CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
3550 N. Central Ave, 2nd floor
Phoenix, AZ, 85012
602-771-1601
http://www.azgs.az.gov
inquiries@azgs.az.gov

The following file is part of the Walter E. Heinrichs, Jr. Mining Collection

ACCESS STATEMENT

These digitized collections are accessible for purposes of education and research. We have indicated what we know about copyright and rights of privacy, publicity, or trademark. Due to the nature of archival collections, we are not always able to identify this information. We are eager to hear from any rights owners, so that we may obtain accurate information. Upon request, we will remove material from public view while we address a rights issue.

CONSTRAINTS STATEMENT

The Arizona Geological Survey does not claim to control all rights for all materials in its collection. These rights include, but are not limited to: copyright, privacy rights, and cultural protection rights. The User hereby assumes all responsibility for obtaining any rights to use the material in excess of "fair use."

The Survey makes no intellectual property claims to the products created by individual authors in the manuscript collections, except when the author deeded those rights to the Survey or when those authors were employed by the State of Arizona and created intellectual products as a function of their official duties. The Survey does maintain property rights to the physical and digital representations of the works.

QUALITY STATEMENT

The Arizona Geological Survey is not responsible for the accuracy of the records, information, or opinions that may be contained in the files. The Survey collects, catalogs, and archives data on mineral properties regardless of its views of the veracity or accuracy of those data.

6/13/67
JWM

PICK ENTERPRISES

DENVER, COLORADO

To: Vernon J. Pick, Owner

FROM: Jackson M. Langton, Geologist

DATE: August 1, 1966

RE: The ALPHA-DELTA and DOMINGO-SPATARO claims between the Mineral Hill and Planet copper-iron mines in the Bill Williams Mining District, Yuma County, Arizona.

Proposal: To hold the claims indefinitely and continue further exploration on the property using an allowable expense program.

Summary: There are fifty four ALPHA-DELTA claims overlapping and absorbing the fifteen DOMINGO-SPATARO claims. Approximately one thousand acres of a highly altered and mineralized area are covered by these claims. They are located about twenty four road miles east-northeast of Parker, Arizona. The elevation of this property ranges between 400 and 1600 feet. Excellent outcrops are available over the entire area.

The Spaniards were the first to actively mine this district for gold and silver during the Sixteenth Century. The turn of the Twentieth Century brought forth the first copper production, however. Presently Arizona Ranch and Metals Company is building a mill to handle the copper from Mineral Hill using an electro-winning process. This method was found through research at Colorado School of Mines to be the most successful for this type of ore. The mill is just west of Mineral Wash (see geological map) and one-half mile from the western boundary of the ALPHA-DELTA claims.

On the property investigated, numerous veins containing gold and copper have been mined by prospectors in the past. The veins occur along fault zones that cut quartz-mica schists and quartzites (Pmv on map) on the surface and probably a ferroan dolomite (Dd on map) in subsurface. The highest degree of alteration and gold-copper mineralization seen on the surface is in the eastern one-half of section 11, Township 10 North, Range 17 West (see map). The veins dip generally to the south-southwest.

Diamond drilling (see hole data, p.) provided interesting gold-copper mineralization in subsurface and sound proof ~~as~~ of ~~to~~ the expected subsurface geology.

<u>Recommendations</u>: Prior to further exploration on these claims,

all legalities and unfavorable personnel connected with the property should be handled accordingly.

Exploration should proceed as follows:

(1) Because of the inefficiency of geophysical electrical methods, exploration drilling (3 additional diamond holes to 500 feet) would provide the best results for the money spent. The writer doubts that a gravity survey would be of any value because of the complexity of the geologic structure. The diamond holes should be located as shown on the overlay (plate I).

(2) If the results are favorable from the data accumulated from all of the diamond holes (5), a rotary drilling program should be set up in accordance with a major mining company to delineate the extent of the ore under the claims.

(3) Boyles Brothers Drilling Company should be contracted for the drilling as they are familiar with the rocks and know the chemicals necessary to retain mud circulation. Due to the softness of the ore and the highly fractured nature of the rocks, NX and BX face-discharge bits should

be continually used in conjunction with five foot core barrels for the best possible core recovery.

Discussion: The northern half of Yuma County, Arizona became interesting geologically to the writer while working toward a Ph.D. in Geology at Missouri School of Mines. Dr. P.D. Proctor, then head of the geology department, referred several of his students to a 1911 publication by Howland Bancroft. This was a reconnaissance investigation of the geology and mines in the 5000 square miles of northern Yuma County. In the summer of 1964, Vernon J. Pick agreed to finance field expenses incurred by M.S.M. students working on their various degrees in northern Yuma County.

