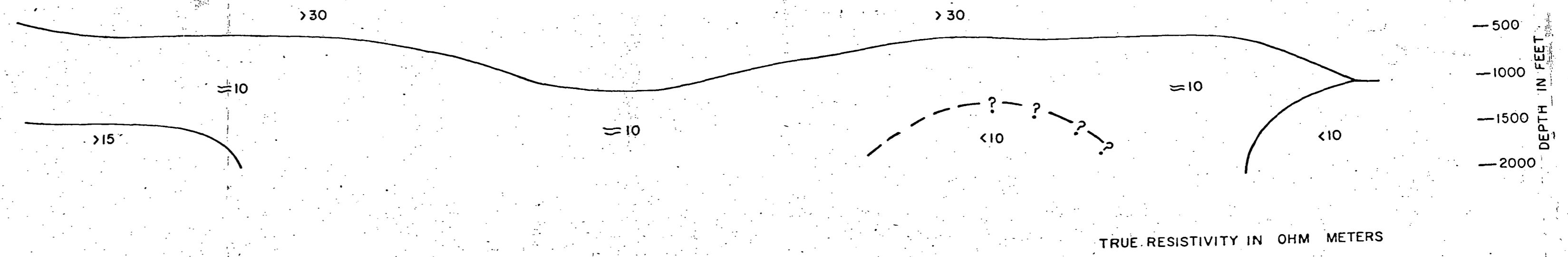
DEFINITE
 PROBABLE
 POSSIBLE

FREQUENCY 125 Hz DATE SURVEYED NOV 1976

APPROVED: *[Signature]* DATE 12/2/76

NOTE: CONTOURS AT LOGARITHMIC INTERVALS 1-1.5-2-3-5-10

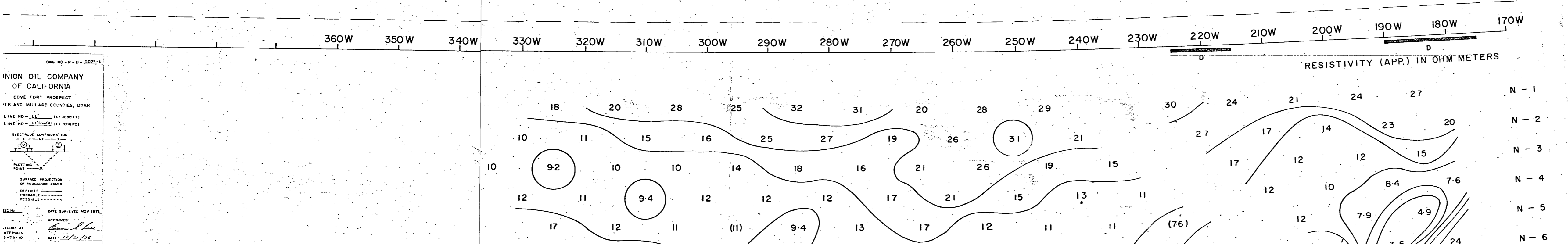
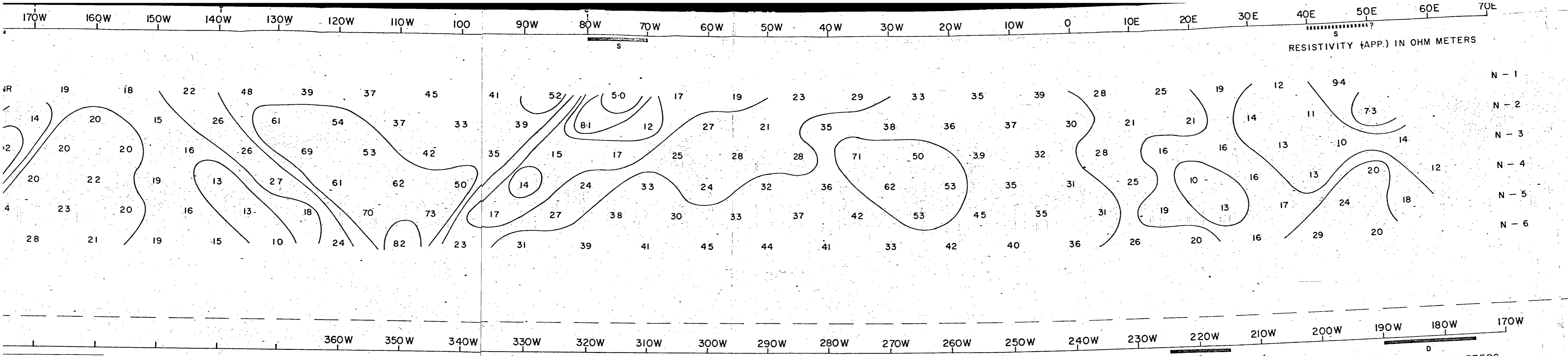
PHOENIX GEOPHYSICS
 RESISTIVITY SURVEY



TRUE RESISTIVITY IN OHM METERS

FREQUENCY: 125 Hz

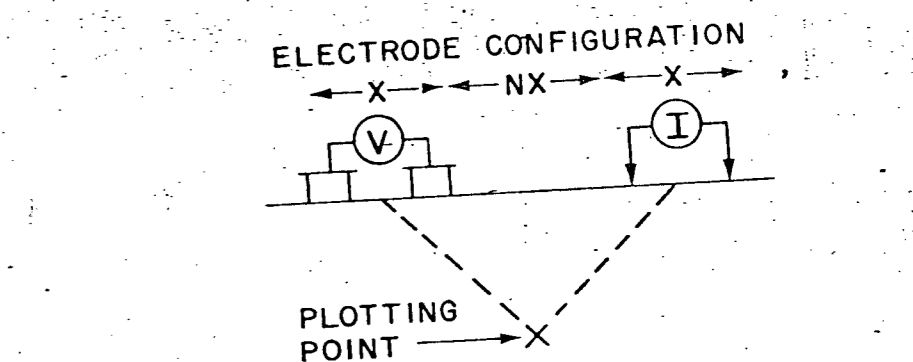
NOTE: CONTOUR LOGARITHMIC INTERVALS 1-1.5-2-3-5-10



UNION OIL COMPANY OF CALIFORNIA

COVE FORT PROSPECT
BEAVER AND MILLARD COUNTIES, UTAH

LINE NO. - LL' (X = 1000 FT.)
LINE NO. - LL'(cont'd) (X = 1000 FT.)



SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE:

PROBABLE:

POSSIBLE:

FREQUENCY: 125 Hz

DATE SURVEYED: NOV. 1976

APPROVED:

NOTE: CONTOURS AT LOGARITHMIC INTERVALS 1.-1.5-2.-3.-5.-7.5-10

DATE: 12/20/76

#6
PHOENIX GEOPHYSICS

DWG NO - R - U - 5025-4

UNION OIL COMPANY OF CALIFORNIA

COVE FORT PROSPECT

BEAVER AND MILLARD COUNTIES, UTAH

LINE NO. - LL' (X = 1000 FT.)

LINE NO. - LL'(cont'd) (X = 1000 FT.)

ELECTRODE CONFIGURATION

PLOTTING POINT

SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE:

PROBABLE:

POSSIBLE:

125 Hz

DATE SURVEYED: NOV. 1976

APPROVED:

CONTOURS AT LOGARITHMIC INTERVALS 1.-1.5-2.-3.-5.-7.5-10

DATE: 12/20/76

DWC. NO. R-U-2269-IV

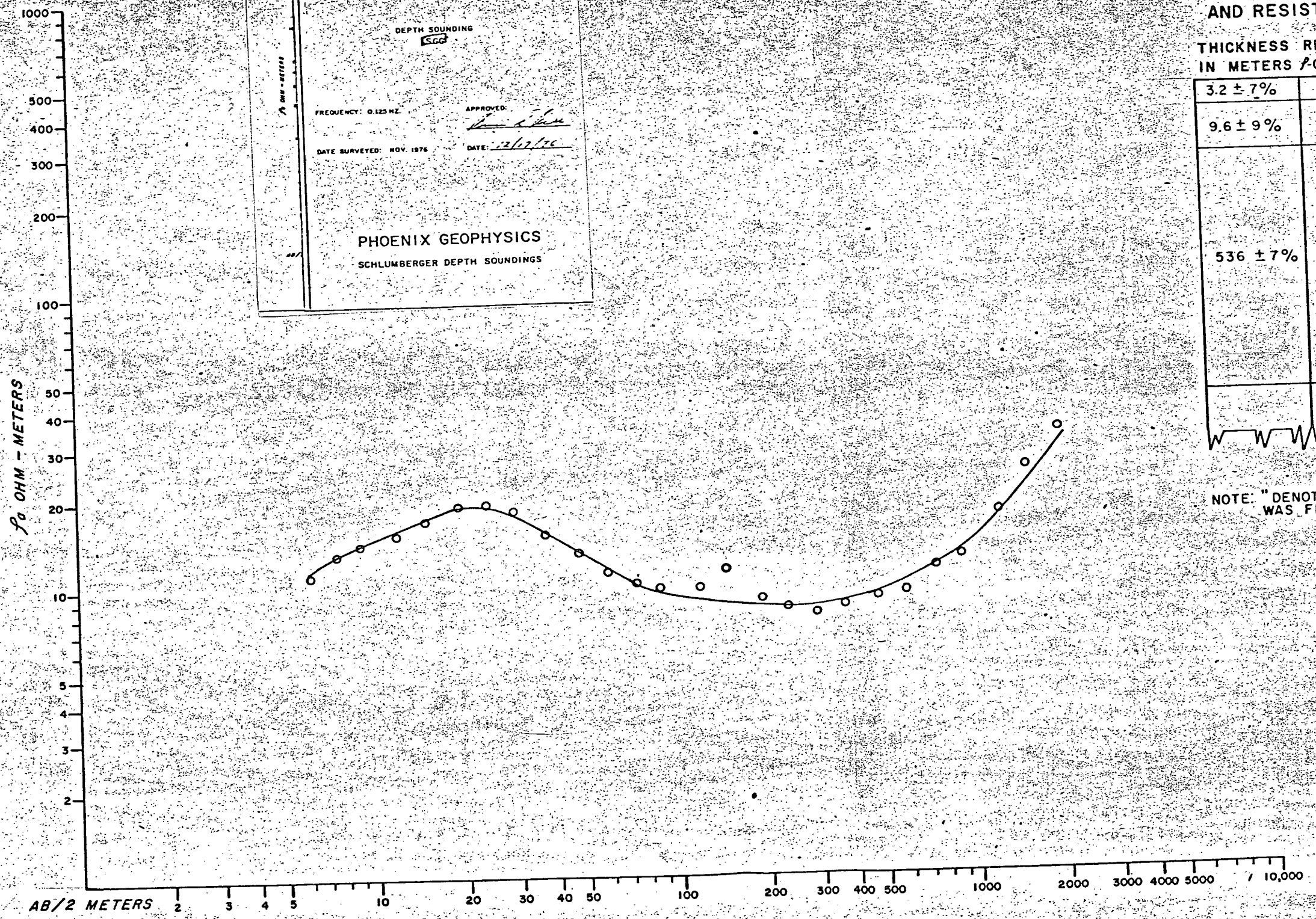
UNION OIL COMPANY
OF CALIFORNIA
COVE FORT PROSPECT
BEAVER AND MILLARD COUNTIES, UTAH

DEPTH SOUNDING
SGG

FREQUENCY: 0.125 HZ. APPROVED: *[Signature]*

DATE SURVEYED: NOV. 1976 DATE: 12/17/76

PHOENIX GEOPHYSICS
SCHLUMBERGER DEPTH SOUNDINGS



CALCULATED THICKNESS
AND RESISTIVITY

THICKNESS RESISTIVITY
IN METERS / OHM METERS

$3.2 \pm 7\%$	8.0"
$9.6 \pm 9\%$	32"
$536 \pm 7\%$	$8.1 \pm 4\%$
	318"

NOTE: " DENOTES PARAMETER
WAS FIXED.

UNION OIL COMPANY
OF CALIFORNIA
COVE FORT PROSPECT
BEAVER AND MILLARD COUNTIES, UTAH

DEPTH SOUNDING
SGG

FREQUENCY: 0.125 HZ.

APPROVED: *[Signature]*

DATE SURVEYED: NOV. 1976

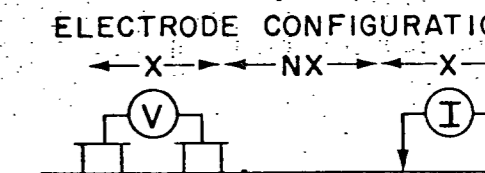
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PHOENIX GEOPHYSICS
SCHLUMBERGER DEPTH SOUNDINGS

UNION OIL COMPANY
OF CALIFORNIA

COVE FORT PROSPECT
BEAVER AND MILLARD COUNTIES, UTAH

LINE NO. - AA' (X = 1000 FT.)



PLOTTING POINT

SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY: 125 Hz

DATE SURVEYED: NOV. 1976

APPROVED:

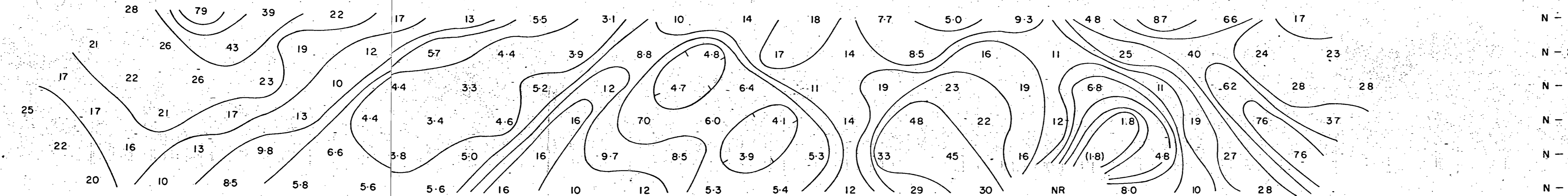
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NOTE: CONTOURS AT LOGARITHMIC INTERVALS
1. - 1.5 - 2. - 3. - 5. - 7.5 - 10

DATE: 12/20/76

#6

RESISTIVITY (APP.) IN OHM METERS



RESISTIVITY (APP.) IN OHM METERS

N - 1
N - 2
N - 3
N - 4
N - 5

DWG. NO. - R - U - 5025-1

UNION OIL COMPANY
OF CALIFORNIA

COVE FORT PROSPECT
BEAVER AND MILLARD COUNTIES, UTAH

LINE NO. - AA' (X = 1000 FT.)

PLOTTING POINT

SURFACE PROJECTION OF ANOMALOUS ZONES

DEFINITE
PROBABLE
POSSIBLE

FREQUENCY 125 Hz DATE SURVEYED NOV 1976

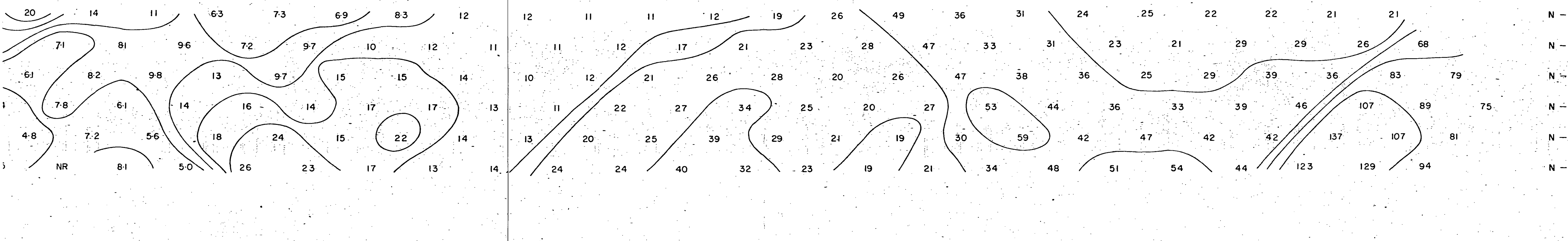
APPROVED: *[Signature]*

NOTE: CONTOURS AT LOGARITHMIC INTERVALS
DATE: 12/20/76

10E 20E 30E 40E 50E 60E 70E 80E 90E 100E 110E 120E 130E 140E 150E 160E 170E

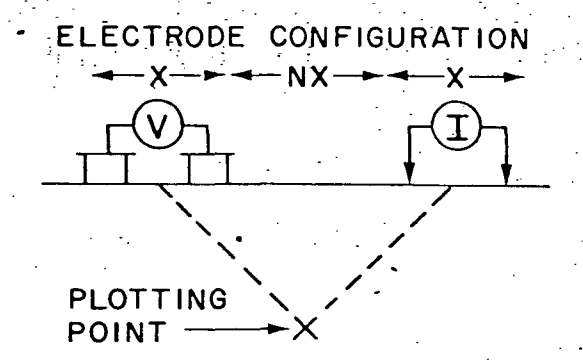
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RESISTIVITY (APP.) IN OHM METERS



**UNION OIL COMPANY
OF CALIFORNIA**
COVE FORT PROSPECT
BEAVER AND MILLARD COUNTIES, UTAH

LINE NO. - B-B' (X = 1000 FT.)