The writer was given a 300 square mile area to geologically map at a scale of approximately one inch to the mile and to run a magnetometer survey across the area. At the end of the summer's field work, it was quite evident that the magnetometer results were disappointing, but the geologic mapping showed intense deformation in a few areas.

While attending Stanford University in the fall of 1964, Dr. L. M. Page suggested that the writer narrow the area of investigation and concentrate on structure and petrology. His suggestions led to the discovery of a major right-lateral strike-slip fault, a metamorphic aureole similar to

those encountered around intrusions, and a central concentric pattern over a structure characteristic of Cordilleran ore deposits. The field work in the spring of 1965 led the writer to believe in the existence of the mineralized dolomite in subsurface between the Mineral Hill and Planet mines and in the possibility of a porphyry copper deposit at depth. After carefully checking the field data in the winter of 1966, the writer suggested to Mr. Pick that he stake and purchase all available area between these two mines.

The claims were validated by rotary and diamond drilling from April to June of 1966. The diamond holes were drilled 493 feet and 510 feet while the rotary holes attained a maximum depth of 168 feet (see mining claim map by Smith). The diamond cores were studied carefully and expected ore zones were generally assayed in ten foot sections (see assay data).

Domingo Valenzuela has lived on his claims for thirty years, occasionally building a stockpile of copper-gold ore which he would sell. The past two years he has collected some of his richer samples and sold them as hand specimens to passers-by and rock hounds. In the course of several years, Valenzuela has had several partners, with the current one being Salvatore J. Spataro, who now resides in Denver, Colorado.

The area covered by Pick Enterprises (including the Domingo-Spataro claims) now approaches 1000 acres. Fragments of claims were necessary to cover the open ground and all measures were taken to produce a simple single block of mining property.

Location: The property is 24 road miles east-northeast of Parker, Arizona and approximately one mile south of the Bill Williams River. Electrical power and water are immediately available. The center of the property is one-half mile from a Yuma County improved dirt road.

History: This property has been prospected and worked for gold and copper for the past four centuries. The Spaniards were apparently the first aggressive miners and used Indian slaves. They were primarily removing the gold and silver. Domingo Valenzuela's ancestors worked the area in the late 1800's and early 1900's. Valenzuela has used hand steel on his claims ever since. The deepest shaft is about 150 feet and dips 60 degrees to the south. The gold is the flour or flake variety and the writer estimates fifty thousand dollars could still be taken out of the shallow workings. The assays of the cores verify a stronger gold potential, however.

Mining Properties Near: The Mineral Hill Mine, owned and operated

ARAMCO

by Arizona Ranch and Metals Company, is directly west of the property at the southeast corner of section 3, Township 10 North, Range 17 West. This mine has a minimum calculated copper ore reserve of one million one hundred thousand tons of 1% ore, not to mention the high grade specular hematite associated with the copper. The majority of the best copper ore occurs as veinlets and disseminated replacements in the ferroan dolomite. Most of the copper ore is typical of the oxide zone. ARAMCO expects to commence a 1500 ton per day production from their electro-winning mill commencing in the fall of 1966.

One mile to the northeast in the northern one-half of section 6, Township 10 North, Range 16 West, (ALPHA claims abut the patented ground) is the Planet Copper-Iron Mine allegedly leased by the Pacific Mines Company. This mine, as with Mineral Hill, was first worked by the Spaniards in the Sixteenth Century. The copper and iron occur primarily in the same stratigraphic horizon as at Mineral Hill. The mine is presently dormant, but huge promotions of unrealistic proportions have been promised by Pacific Mines. Excellent oxide copper and iron ore crop out on the property. Similar to Mineral Hill, it could probably be mined economically if the political chaos was cleaned up. The writer seriously doubts the validity of the proposed gigantic

reserves of this mine, however.

An old manganese mine is located three-quarters of a mile to the southeast in the northern one-third of section 13, Township 10 North, Range 17 West, and has been dormant for about ten years. The manganese oxide ore is associated with Tertiary-Cretaceous sediments containing considerable volcanic material of which is possibly related to the genesis of the ore.

The once great mine of northern Yuma County is Swansea, located about twelve air miles to the southeast. The mine was active until the mid-1930's and was forced to close down because of dangerous underground workings. All of the old shafts and stopes have since caved in. Square sets were used in the mine between the 400 and 750 foot levels. Many of the old prospectors still believe there is considerable high grade ore left in the work areas. The Swansea area is still considered a potential ore district.

Topography: The terrain is extremely eroded and is dissected by numerous deep washes. Typical of western Arizona deserts, the vegetation consists of a variety of desert plants sparsely scattered over the slopes. The higher peaks and darker rocks characteristically show the desert varnish of manganese oxide. The majority of the rocks are highly altered and

have been subjected to extensive oxidation conducive to arid climates. The property is drained to the west by Mineral wash and to the east by Planet wash, both of which are tributaries of the Bill Williams River. The elevation varies from 400 feet to 1600 feet in the immediate area.

Geology: This entire area is truly a geologic phenomenon. The writer has carefully mapped seventy two square miles of the most complex structures and rock types imaginable to a geologist. The general geology and mineralogy of many small mines were studied over the northern one-half of Yuma County and the southern one-half of Mohave County.

It is not within the scope of this report to fully discuss the geology. It would essentially be a dissertation because of the vast amount of information accumulated over the past three years. The writer will, however, bring to attention the pertinent facts leading to the discovery of subsurface copper and gold on ALPHA-DELTA claims. Close examination of the geological map submitted with this report will enable the reader to understand the many reasons for staking and purchasing all available land between the Mineral Hill and Planet ore bodies.

The area covered by the geologic map may best be described if the reader thinks of it as an imbrication; that is, the stratigraphic units are thrust one over the other or lie one

on top of the other in a set pattern. Many high angle gravity or strike-slip faults cut and offset the various formations, making the interpretation more difficult. The overturned and recumbent folds associated with the thrusting also intensifies the problem. Several rhyolite to dacite dikes are exposed and apparently intruded the strata along once active fault zones.

The phyllite (PMp) contains anomalous values of gold and copper which is to be expected in gold provinces. The phyllite (PMp)-metatuff (Pmv) contact is often difficult to establish, but it is probably unconformable. Above and to the southwest of Mineral Hill the phyllite overlies the metatuff unit which has been locally metamorphosed into a calc-silicate rock giving the metatuff and included quartzites a dark greenish hue. This is also viewed above the Planet Mine workings.

The majority of the metatuff schist (Pmv) is exposed in the central portion of what appears to be a wedge-shaped graben opening to the north. This unit normally has a silver-white color, is extremely faulted, often overturned, and most probably is thrust over the schistose quartzite (Pq) and Devonian (?) ferroan dolomite (Dd). Numerous lenses of quartzite are associated with the metatuff and cap the higher

hills in sections 1 and 11 in Township 10 North, Range 17 West. Many veinlets containing azurite and malachite are exposed throughout this schist and a few contain fine grained native gold. The schist exhibits strong pyrite alteration in section 11 and in the southern one-half of section 2, Township 10 North, Range 17 West. The northern group of ALPHA claims cover an elliptical dome in the schist that has apparently collapsed. This domal structure is superimposed on the older overturned folds within the schist and probably reflects an intrusion at depth. It is wise to point out that this same type of phenomenon is displayed over and around many of the Cordilleran ore deposits as described by Wisser (Wisser, Edward; Relation of Ore Deposition to Doming in the North American Cordillera, G.S.A. mem. 77, Feb.25,1960).

The schistose quartzite (Pq) crops out extensively west and northwest of the ALPHA claims and characteristically assays traces of silver. A few copper shows are seen in the quartzite above the Planet mine workings.

The most extensively mineralized formation in the area is the Devonian (?) ferroan dolomite (Dd). This unit may be as young as Pennsylvanian or old as Silurian; the assigned age is arbitrary but it seems to correlate well to other Devonian limestones in Arizona. Its thickness varies from zero to over 100 feet, averaging forty to fifty feet at most

outcrops. At Mineral Hill and Planet mine, the highest grade of malachite, azurite, and tenorite ore occur in this unit along fault zones where the dolomite is brecciated. The specular hematite often replaces the dolomite entirely, and invariably is pre-copper deposition. The copper solutions were apparently introduced in several stages along the faults. When the solutions encountered the favorable carbonates, the copper precipitated as sulfides and were later oxidized to their carbonate--oxide state.

Another interesting comparison is that the Planet Mine copper ore is restricted to the upper plate of the thrust whereas the copper at Mineral Hill is above and below the same thrust zone. This leads the writer to believe the source for the copper and iron of the Mineral Hill and Planet mines is at depth in the area between these two mines. Also, that the ferroan dolomite (Dd) would be closer to the source and therefore should be more extensively replaced with copper and iron minerals. Several of the dikes that cut the meta-tuff contain breccia fragments of dolomite, quartzite, and schist. This indicates that the dikes definitely cut the units at depth and probably stem from a granitic to grano-diorite intrusion.

The writer drilled to 493 feet on the edge of the elliptical structure on ALPHA 3 in section 2, Township 10 North,

Range 17 West in hopes of penetrating the mineralized dolomite and the intrusion. Approximately 102 feet of dolomite was encountered (see drill log) but the intrusion was absent. The writer terminated the hole in the Precambrian gneiss. The dolomite had extensive limonite stain (red to yellowish orange) with abundant hematite, but assayed poorly in copper. A most interesting gold show (0.18 oz.) provided an interesting horizon to watch within the dolomite, however. Myriads of thin veinlets of specular hematite and pyrite were cut from the surface to the Precambrian.