SURFACE PROJECTION
OF ANOMALOUS ZONES

DEFINITE **—————**
 PROBABLE **.....**
 POSSIBLE **~~~~~**

FREQUENCY: .125 Hz DATE SURVEYED: NOV. 1976

APPROVED: *Bruce S. Peelle*

NOTE: CONTOURS AT
LOGARITHMIC INTERVALS
1 - 1.5 - 2 - 3 - 5 - 7.5 - 10

DATE: 12/20/76

DWS NO - R - U - 2222-2

**UNION OIL COMPANY
OF CALIFORNIA**
COVE FORT PROSPECT
BEAVER AND MILLARD COUNTIES, UTAH

LINE NO. - B-B' (X = 1000 FT.)

ELECTRODE CONFIGURATION

PLOTING POINT

SURFACE PROJECTION
OF ANOMALOUS ZONES

DEFINITE **—————**
 PROBABLE **.....**
 POSSIBLE **~~~~~**

FREQUENCY: .125 Hz DATE SURVEYED NOV 1976

APPROVED: *Bruce S. Peelle*

NOTE: CONTOURS AT
LOGARITHMIC INTERVALS
1 - 1.5 - 2 - 3 - 5 - 7.5 - 10

DATE: 12/20/76

PHOENIX GEOPHYSICS
RESISTIVITY SURVEY

#6

PHOENIX GEOPHYSICS

REPORT ON THE
RECONNAISSANCE RESISTIVITY SURVEY
ON THE
COVE FORT PROSPECT
BEAVER AND MILLARD COUNTIES, UTAH
FOR
UNION OIL COMPANY OF CALIFORNIA

PHOENIX GEOPHYSICS INC.

REPORT ON THE
RECONNAISSANCE RESISTIVITY SURVEY
ON THE
COVE FORT PROSPECT
BEAVER AND MILLARD COUNTIES, UTAH
FOR
UNION OIL COMPANY OF CALIFORNIA

1. INTRODUCTION

At the request of _____ geophysicist for Union Oil Company of California, Phoenix Geophysics has completed a Reconnaissance Resistivity Survey on the Cove Fort Prospect, Beaver and Millard Counties, Utah. The Survey area is situated in T.25S, T.26S and R.6W, R.7W.

This survey consists of four widely-spaced dipole-dipole lines conducted with an electrode interval of 1000 feet with readings from $N = 1$ to $N = 6$ and ten Schlumberger depth soundings with a maximum $L (AB/2)$ of 8000 feet. The survey was conducted by Mr. John Busby, geophysical technician with the supervision of Mr. John Reynolds, geologist and Mr. Robert Anderson, geophysicist.

2. PRESENTATION OF RESULTS

DIPOLE-DIPOLE DATA

<u>Line</u>	<u>Electrode Intervals</u>	<u>Dwg. No.</u>
AA'	1000 feet	R-U-5025-1
BB'	1000 feet	R-U-5025-2
LL'	1000 feet	R-U-5025-4
LL'	Interpreted Resistivity	R-U-5025-5

SCHLUMBERGER SOUNDINGS

<u>Line</u>	<u>Maximum L</u>	<u>Dwg. No.</u>
SCC'	8000 feet	R-U-S5025-6
SDD'	8000 feet	R-U-S5025-7
SEE'	8000 feet	R-U-S5025-8
SFF'	8000 feet	R-U-S5025-9
SGG'	6500 feet	R-U-S5025-10
SHH'	8000 feet	R-U-S5025-11
SMN'	8000 feet	R-U-S5025-14
SNN'	7500 feet	R-U-S5025-15

Also enclosed with this report is Dwg. No. RP-U-5025, a plan map of the survey area at a scale of 1" = 2000 feet showing the location of the survey lines and Schlumberger sounding locations. The definite, probable and possible Resistivity low anomalies are indicated by bars, in

interpreted from the location of the transmitter and receiver electrodes when the anomalous values were measured.

Since the Resistivity measurements is essentially an averaging process, as are all potential methods, it is frequently difficult to exactly pinpoint the source of an anomaly. Certainly, no anomaly can be located with more accuracy than the electrode interval length. In order to locate sources at some depth, larger electrode intervals must be used, with a corresponding increase in the uncertainties of location. Therefore, while the center of the indicated anomaly probably corresponds fairly well with source, the length of the indicated anomaly along the line should not be taken to represent the exact edges of the anomalous material.

The anomalies shown on the plan map are designated apparent depths of shallow, moderate, or deep. At larger dipole separations a greater volume of rock is averaged, in lateral extent as well as depth. Thus, the source of a deep-appearing anomaly detected along a single line may be at shallow depth to one side of the line. The data plots, therefore, cannot represent true depth. Depths can be calculated from the apparent resistivity data in the case of ideal horizontal layers, but even this calculation depends on an assumed resistivity contrast between the zone at depth and the overlying rock. Although ambiguous, the following simple depth designations are useful for correlating or comparing anomalous zones obtained on adjacent survey lines.

	Apparent Depth (dipole separations)	Drill Hole Depth (in dipole lengths)
Shallow	1 - 2	1/2 - 1
Moderate	2 - 3	1 - 1 1/2

Thus, a shallow zone is one detected at a one-to-two dipole separation and should be tested by a drill hole from a half-to-one dipole length deep.

3. DISCUSSION OF RESULTS

The dipole-dipole results of the Cove Fort Prospect have located some resistivity-low, definite anomalies that generally occur in the vicinity of a distinct resistivity change which may represent a contact or fault. These definite anomalies are all quite narrow, only one or two dipoles wide, except for the broad anomaly on Line BB' from 20N to beyond the south end of this line, in the vicinity of Sulphurdale. This broad definite anomaly may be due to conductive sediments in the area. The location of the narrow definite anomalies are tabulated below. It must be stated that, since these anomalies all have restricted areal extent, they probably do not represent an economical geothermal source, at least within the depth penetration of this survey, and also since the survey lines are widely spaced, any deep anomaly may represent a shallow source to the side of each line.

Narrow definite anomalous responses occur as follows:

Line AA'

- at depth between 100E and 110E adjacent to a high resistivity area to the east.
- between 45E and 60E and moderate to deep depth.
- at shallow depth from 20E to 35E.

Line BB'

Line LL'

- a shallow anomaly with limited depth extent occurs at 70W to 80W adjacent to a suspected contact at 80W.
- between 175W and 190W at depth near a suspected fault or contact at 170W.
- at depth, centered beneath 220W. This anomalous pattern is not complete because readings could not be obtained across Interstate Highway 15.

The apparent resistivity patterns of the dipole-dipole data indicate that there are only a few areas of near-horizontal layering. For this reason only one true resistivity section has been attempted, since all our interpretation aids are dependent on a layered media. Also, Schlumberger depth soundings are more readily interpreted when conducted within a layered environment and apparently most of the soundings completed during this survey were conducted across lateral inhomogeneities. Notes on the interpretation of the Schlumberger soundings accompany this report.

L						
Ft.	Meters	SCC'	SDD'	SEE'	SFF'	SGG'
20	6.1	19	36	35	33	11
25	7.6	20	29	27	28	13
30	9.1	22	23	22	22	14
40	12.2	23	16	16	13	15
50	15.2	25	14	14	7.3	17
65	19.8	27	12	14	5.8	19
80	24.4	32	11	13	4.9	19
100	30.5	39	11	12	3.7	18
125	38.1	47	11	12	3.0	15
160	48.8	57	13	13	2.7	13
200	61.0	65	15	15	2.5	11
250	76	60	18	18	3.3	10
300	91.4	61	19	19	3.5	9.6
400	122	62	24	25	3.7	9.6
500	152	59	27	28	4.3	11
650	198	57	31	33	4.9	8.6
800	244	51	43	40	5.7	8.1
1000	305	46	51	47	5.9	7.8
1250	381	42	58	55	7.3	8.1
1600	488	34	62	65	8.5	8.8
2000	610	23	73	74	10.4	9.2
2500	760	19	88	89	13	11
3000	914	18	103	104	15	12
4000	1220	16	138	119	20	17
5000	1520	18	73	133	24	24
6500	1980	23	27	124	29	31
8000	2440	31	29	130	31	

L

Ft.	Meters	SHH'	SMM'	SNN'
20	6.1	24	111	75
25	7.6	21	100	62
30	9.1	19	94	53
40	12.2	17	74	42
50	15.2	15	65	37
65	19.8	15	50	32
80	24.4	15	42	31
100	30.5	15	40	31
125	38.1	14	40	32
160	48.8	16	42	33
200	61.0	17	43	37
250	76	15	42	40
300	91.4	15	40	39
400	122	13	43	39
500	152	14	44	39
650	198	14	44	42
800	244	14	46	40
1000	305	17	46	35
1250	381	18	43	27
1600	488	21	54	26
2000	610	25	61	25
2500	760	28	67	23
3000	914	33	72	25
4000	1220	45	88	19
5000	1520	61	90	20
6500	1980	91	108	26
8000	2440	102	123	
7500	2285			28

on each data plot as a circle. The theoretical curve calculated by the ridge regression inversion program is also shown on the data plots, to more readily illustrate the comparison of the theoretical calculations with the actual field data.

Sounding SDD' did cross a geologic contact at the large L (or AB/2) data, thus interpretation B is more apt to be correct.

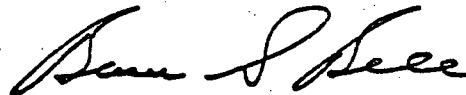
Eight Schlumberger soundings exhibit a thin surface layer of high resistivity approximately a few meters thick, which overlies a more conductive layer of varying thickness that, in turn, overlies a high resistivity layer. The other two soundings do not exhibit the near surface high resistivity layer. A correlation of current drilling results may determine which resistivity layer represents the water table elevation in this area.

4. CONCLUSIONS AND RECOMMENDATIONS

Only one area of anomalous low-resistivity with sufficient areal extent to be of interest as a possible geothermal source has been detected within the depth limitations of the dipole-dipole survey. This anomaly occurs in the vicinity of Sulphurdale and may be the results of conductive sediments in this area. The other definite anomalies located by the dipole-dipole survey are narrow and occur adjacent to or in the vicinity of distinct resistivity contacts which may represent

mainly located in areas of lateral inhomogeneities which normally cause difficulties in interpretation. The computer calculated theoretical curves, plotted on the data strips, generally approximate the apparent resistivity data and it must be assumed that these interpretations provide the "best-fit". The determination of which resistivity layer represents the ground water table must be related to drill-hole information or known water well depths.

PHOENIX GEOPHYSICS INC.



Bruce S. Bell
Geologist

Dated: December 20, 1976

PHOENIX GEOPHYSICS INC.

REPORT ON THE
RECONNAISSANCE RESISTIVITY SURVEY
ON THE
COVE FORT PROSPECT
BEAVER AND MILLARD COUNTIES, UTAH
FOR
UNION OIL COMPANY OF CALIFORNIA



May 22, 1978

Earth Sciences Laboratory
University of Utah Research Park
391 Chipeta Way
Salt Lake City, Utah 84108

Attn: Dr. Howard Ross

Contract No. EG-77-C-08-1522
Cove Fort Geothermal Project

Gentlemen:

Attached are copies of Figure 2, "Diagrammatic Section of the East Tintic District, Utah...", which was inadvertently omitted from the "Technical Report on Forminco #1, Utah" sent to you on 5-12-78. The figure should be inserted in Chapter 6, "Geological," after page 7.

Also attached for Dr. Ross' use are film transparencies of Figures 1 and 2.

Sincerely,
Union Oil Co. of California

A handwritten signature in black ink, appearing to read "C. Frank Corbin".

C. Frank Corbin
Contract Administrator

CFC:mk
Attachments

12/27/77

UNION OIL COMPANY OF CALIFORNIA
Geothermal Division

Mercury Analysis of Rotary Cuttings
at Cove Fort, Utah

December 1974

<u>Location</u>	<u>Sample No.</u>	<u>ppb Mercury</u>	<u>Location</u>	<u>Sample No.</u>	<u>ppb Mercury</u>
T.26S. R.7W. Sec. 12 1250' fcl 2250' fsl	<u>CV - 74</u> 1-275 A 1-280 A 1-300 A 1-300 B 1-300 C	100 125 50 75 75	T.25S R.6W. Sec. 20 1450' N/S 850' E/W	4- 90 A 4- 90 B	75 300
T.25S. R.6W. Sec. 19 2100' N/S 50' E/W	3-290 A 3-290 B 3-300 A 3-300 B 3-300 C	200 250 275 200 125	T.25S. R.6W. Sec. 28 2900' E/W 1200' N/S	8-255 A 8-255 B 8-255 C	50 50 50
T.25S. R.6W. Sec. 19 2100' N/S 50' E/W	3-290 A 3-290 B 3-300 A 3-300 B 3-300 C	200 250 275 200 125	T.26S. R.7W. Sec. 1 2820' W/E 1350' S/N	9-300 A 9-300 B 9-300 C	75 275 50
T.25S. R.6W. Sec. 29 250' S/N 4400' E/W	5-300 A 5-300 B 5-300 C	525 400 425	T.25S. R.6W. Sec. 31 1420' S/NL 440' E/WL	10-300 A 10-300 B 10-300 C	400 300 575
T.25S. R.7W. Sec. 23 2700' N/S 150' W/E	6-250 A 6-250 B 6-250 C	50 25 200	T.26S. R.7W. Sec. 13 2750' W/E 2650' N/S	<u>CV - 74</u> 11-255 A 11-255 B 11-255 C	50 50 75
T.25S. R.6W. Sec. 17 600' fwl 2350' fsl	2-110 A 2-110 B 2-110 C	75 800 875	T.25S. R.6W. Sec. 29 600' E/W 250' N/S	12-300 A 12-300 B 12-300 C	25 50 50

<u>Location</u>	<u>Sample No.</u>	<u>ppb Mercury</u>
T.26S. R.6W. Sec. 7 600' W/E 750' N/S	13-255 A	25
	13-255 B	50
T.25S. R.6W. Sec. 21 4700' E/W 2300' N/S	14-200 A	75
	14-200 B	325
	14-255 A	125
	14-255 B	150
T.25S. R.5W. Sec. 19 500' E/W 700' N/S	15-200 A	25
	15-200 B	25
	15-255 A	50
T.25S. R.7W. Sec. 22 1500' E/W 1200' N/S	16-100 A	75
	16-100 B	50
	16-175 A	25
	16-175 B	75
T.26S. R.7W. Sec. 30 10' W/EL 1200' S/NL	20-200 A	25
	20-200 B	25
T.26S. R.7W. Sec. 21 100' W/EL 1000' N/SL	21-220 A	825
	21-220 B	125
	21-220 C	75

UNION OIL COMPANY OF CALIFORNIA
Geothermal Division

Mercury Analysis of Surface Samples
Near Cove Fort, Utah
February 1974

<u>Location #1</u>		<u>Location #2</u>	
T.25S., R.6W., NE $\frac{1}{4}$ NE $\frac{1}{4}$, Sec. 29		T.26S., R.6W., SW $\frac{1}{4}$, SW $\frac{1}{4}$, Sec. 7	
<u>Sample No.</u>	<u>ppb Mercury</u>	<u>Sample No.</u>	<u>ppb Mercury</u>
74-3	+10,000	74-1	1,460
74-6	+10,000	74-4	+10,000
74-7	80	74-8	+10,000
74-10	+10,000	74-11	+10,000
74-13	320	74-15	+10,000

UNION OIL COMPANY OF CALIFORNIA
Geothermal Division

Mercury Analysis of Rotary Cuttings
at Cove Fort, Utah

December 1976

<u>Sample No.</u>	<u>ppb Mercury</u>	<u>Location</u>
CF-76-3 225-A	140	T.26S., R.6W., Section 20
225-B	85	800' fnl 500 fwl
225-C	35	Beaver County
CF-76-3 250-A	50	
250-B	70	
250-C	25	
CF-76-4 225-A	15	T.26S., R.6W., Section 20
225-B	15	1150' fwl 1550' fsl
225-C	-10	Beaver County
CF-76-4 250-A	10	
250-B	25	
250-C	10	
CF-76-5 215-A	-10	T.26S., R.6W., Section 29
215-B	15	750' fwl 1950' fnl
215-C	15	Beaver County

It should be noted that this geochemical survey data is the same as that sent in the Initial Data Shipment.

These analyses were made by Rocky Mountain Geochemical Corporation of Midvale, Utah.