The second diamond hold was drilled to 510 feet in an altered zone in the metatuff near the junction of two faults. This hole is on ALPHA 39 and is about 2700 feet south of the first hole. This entire hole was difficult to drill as the rocks were highly altered and extremely fractured. Core recovery was only fifty percent and less in potential ore horizons. Eight feet of core was lost in a critical zone that had copper sulfides present, but lack of mud re-circulation prevented a sludge sample. Even at that, several interesting gold shows and one prominent copper zone were encountered (see drill log). It is doubtful that any of the copper was indigenous as the fault breccia contained the values. The hole was again stopped in the Precambrian but in this case it was more altered and one zone had malachite

stains (assay showed .18% cu).

It is quite possible that the major copper "feeder" for Mineral Hill and along Mineral Wash is the large Norma Fault zone. This is a gravity fault that originally had considerable strike-slip movement. The original displacement was right-lateral whereas the last movement was down on the northeastern side of the fault. This last adjustment along the fault produced the graben structure and explains why the Mesozoic and Paleozoic units in this area have been preserved. The giant olivine basalt mesa to the west (see QTb on map) accounts for the preservation of the strata on the western side. The Norma Fault was first recognized at Mineral Hill by Louis Cramer, a geologist for ARAMCO, but the actual movement was never ascertained. Chester Longwell, a Stanford professor, mapped several faults of this nature in southern Nevada and postulated that these faults most probably extend into western Arizona providing weak zones to accomodate quartz monzonite to granite intrusions. Fred Miller, a Stanford doctorate student, mapped several of these same northwest-southeast striking faults in the Plamosa Mountains east of Quartsite, which is fifty miles south-southwest of Parker, Arizona.

The writer discussed only the stratigraphic units pertinent to the discovery of more ore in this area. He could

liberate at length on the metallic zoning, metamorphic aureoles, and extensive faulting, but it is only necessary to mention that these are all present and are characteristic of disseminated copper deposits. According to Emmon's classification of veins, the gold and silver normally occur above the copper zones and it is interesting to note that there is considerable gold present in the central portion of the area. Also, minor amounts of molybdenum, tungsten, and platinum have been detected on the DOMINGO-SPATARO claims.

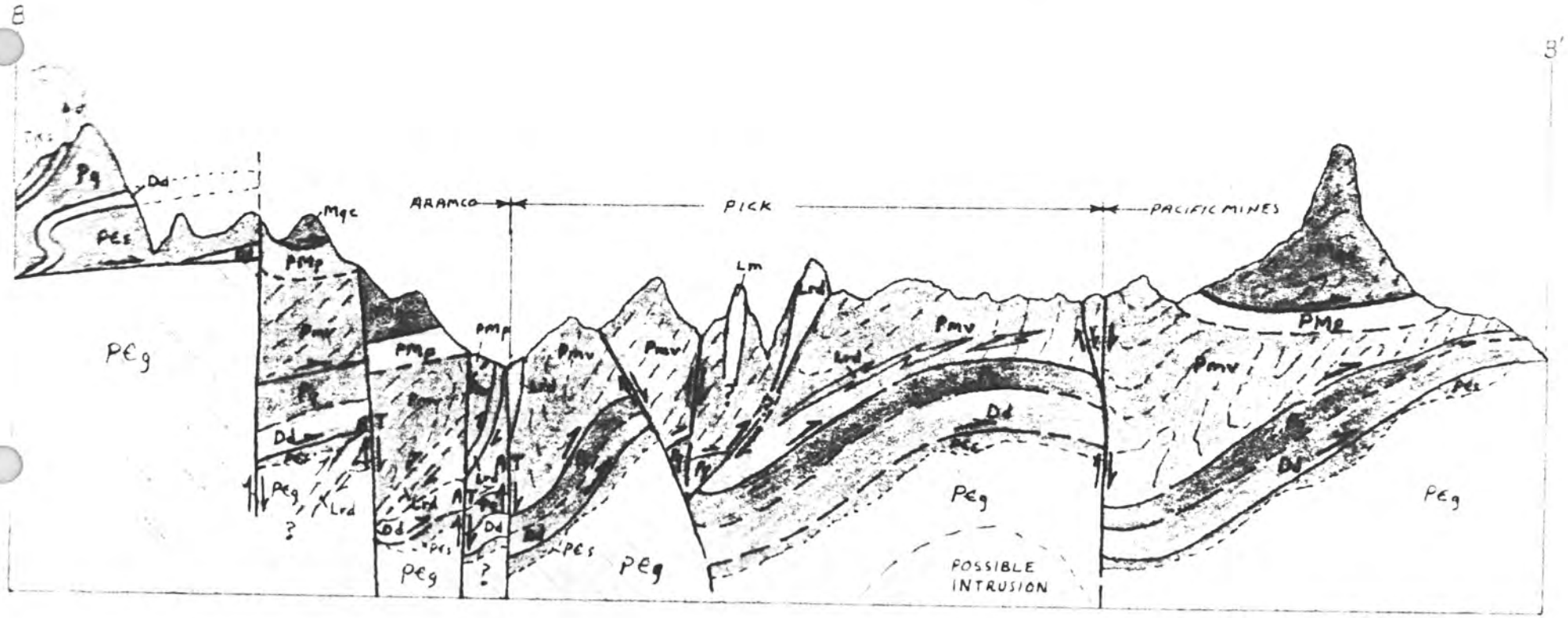
Comments: Although no outstanding copper or gold mineralization was encountered in either of the diamond drill holes, the fact remains that the first hole proved the existence of the ferroan dolomite (Dd) beneath the metatuff schist (Pmv). It becomes a question as to where is the dolomite the richest, and the writer believes at least one of these zones will be found in the next three exploratory diamond holes, if located as shown on the overlay. Too, the writer feels that there still remains the possibility of penetrating an intrusion or laccolithic body of low grade dissiminated copper.