UNION OIL COMPANY OF CALIFORNIA
Geothermal Division

Data: Mercury trace analysis
Source: Drill cuttings from temperature gradient holes
Sample numbering:

CV-74-3-300A
CV: Cove Fort project
74: Year, 1974
3: Temperature gradient hole number
300: Depth of sample
A: Cut of sample

<u>Sample No.</u>	<u>ppb Mercury</u>	<u>Narrative Location</u>
CV-74-1-275A	100	T.26S., R.7W., Sec. 12,
CV-74-1-280A	125	1250' fcl, 2250' fsl
CV-74-1-300A	50	
CV-74-1-300B	75	
CV-74-1-300C	75	
CV-74-2-110A	75	T.25S., R.6W., Sec. 17,
CV-74-2-110B	800	600' fwl, 2350' fsl
CV-74-2-110C	875	
CV-74-3-290A	200	T.25S., R.6W., Sec. 19,
CV-74-3-290B	250	2100' fsl, 50' fwl
CV-74-3-300A	275	
CV-74-3-300B	200	
CV-74-3-300C	125	
CV-74-4- 90A	75	T.25S., R.6W., Sec. 20,
CV-74-4- 90B	300	1450' fsl, 850' fwl
CV-74-5-300A	525	T.25S., R.6W., Sec. 29,
CV-74-5-300B	400	250' fcl, 4400' fwl
CV-74-5-300C	425	
CV-74-6-250A	50	T.25S., R.7W., Sec. 23,
CV-74-6-250B	25	2700' fsl, 150' fcl
CV-74-6-250C	200	
CV-74-8-255A	50	T.25S., R.6W., Sec. 28,
CV-74-8-255B	50	2900' fwl, 1200' fsl
CV-74-8-255C	50	

<u>Sample No.</u>	<u>ppb Mercury</u>	<u>Narrative Location</u>
CV-74-9-300A	75	T.26S., R.7W., Sec. 1,
CV-74-9-300B	275	2820' fcl, 1350' fcl
CV-74-9-300C	50	
CV-74-10-300A	400	T.25S., R.6W., Sec. 31,
CV-74-10-300B	300	1420' fcl, 440' fcl
CV-74-10-300C	575	
CV-74-11-255A	50	T.26S., R.7W., Sec. 13,
CV-74-11-255B	50	2750' fcl, 2650' fcl
CV-74-11-255C	75	
CV-74-12-300A	25	T.25S., R.6W., Sec. 29,
CV-74-12-300B	50	600' fcl, 250' fcl
CV-74-12-300C	50	
CV-74-13-255A	25	T.26S., R.6W., Sec. 7,
CV-74-13-255B	50	600' fcl, 750' fcl
CV-74-14-200A	75	T.25S., R.6W., Sec. 21,
CV-74-14-200B	325	4700' fcl, 2300' fcl
CV-74-14-255A	125	
CV-74-14-255B	150	
CV-74-15-200A	25	T.25S., R.5W., Sec. 19,
CV-74-15-200B	25	500' fcl, 700' fcl
CV-74-15-255A	50	
CV-74-16-100A	75	T.25S., R.7W., Sec. 22,
CV-74-16-100B	50	1500' fcl, 1200' fcl
CV-74-16-175A	25	
CV-74-16-175B	75	
CV-74-20-200A	25	T.26S., R.7W., Sec. 30,
CV-74-20-200B	25	10' fcl, 1200' fcl
CV-74-21-220A	825	T.26S., R.7W., Sec. 21,
CV-74-21-220B	125	100' fcl, 1000' fcl
CV-74-21-220C	75	
CF-76-3-225A	140	T.26S., R.6W., Sec. 20,
CF-76-3-225B	85	800' fcl, 500' fcl
CF-76-3-225C	35	
CF-76-3-250A	50	
CF-76-3-250B	70	
CF-76-3-250C	25	

UNION OIL COMPANY OF CALIFORNIA
Geothermal Division

Mercury Analysis of Surface Samples
Near Cove Fort, Utah
February 1974

<u>Location #1</u>		<u>Location #2</u>	
T.25S., R.6W., NE $\frac{1}{4}$ NE $\frac{1}{4}$, Sec. 29		T.26S., R.6W., SW $\frac{1}{4}$, SW $\frac{1}{4}$, Sec. 7	
<u>Sample No.</u>	<u>ppb Mercury</u>	<u>Sample No.</u>	<u>ppb Mercury</u>
74-3	+10,000	74-1	1,460
74-6	+10,000	74-4	+10,000
74-7	80	74-8	+10,000
74-10	+10,000	74-11	+10,000
74-13	320	74-15	+10,000

<u>Sample No.</u>	<u>ppb Mercury</u>	<u>Narrative Location</u>
CF-76-4-225A	15	T.26S., R.6W., Sec. 20,
CF-76-4-225B	15	1150' fwl, 1550' fsl
CF-76-4-225C	-10	
CF-76-4-250A	10	
CF-76-4-250B	25	
CF-76-4-250C	10	
CF-76-5-215A	-10	T.26S., R.6W., Sec. 29,
CF-76-5-215B	15	750' fwl, 1950' fsl
CF-76-5-215C	15	

A minus sign (-) is to be read "less than" and a plus sign (+)
"greater than".

Item (1)C. .5) Geochemical Surveys

It should be noted that this geochemical survey data is the same as that sent in the Initial Data Shipment.

These analyses were made by Rocky Mountain Geochemical Corporation of Midvale, Utah.

UNION OIL COMPANY OF CALIFORNIA
Geothermal Division

Data: Mercury trace analysis
Source: Drill cuttings from temperature gradient holes
Sample numbering:

CV-74-3-300A
CV: Cove Fort project
74: Year, 1974
3: Temperature gradient hole number
300: Depth of sample
A: Cut of sample

<u>Sample No.</u>	<u>ppb Mercury</u>	<u>Narrative Location</u>
CV-74-1-275A	100	T.26S., R.7W., Sec. 12,
CV-74-1-280A	125	1250' fsl, 2250' fsl
CV-74-1-300A	50	
CV-74-1-300B	75	
CV-74-1-300C	75	
CV-74-2-110A	75	T.25S., R.6W., Sec. 17,
CV-74-2-110B	800	600' fwl, 2350' fsl
CV-74-2-110C	875	
CV-74-3-290A	200	T.25S., R.6W., Sec. 19,
CV-74-3-290B	250	2100' fsl, 50' fwl
CV-74-3-300A	275	
CV-74-3-300B	200	
CV-74-3-300C	125	
CV-74-4- 90A	75	T.25S., R.6W., Sec. 20,
CV-74-4- 90B	300	1450' fsl, 850' fwl
CV-74-5-300A	525	T.25S., R.6W., Sec. 29,
CV-74-5-300B	400	250' fsl, 4400' fwl
CV-74-5-300C	425	
CV-74-6-250A	50	T.25S., R.7W., Sec. 23,
CV-74-6-250B	25	2700' fsl, 150' fel
CV-74-6-250C	200	
CV-74-8-255A	50	T.25S., R.6W., Sec. 28,
CV-74-8-255B	50	2900' fwl, 1200' fsl
CV-74-8-255C	50	

<u>Sample No.</u>	<u>ppb Mercury</u>	<u>Narrative Location</u>
CV-74-9-300A	75	T.26S., R.7W., Sec. 1,
CV-74-9-300B	275	2820' fel, 1350' fnl
CV-74-9-300C	50	
CV-74-10-300A	400	T.25S., R.6W., Sec. 31,
CV-74-10-300B	300	1420' fnl, 440' fwl
CV-74-10-300C	575	
CV-74-11-255A	50	T.26S., R.7W., Sec. 13,
CV-74-11-255B	50	2750' fel, 2650' fsl
CV-74-11-255C	75	
CV-74-12-300A	25	T.25S., R.6W., Sec. 29,
CV-74-12-300B	50	600' fwl, 250' fsl
CV-74-12-300C	50	
CV-74-13-255A	25	T.26S., R.6W., Sec. 7,
CV-74-13-255B	50	600' fel, 750' fsl
CV-74-14-200A	75	T.25S., R.6W., Sec. 21,
CV-74-14-200B	325	4700' fwl, 2300' fsl
CV-74-14-255A	125	
CV-74-14-255B	150	
CV-74-15-200A	25	T.25S., R.5W., Sec. 19,
CV-74-15-200B	25	500' fwl, 700' fsl
CV-74-15-255A	50	
CV-74-16-100A	75	T.25S., R.7W., Sec. 22,
CV-74-16-100B	50	1500' fwl, 1200' fsl
CV-74-16-175A	25	
CV-74-16-175B	75	
CV-74-20-200A	25	T.26S., R.7W., Sec. 30,
CV-74-20-200B	25	10' fel, 1200' fnl
CV-74-21-220A	825	T.26S., R.7W., Sec. 21,
CV-74-21-220B	125	100' fel, 1000' fsl
CV-74-21-220C	75	
CF-76-3-225A	140	T.26S., R.6W., Sec. 20,
CF-76-3-225B	85	800' fnl, 500' fwl
CF-76-3-225C	35	
CF-76-3-250A	50	
CF-76-3-250B	70	
CF-76-3-250C	25	