The possibility exists that the major ore is localized along the Norma Fault. If so, all of the western ALPHA claims are valuable, as ARAMCO would have to have those claims to strip the ore. This area represents a wise investment no

matter which way the ore trends and the writer believes that these claims have better potential than any others in western Arizona. Remember, Phelps Dodge is producing 0.75% copper ore at Ajo, Arizona and their cut-off grade is 0.3%. Their enrichment zone is about 0.9 to 1.0% average. The ore bodies of these types are normally 1500 to 2000 feet wide and 2500 feet long.

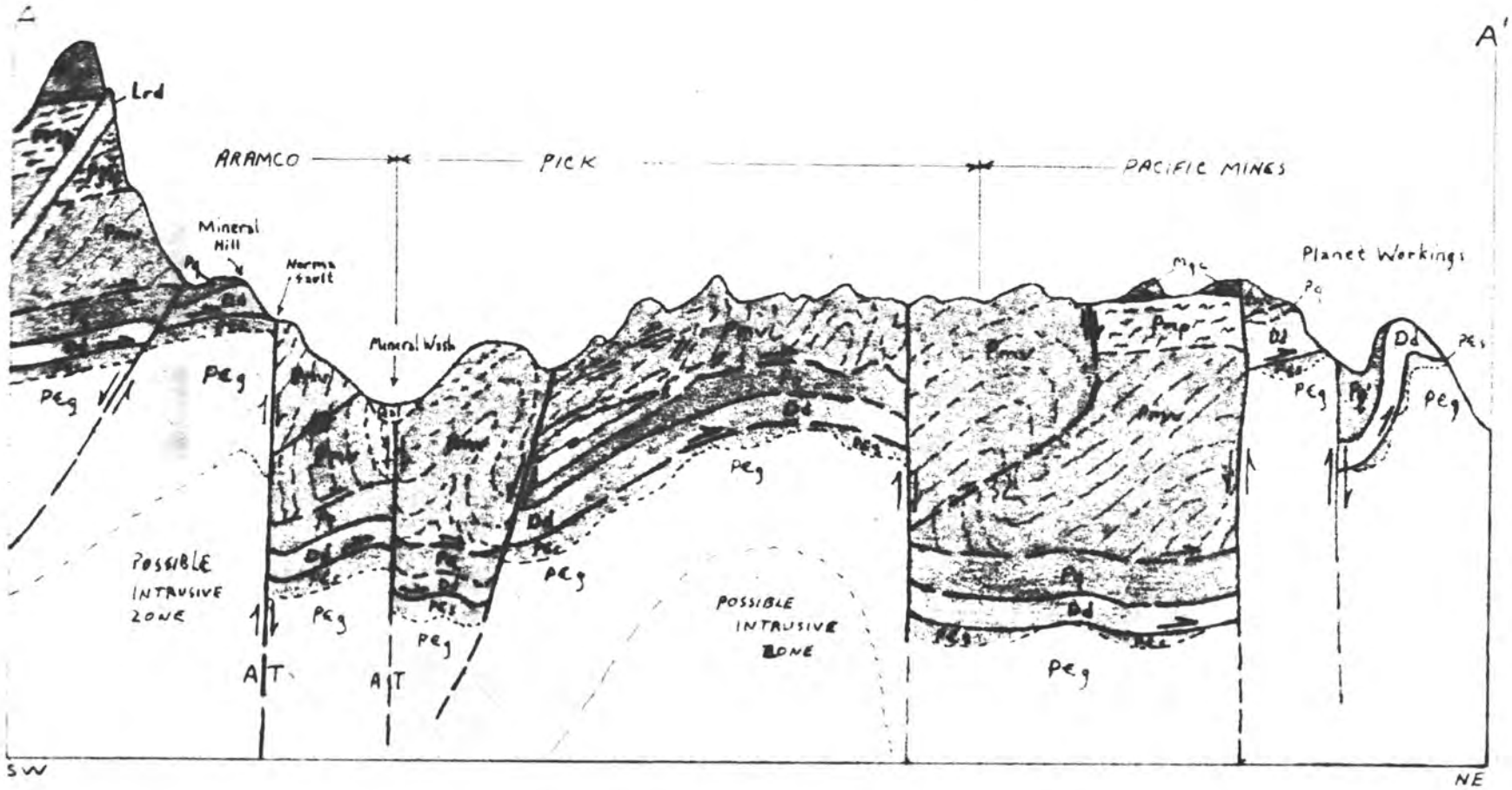
As it is now definitely established that the dolomite exists at depth beneath the ALPHA-DELTA claims, the three additional diamond holes (see LDP 3,4, and 5 on overlay and claims map) should penetrate the mineralized zones in that unit. There is also a good chance that the intrusive might be found. In these types of deposits the ore zones often conform to the topography, so there is no need for concern if a drill hole falls along a slope at a higher elevation. Phelps Dodge at Morenci has consistently drilled on the high slopes with success.

HYPOTHETICAL CROSS-SECTION B-B' ON GEOLOGIC MAP



VERTICAL SCALE: 1" = 400' HORIZONTAL SCALE: 1" = 2000'

CROSS-SECTION A-A' ON GEOLOGIC MAP



VERTICAL SCALE: 1" = 400' HORIZONTAL SCALE: 1" = 2000'

DRILL LOGS

LDP #1 ELEVATION 20[illegible] ELEVATION OF LDP2

DESCRIPTION	ASSAYS (Cu-Au)	FEET
breccia zones		
metatuff schist of (Pmv). Highly altered with abundant pyrite alteration. Numerous faults overcut as shown by breccia and gouge zones.	NOT ASSAYED	
Greenschist of (Pmv), contains minor specular hematite		
(Laramide?-Granite)		
cherts, Quartzites, and carbonates of the (Pq) group. Considerable specular hematite present in veinlets.		181
	Cu=.02%, Au=0	189
	Cu=.04%, Au=0	198
INTRUSIVE rock probably rhyolite or dacite dike (Ldr)		
	Ag - Trace Cu - .01-.02% Au - 0 oz	
Calc-silicate rock of (Pq) that has beautiful print caused by specular hematite and impurities		
The highly mineralized ferroan dolomite; vuggy, abundant siderite. Many Pseudomorphs of limonite after pyrite, and chalcopyrite. This is the ore bearing horizon of Mineral Hill. (Dd)		315.2
	Cu=.01%, Au=.03	325.2
	NIL	338
	Cu=.08, Au=.18 oz	349
	NIL	
quartz-sericite schist of PЄs		406
	Cu-Au-Ag=NIL Mo=.0008%	415
Greenstones, greenschists, and gneissic complex of Precambrian age (PЄg). Not altered to any extent.	NOT ASSAYED (Rock is unfavorable)	

Td 493'

LDP #2

DESCRIPTION	ASSAYS (Cu-Au-Ag)	FEET
Rotary blown samples		
metatuff schist	NOT ASSAYED	
A quartz-sericite schist with abundant specular hematite.	Cu-.02, Au-.01, Ag-	45-50
Minor azurite and malachite detected in panned samples.	Cu=.03% Au=.03 oz Ag=.03 oz	75-80
	Cu-.08, Au-.01, Ag-.03	95-100
	NIL	
	Cu=.08%	115-122
(?) Laramide Quartz Porphyry	NIL	
Strongly epidotized calc-silicate rock (Pq)	Cu=.03% Au=.01 oz Ag=.07 oz	136-146
Mineralized porphyry visible copper in fault		
Highly fractured, brecciated porphyry rock.	minor gold shows (see reports)	
calc-silicate chert, quartzites, and carbonates. Probably (Pq).		
mineralized qtz-porphyry	Cu=0.7%	202-209
Highly mineralized and brecciated dolomite. Lenses of chert and quartzite present.	Cu=0.52% Au=0.01 oz	209-219
	Cu=0.62% Au=0.01 oz	219-232.4
This is probably the faulted equivilent of the ferroan dolomite (Dd)	Cu=0.44% Au=0.01 oz	232.4-258
COPPER ABUNDANT IN breccia zones.		
Quartz-chlorite-sericite schist with lenses of marble. (PЄs)	NIL	
rhyolite porphyry probably (PЄs)		
Abundant specular hematite present		
Altered dolomitic marble		
	Cu=0.02% Au=0.03 oz	306-317
Greenschist: (PЄg) Highly fractured and specular hematite veinlets are numerous. Strong and heavy clay zones are abundant. Large quartz "eyes" often appear in the schist.		
	Cu=0.18%	357-372.3
		383
mineralized zones with bornite copper-molybdenite	NO ASSAYS as rock is unfavorable	
Gneissic complex (PЄg)		