UNION OIL COMPANY OF CALIFORNIA
Geothermal Division

Mercury Analysis of Surface Samples
Near Cove Fort, Utah
February 1974

<u>Location #1</u>		<u>Location #2</u>	
T.25S., R.6W., NE $\frac{1}{4}$ NE $\frac{1}{4}$, Sec. 29		T.26S., R.6W., SW $\frac{1}{4}$, SW $\frac{1}{4}$, Sec. 7	
<u>Sample No.</u>	<u>ppb Mercury</u>	<u>Sample No.</u>	<u>ppb Mercury</u>
74-3	+10,000	74-1	1,460
74-6	+10,000	74-4	+10,000
74-7	80	74-8	+10,000
74-10	+10,000	74-11	+10,000
74-13	320	74-15	+10,000

<u>Sample No.</u>	<u>ppb Mercury</u>	<u>Narrative Location</u>
CF-76-4-225A	15	T.26S., R.6W., Sec. 20, 1150' fwl, 1550' fsl
CF-76-4-225B	15	
CF-76-4-225C	-10	
CF-76-4-250A	10	
CF-76-4-250B	25	
CF-76-4-250C	10	T.26S., R.6W., Sec. 29, 750' fwl, 1950' fsl
CF-76-5-215A	-10	
CF-76-5-215B	15	
CF-76-5-215C	15	

A minus sign (-) is to be read "less than" and a plus sign (+) "greater than".

-111. J (CIS) C. 1)

UNION OIL COMPANY OF CALIFORNIA
Geothermal Division

Item (1) a. Temperature Gradient Investigation (6 holes)
and (1) c. .1, Temperature Gradient Investigation (19 holes)

Measurement: In 1974 the temperature profiles were measured using a "Minimite" thermocouple instrument manufactured by Thermo Electric of North Hollywood, California, with an accuracy of $\pm 0.5^{\circ}\text{F}$. The reproducibility of the temperature data varied $\pm 1.0^{\circ}\text{F}$. For the temperature profiles used in the geologic report the data was visually smoothed to eliminate erratic data. In 1976 the temperature profiles were measured using a thermistor, model DT 101, manufactured by Enviro-Labs, Burbank, California. This instrument can be read to the nearest 0.01°C and the reproducibility of the data is within 0.01°C .

Temperature readings were obtained every 25 feet as the probe was lowered into the gradient hole which had been completed with $3/4$ " or 1" PVC pipe run into a $4-3/4$ " drill hole, backfilled with earth, cuttings and drilling mud. At each station the probe was given 3 to 10 minutes to stabilize before the final reading was obtained. The holes were resurveyed until we were satisfied that reasonable stability had been established in the bore hole, or mechanical problems prevented reentry.

Temperature Gradient Investigation (19 holes).
 UNION OIL COMPANY OF CALIFORNIA
 Geothermal Division

Dates of 1974 Temperature Gradient Data

<u>Hole No.</u>	<u>Days Since Completion</u>	<u>Date</u>
74- 1	1	
	5	8/22/74
	8	8/26/74
	9	8/29/74
74- 2		8/30/74
	2	
	3	8/25/74
	7	8/26/74
74- 3		8/30/74
	1	
	2	8/29/74
74- 4	8	8/30/74
		9/5/74
	5	
	6	9/4/74
74- 5	8	9/5/74
	10	9/7/74
		9/9/74
	1	
74- 6	3	9/5/74
	5	9/7/74
		9/9/74
74- 8	3	
	5	9/9/74
	7	9/11/74
		9/13/74
74- 9	3/4	
	2	9/20/74
	3	9/21/74
	4	9/22/74
	5	9/23/74
74-10		9/24/74
	5	
	9	9/28/74
	17	10/2/74
	21	10/10/74
	25	10/14/74
	57	10/18/74
	11/19/74	
	2	
	3	9/27/74
	7	9/28/74

ART. 2C(1)(1)

ART. 2C(1)(1)

ART. 2C(1)(1)

ART. 2C(1)(1)

ART. 2C(1)(1)

ART. 2C(1)(1)

ART. 2C(1)(1)

ART. 2C(1)(1)

Dates of 1974 Temperature Gradient Data (Cont'd)

<u>Hole No.</u>	<u>Days Since Completion</u>	<u>Date</u>
74-11	3	9/30/74
	5	10/2/74
	6	10/3/74
	13	10/10/74
	15	10/12/74
74-12	1	10/10/74
	3	10/12/74
	5	10/14/74
	8	10/17/74
74-13	2	10/18/74
	12	10/28/74
	13	10/29/74
74-14	6	10/28/74
	7	10/29/74
	9	10/31/74
74-15	4	10/28/74
	5	10/29/74
	7	10/31/74
	19	11/12/74
	20	11/13/74
	21	11/14/74
74-16	1	11/1/74
	12	11/12/74
	13	11/13/74
	14	11/14/74
74-20	1/4	11/23/74
	1	11/24/74
	2	11/25/74
74-21	13	12/10/74
	14	12/11/74
74-22	6	12/9/74
	7	12/10/74
74-23	2	8/25/74
	6	8/29/74
	29	9/21/74

ART. 2C(1)a

ART. 2C(1)c(1)

ART. 2C(1)a

ART. 2C(1)c(1)

ART. 2C(1)c(1)

ART. 2C(1)a

ART. 2C(1)c(1)

ART. 2C(1)a

ART. 2C(1)c(1)

ART. 2C(1)a

UNION GEOTHERMAL DIVISION
TEMPERATURE GRADIENT DATA

PROSPECT: COVE FORT
HOLE NO. 74-1
T.D. 300'

T. 265 R. 7W Sec. 12
1250 fsl 2250 fsl

BEAVER COUNTY UTAH STATE

TEMPERATURES

DEPTH	DAYS SINCE COMPLETION				
	1	5	8	9	
25'	57.0°F	67.0°F	66.0°F	59.0°F	
50	65.5	70.5	74.0	65.0	
75	70.0	75.5	77.0	69.5	
100	75.0	79.0	81.0	74.0	
125	77.5	82.5	84.0	78.0	
150	82.0	86.0	89.0	81.5	
175	83.0	90.5	93.0	86.0	
200	86.0	94.0	95.5	89.5	
225	90.0	99.5	98.5	94.0	
250	94.0	105.0	105.0	99.0	
275	98.0	109.0	108.0	103.0	
300	102.5	112.0	110.5	107.0	

LITHOLOGY:

0'-240' sandstone; gravel,

OTHER:

**UNION GEOTHERMAL DIVISION
TEMPERATURE GRADIENT DATA**

PROSPECT : COVE FORT
HOLE NO. 74-3
T. D. 300'

T. 255 R. 6W Sec. 19
2100' N/S 50' E/W

MILLARD UTAH
COUNTY STATE

TEMPERATURES

DEPTH	DAYS SINCE COMPLETION					
	-1	2	8			
25'	67.0°F	65.5°F	56.0°F			
50	71.0	70.5	61.0			
75	78.0	75.0	67.0			
100	79.5	78.0	70.0			
125	84.0	84.0	76.0			
150	88.5	90.0	82.0			
175	94.0	91.5	88.0			
200	98.0	96.5	90.5			
225	101.0	101.5	95.0			
250	108.0	106.0	100.5			
275	111.0	111.0	105.0			
300'	116.0	116.5	112.0			

LITHOLOGY:

0'-107 alluvium;

OTHER:

UNION GEOTHERMAL DIVISION
TEMPERATURE GRADIENT DATA

Art. 2, C 07a.