Td 510'

INDUCED POLARIZATION SURVEY
ALPHA DELTA CLAIMS
BILL WILLIAMS MINING DISTRICT
YUMA COUNTY, ARIZONA

For

Pick Enterprises

June 1967

By

Heinrichs Geoexploration Company
P. O. Box 5671 Tucson, Arizona 85703
Phone: 623-0578 Area Code: 602

TABLE OF CONTENTS

	PAGE
GENERAL LOCATION MAP	
INTRODUCTION	1
CONCLUSIONS, RECOMMENDATIONS AND INTERPRETATION	2
BASIS OF INDUCED POLARIZATION METHOD	1a

IN MAP POCKET: (Total 5 pieces)

Induced Polarization Location and Interpretation Plan

Sectional Data Sheets
- Line 1
- Line 2
- Line 3
- Line 4

GENERAL LOCATION OF

PICK ENTERPRISES PROPERTY
(ALPHA-DELTA CLAIM GROUP)

ARIZONA

INTRODUCTION

At the suggestion of Mr. R. A. Hildebrand, Consulting Geologist of Golden, Colorado, and with authorization granted by Mr. W. E. Bancroft of Pick Enterprises, Denver, Colorado, Heinrichs Geoexploration Company conducted and completed an induced polarization survey on the Alpha Delta claims in the Bill Williams Mining District, Yuma County, Arizona. Object of the work was in partial fulfillment of the annual assessment requirements and to test certain geological evidence and theory previously advanced by other observers and students of the area. This work was done in the interim June 15 to June 30, 1967.

A total of four 1,000 foot dipole lines were surveyed giving 46,000 feet of surface coverage of which 27,000 feet is "subsurface" plotted data. Lines 1, 2, and 3 were all oriented N11E-S11W down the claim side or center lines and Line 4 N79W-S79E down the claim end lines as shown on the plan location.

The induced polarization work was done with the dual frequency system using sending frequencies of 0.05 and 1.0 hertz (cps). The electrode array utilized was the standard, collinear dipole-dipole configuration on a 1,000 foot spacing and separated from 2,000 feet to 7,000 feet center to center, which typically gives resolvable penetration within the zone from about 300 feet to 1,200 feet below surface.

Geophysically, the purpose of this survey was to determine if there is a sulfide zone at depth related to the major copper oxide surface show and to delineate its shape and extent if present.

Data are presented on sectional data sheets, one for each line, showing resistivity, percent frequency effect (PFE) and metallic conduction factor (MCF) contoured in section and self potential (SP) in profile form. An Induced Polarization Location and Interpretation Plan is also included. For further details on the theory, presentation and interpretation of the system, see the Basis of the Induced Polarization Method appended to this report.

Heinrichs personnel involved in the field work were R. Palmer, geophysical crew chief, B. Terrell, S. Cruze, J. Kozacki and D. Swanson, technical assistants and wire and electrode layout crew. Report, compilation, computation and interpretation by the Tucson Geoex staff under the supervision of Mr. Chris S. Ludwig, Senior Geophysicist.

CONCLUSIONS, RECOMMENDATIONS AND INTERPRETATION

No significant sulfide indications were seen on this survey with the possible exception of the very weak anomalous effects on the southern ends of Line 1 and 2.

On Line 1 these effects start at about station 25S, increasing slightly to the south and with unknown extent. Line 2 is similar except the anomalous zone starts at about 30S. These effects suggest a sulfide content of less than 1% total sulfide by volume, integrated across the zone indicated. This is probably not of economic significance unless it represents the northern extremity of a stronger anomalous zone to the south not yet seen.

To test this possibility, it is recommended that Lines 1 and 2 be extended another spread south, but only if geologic indications are favorable in that direction and related mineral rights are available.

No sizeable sulfide zones are indicated at depth in the area of interest within the zone from about 300 to 1,200 feet or more below surface. This suggests that the sulfide source of the surface oxide copper may be mostly or entirely oxidized, was small or of very low sulfide concentration, or is not yet discovered because of great depth or lateral displacement. District wide evidence of sheet type faulting indicate an excellent possibility for the latter. Thus, the district is still considered to have merit.

Resistivities are quite erratic, but are within the range typical of pre-Cambrian gneisses in the lower part of the section which was well within most of our penetration depth limits.

Self potentials for the most part show random background variations typical of relatively non-sulfide bearing rocks. Line 1 shows a strong gradient just north of 0 N/S which may indicate a surface rock type change.

Even though the results on this property are rather negative geophysically, we feel that district, in general, has good economic potential and is amenable to a well integrated reconnaissance program of geology, geophysics and possibly geochemistry. This could include preliminary reconnaissance aerial magnetics and regional geology with follow-up reconnaissance induced polarization. Any sulfide zones found could then be detailed with I.P. to determine drill targets.

Respectfully submitted,

HEINRICHS GEOEXPLORATION COMPANY

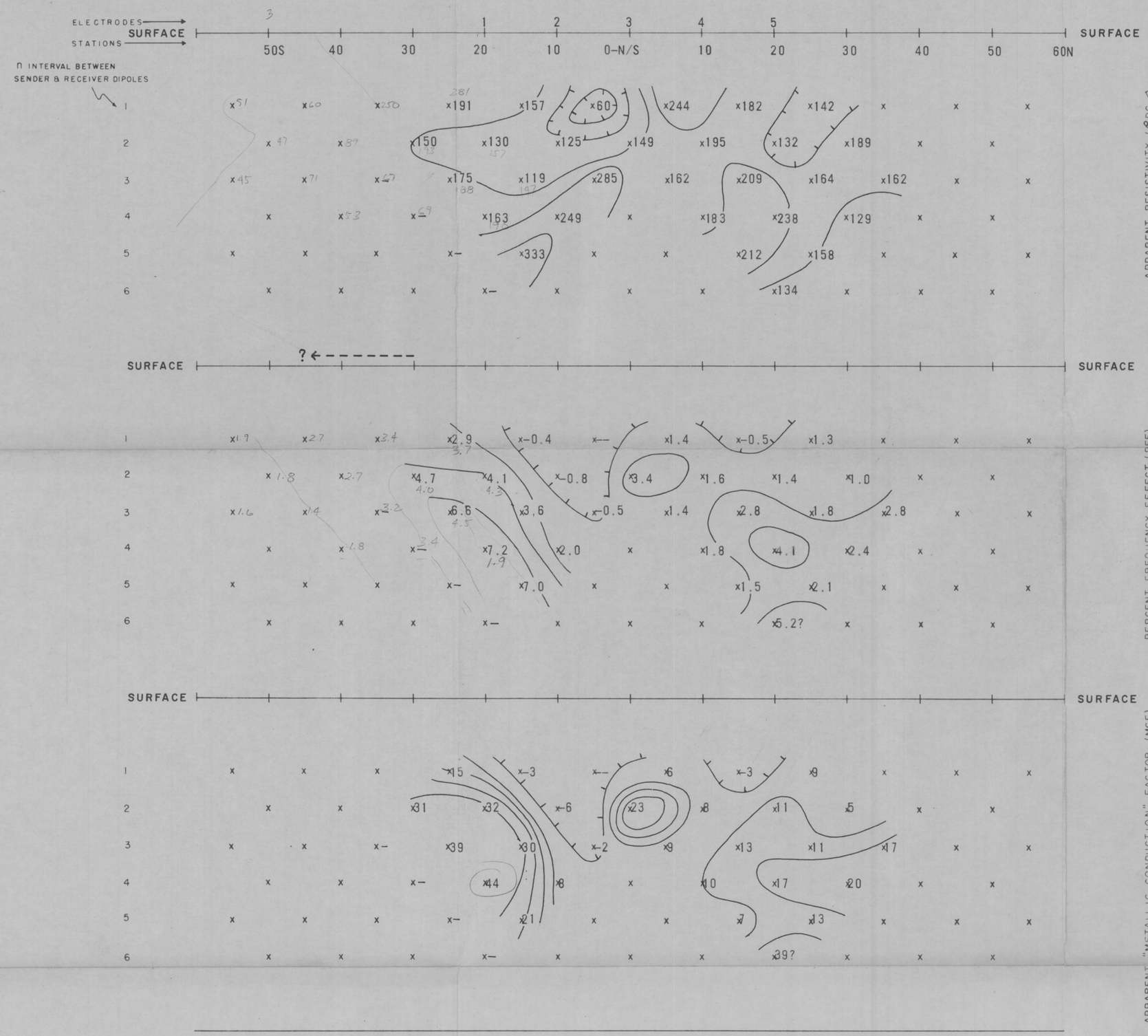
Chris S. Ludwig

Chris S. Ludwig
Senior Geophysicist