PROSPECT: COVE FORT
HOLE NO. 74-5
T.D. 300'

T. 25S R. 6W Sec. 29
250S/N 4400E/W

MILLARD COUNTY UTAH STATE

TEMPERATURES

DEPTH	DAYS SINCE COMPLETION					
	1	3	5			
25	70.0°F	66.0°F	64.0°F			
50	73.5	72.0	70.0			
75	75.0	76.0	76.0			
100	80.0	82.0	80.0			
125	87.0	86.0	86.0			
150	89.5	90.0	90.0			
175	93.5	95.0	95.0			
200	97.5	100.0	99.0			
225	104.0	103.0	104.0			
250	108.5	109.0	109.0			
275	113.5	113.0	114.0			
300	118.0	119.0	119.0			

LITHOLOGY:

0'-72' overburden; 72'-1168' soft

OTHER:

UNION GEOTHERMAL DIVISION
TEMPERATURE GRADIENT DATA

PROSPECT: COVE FORT
HOLE NO. 74-6
T.D. 256'

T. 25S R. 7W Sec. 23
2700' N/S 150' W/E
MILLARD UTAH
COUNTY STATE

TEMPERATURES

DEPTH	DAYS SINCE COMPLETION					
	3	5	7			
25	56.2°F	56.0°F	53.0°F			
50	57.0	58.5	54.0			
75	59.0	60.5	58.0			
100	60.5	62.5	59.5			
125	62.0	65.0	60.5			
150	64.0	66.5	63.0			
175	66.0	68.5	65.0			
200	68.0	70.0	67.0			
225	70.0	72.0	69.0			
250	72.0	73.5	71.0			
256	73.0	74.0	72.0			

LITHOLOGY:

0' - 46' - overburden

OTHER:

UNION GEOTHERMAL DIVISION
TEMPERATURE GRADIENT DATA

PROSPECT: COVE FORT
HOLE NO. 74-8
T.D. 256'

T. 25S R. 6W Sec. 28
2900' E/W 1200' N/S

MILLARD UTAH
COUNTY STATE

TEMPERATURES

DEPTH	DAYS SINCE COMPLETION				
	3/4	2	3	4	5
25'	66.5°F	65.0°F	65.5°F	65.5°F	63.0°F
50'	67.0	66.0	68.0	66.5	65.0
75'	70.0	71.0	72.0	70.5	68.0
100'	74.0	75.5	76.0	74.5	73.5
125'	76.0	78.0	80.0	78.5	77.0
150	79.5	81.5	83.0	80.5	80.0
175	82.0	84.0	88.0	84.5	84.0
200	86.0	88.0	90.5	89.5	88.0
225	89.0	91.0	94.5	92.5	92.0
250	94.5	96.0	99.5	97.5	97.0
256	96.5	97.0	100.5	99.0	98.0

LITHOLOGY:

0'-23' overburden; 23-32' soft volcanics;

OTHER:

UNION GEOTHERMAL DIVISION
TEMPERATURE GRADIENT DATA

PROSPECT: COVE FORT
HOLE NO. 74-9
T.D. 300'

T. 265 R. 7W Sec. 1
2820'W/E 1350'S/N

MILLARD UTAH
COUNTY STATE

TEMPERATURES

DEPTH	DAYS SINCE COMPLETION					
	5	9	17	21	25	57
25	57.0°F	56.0°F	58.0°F	55.0°F	56.0°F	55.5°F
50	57.0	57.0	58.0	57.0	57.5	57.5
75	59.5	59.0	59.5	58.0	59.0	59.5
100	61.0	61.0	60.5	60.0	61.0	60.5
125	62.5	62.0	62.0	61.5	62.5	62.0
150	63.0	64.0	63.5	63.0	64.0	63.5
175	65.0	65.0	63.5	64.0	65.0	64.0
200	65.0	65.5	64.5	64.0	66.0	65.5
225	66.0	65.5	66.0	65.0	66.0	66.0
250	66.5	66.0	67.0	66.0	67.0	66.5
275	67.5	67.0	68.0	67.0	68.0	67.5
300	68.0	69.5	68.5	67.5	68.5	68.0

LITHOLOGY:

OTHER:

PROSPECT: COVE FORT
 HOLE NO. 74-10
 T. D. 300

T. 25S R. 6W Sec. 31
1420'S/NL 440'E/WL
MILLARD UTAH
 COUNTY STATE

TEMPERATURES

DEPTH	DAYS SINCE COMPLETION					
	2	3	7	15	17	23
25	61.5°F	63.0°F	62.0°F	61.0°F	64.5°F	63.5°F
50	63.5	64.0	63.0	66.5	65.0	64.5
75	64.0	64.5	64.0	66.5	65.5	65.0
100	64.0	66.0	65.0	66.5	66.0	66.0
125	64.0	66.0	65.5	67.0	66.5	66.5
150	65.0	66.0	66.0	67.0	66.0	66.5
175	65.5	67.0	66.5	68.0	66.0	67.5
200	66.5	68.5	67.5	69.0	68.0	68.5
225	68.0	69.0	69.0	70.0	69.5	70.0
250	70.0	70.5	71.0	71.5	70.5	72.0
275	71.5	73.5	73.0	73.5	72.0	73.5
300	73.5	75.0	75.0	76.0	74.5	75.5

LITHOLOGY:

0'-300' overburden

Last circulation at 90'

Water level 191

OTHER:

PROSPECT: COVE FORT
 HOLE NO. 74-11
 T.D. 255'

T. 26S R. 7W Sec. 13
2750' W/E 2650' N/S
BEAVER UTAH
 COUNTY STATE

TEMPERATURES

DEPTH	DAYS SINCE COMPLETION				
	3	5	6	13	15
25'	55.0°F	58.0°F	58.0°F	56.0°F	56.0°F
50	56.0	59.0	59.0	57.5	57.5
75	58.5	62.0	61.0	60.0	59.5
100	59.5	62.0	62.0	62.0	62.0
125	62.0	65.0	65.0	64.0	64.0
150	63.5	67.0	67.0	66.0	65.5
175	66.5	69.5	68.0	68.5	67.5
200	68.0	70.0	70.0	70.0	69.5
225	69.0	72.0	71.5	71.0	70.5
250	70.5	74.0	71.5	72.0	71.5
255	71.0	74.5(9)	72.0	72.0+	72.0

LITHOLOGY:

0'-7' overburden; 7'-106' hard
volcanics; 106'-109' soft volcanics;
109'-117' hard volcanics; 117'-121' salt

OTHER:

PROSPECT: COVE FORT
 HOLE NO. 74-12
 T. D. 300'

T. 255 R. 6W Sec. 29
600' E/W, 250' N/S
MILLARD UTAH
 COUNTY STATE

TEMPERATURES

DEPTH	DAYS SINCE COMPLETION				
	1	3	5	8	
25'	67.0°F	63.5°F	60.5°F	60.0°F	
50	67.5	64.0	62.0	61.5	
75	70.0	68.0	66.0	65.5	
100	74.0	71.0	70.0	69.5	
125	78.0	75.0	74.0	73.0	
150	80.0	78.0	79.5	77.0	
175	83.0	82.5	83.5	81.5	
200	84.0	85.0	87.0	86.0	
225	88.0	88.5	90.5	89.5	
250	91.5	92.0	94.5	92.5	
275	94.5	96.0	98.5	96.5	
300	99.5	100.0	102.0	100.5	

LITHOLOGY:

0'-40' alluvium; 40'-120' hard gray andesite; 120'-192' very hard volcanics; 192'-200' salt-influenced mudstone

OTHER:

TEMPERATURE GRADIENT DATA

PROSPECT: COVE FORT
 HOLE NO. 74-13
 T.D. 255'

T. 265 R. 6W Sec. 7
600' W/E, 750' N/S

BEAVER
 COUNTY

UTAH
 STATE

TEMPERATURES

DEPTH	DAYS SINCE COMPLETION					
	2	12	13			
25'	58.0°F	55.5°F	58.0°F			
50	60.5	58.0	60.5			
75	64.0	63.0	65.0			
100	68.0	68.5	69.5			
125	73.0	73.0	73.0			
150	77.5	77.0	77.0			
175	80.5	81.5	81.0			
200	86.0	85.5	85.0			
225	89.5	89.5	89.5			
250	93.0	93.5	93.5			
255	94.0	94.5	94.5			

LITHOLOGY:

0'-60' Alluvium; 60'-240' - tuff,
soft clayey, red; 240'-255' tuff,
diatomite

OTHER:

TEMPERATURE GRADIENT DATA

PROSPECT: BOVE FORT
 HOLE NO. 74-14
 T.D. 255'

T. 25S R. 6W Sec. 21
4700'E/W, 2300 N/S

MILLARD UTAH
 COUNTY STATE

TEMPERATURES

DEPTH	DAYS SINCE COMPLETION					
	6	7	9			
25'	56.5°F	58.0°F	58.0°F			
50	59.5	60.0	60.5			
75	62.0	62.5	62.0			
100	64.5	65.0	65.0			
125	68.0	67.0	67.0			
150	70.0	69.0	69.5			
175	72.0	70.5	72.0			
200	74.0	72.5	73.5			
225	76.0	75.0	75.5			
250	78.0	77.5	78.0			
255	79.0	78.0	78.5			

LITHOLOGY:

0'-52' overburden; 52'-80' soft
andesite; 80'-102' hard andesite;
102'-104' soft andesite; 104'-105'

OTHER:

TEMPERATURE GRADIENT DATA

PROSPECT : COVE FORT
 HOLE NO. 74-15
 T.D. 255'

T. 25S R. 5W Sec. 19
500'E/W, 700'N/S

MILLARD COUNTY UTAH STATE

TEMPERATURES

DEPTH	DAYS SINCE COMPLETION					
	4	5	7	19	20	21
25	56.5°F	55.0°F	54.5°F	55.5°F	56.5°F	58.5°F
50	56.5	56.0	56.0	57.0	58.0	60.0
75	58.0	57.5	58.0	58.5	59.5	60.0
100	61.0	61.0	60.0	60.5	62.0	63.5
125	63.5	64.0	63.0	64.0	64.0	66.0
150	65.5	66.0	65.5	66.0	66.0	68.5
175	68.0	68.0	68.0	68.0	68.5	70.5
200	69.0	70.0	70.0	70.0	70.0	72.5
225	69.5	70.0	70.5	72.5	72.0	74.0
250	74.0	74.0	74.0	75.0	74.5	76.0
255	75.0	75.5	74.5	76.0	75.0	76.5

LITHOLOGY:

0'-102' overburden; 102'-132'
hard reddish andesite; 132'-141'-soft
141'-150' hard andesite

OTHER:

PROSPECT : COVE FORT
 HOLE NO. 74-16
 T.D. 175'

T. 25S R. 7W Sec. 22
1500' E/W, 1200' N/S
(unsurveyed)
MILLARD UTAH
 COUNTY STATE

TEMPERATURES

DEPTH	DAYS SINCE COMPLETION				
	1	12	13	?	
25	56.0°F	56.5°F	58.5°F	55.5°F	
50	58.0	58.0	59.5	57.5	
75	61.0	61.0	62.5	61.0	
100	61.0	64.0	65.0	62.5	
125	64.0	67.0	69.0	66.0	
150	67.0	68.5	70.0	68.0	
175	70.0	70.0	71.5	70.0	

LITHOLOGY:

0'-7' overburden - 7-35' hard
volcanics; 35'-130' soft volcanics;
130'-175' hard volcanics - water

OTHER:

TEMPERATURE GRADIENT DATA

PROSPECT: COVE FORT
 HOLE NO. 74-21
 T.D. 225'

T. 26S R. 7W Sec. 21
100' W/EL, 1000' N/S2
BEAVER UTAH
 COUNTY STATE

TEMPERATURES

DEPTH	DAYS SINCE COMPLETION				
	14	17			
25'	56.0°F	55.5°F			
50	56.0	54.0			
75	59.0	55.0			
100	57.5	55.5			
125	58.0	56.0			
150	59.0	56.5			
175	59.5	57.5			
200	60.0	57.5			
225	60.0	58.0			

LITHOLOGY:

0'-40' sandstone; 40'-80' volcanics;
80'-225' alluvium

OTHER:

PROSPECT : COVE FORT
 HOLE NO. 74-22
 T.D. 250'

T. 26S R. 6W Sec. 18
1000' N/SL 150' W/EL
(UNSURVEYED)
BEAVER COUNTY UTAH STATE

TEMPERATURES

DEPTH	DAYS SINCE COMPLETION				
	6	7			
25'	56.0°F	55.5°F			
50	56.0	56.0			
75'	56.5	56.5			
100	58.0	58.0			
125	60.0	59.5			
150	61.0	60.5			
175	62.0	62.0			
200	62.5	63.5			
225	64.0	64.5			
250	65.5	66.0			

LITHOLOGY:

0'-250' tuff, red
water table: not reported

OTHER:

TEMPERATURE GRADIENT DATA

PROSPECT : COVE FORT
 HOLE NO. 74-24
 T. D. 390'

T. 25S R. 7W Sec. 26
2500' N/SL, 200' W/EL

MILLARD
 COUNTY

UTAH
 STATE

TEMPERATURES

DEPTH	DAYS SINCE COMPLETION					
	1	4	15			
25'	55.5°F	57.0°F	59.5°F			
50	58.0	59.0	59.0			
75	58.0	59.5	59.5			
100	59.0	60.5	62.0			
125	58.5	62.0	62.5			
150	60.5	62.0	62.0			
175	59.5	62.0	62.0			
200	59.0	61.5	63.0			
225	59.0	62.0	63.0			
250	58.0	62.0	62.5			
275	58.0	61.0	63.0			
300	57.5	62.0	63.0			
325	60.5	64.0	64.0			
350	61.0	66.5	66.0			
375	63.0	68.0	68.0			
390	64.0	70.0	69.0			

LITHOLOGY:

0'-390' - Alluvium and
Late Tertiary Sediments.

OTHER:

Dates of 1976 Temperature Gradient Data

<u>Hole No.</u>	<u>Days Since Completion</u>	<u>Date</u>
76- 1	8	11/8/76
	12	11/12/76
76- 2	4	11/8/76
	8	11/12/76
76- 3	3	11/12/76
	8	11/17/76
76- 4	3	11/13/76
	7	11/17/76
76- 5	1	11/13/76
	5	11/17/76

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ART. 2 C(1) e 1)

PROSPECT : COVE FORT
 HOLE NO. 76-1
 T.D. 162.5

T. 26S R. 7W Sec. 13
300 fml 2150 fcl

Beaver Utah
 COUNTY STATE

TEMPERATURES

DEPTH	DAYS SINCE COMPLETION				
	8	12			
25'	14.28°	14.34°			
50	16.86	16.82			
75	19.10	19.09			
100	20.92	20.98			
125	22.92	22.94			
137.5	—	23.55			
150	24.01	24.05			
162.5	24.99	25.00			

LITHOLOGY:

0'-162.5' alluvium; sandstone;
gravel; water at 147'

OTHER:

TEMPERATURE GRADIENT DATA

PROSPECT: COVE FORT
 HOLE NO. 76-2
 T.D. 250'

T. 26S R. 7W Sec. 24
1800fw1 1650-fs1

BEAVER UTAH
 COUNTY STATE

TEMPERATURES

DEPTH	DAYS SINCE COMPLETION				
	4	8			
25	12.01°	11.78°			
50	12.28	12.25			
75	13.02	12.96			
100	13.64	13.59			
125	14.25	14.23			
150	14.69	14.71			
175	15.20	15.21			
200	15.66	15.66			
225	16.25	16.24			
250	16.96	16.96			

LITHOLOGY:

Alluvium, sandstone, gravel
0'-250'

OTHER:

TEMPERATURE GRADIENT DATA

PROSPECT : COVE FORT
 HOLE NO. 76-3
 T.D. 250'

T. 26S R. 6W Sec. 20
800'fnl 500'fwl

BEAVER UTAH
 COUNTY STATE

TEMPERATURES

DEPTH	DAYS SINCE COMPLETION				
	3	8			
25'	10.09°	9.98°			
50	10.38	10.28			
75	11.11	11.04			
100	11.57	11.56			
125	12.14	12.15			
150	12.85	12.83			
175	13.55	13.50			
200	14.23	14.50			
225	15.01	14.99			
250	15.71	15.74			

LITHOLOGY:

0'-250' volcanics andesitic
medium hard; water at 108', 22.3'

OTHER:

TEMPERATURE GRADIENT DATA

PROSPECT: COVE FORT
 HOLE NO. 76-4
 T.D. 250'

T. 26S R. 6W Sec. 20
1150 fwl 1550 fsl
BEAVER UTAH
 COUNTY STATE

TEMPERATURES

DEPTH	DAYS SINCE COMPLETION				
	3	7			
25'	9.78°C	9.66°C			
50	9.97	9.82			
75	10.49	10.41			
100	11.23	11.22			
125	12.05	11.96			
150	12.75	12.74			
175	13.37	13.22			
200	13.79	13.74			
225	14.14	14.11			
250'	14.66	14.66			

LITHOLOGY:

0'-250' volcanics, andesitic;
first water at 106'; 2-3 gpm at

OTHER:

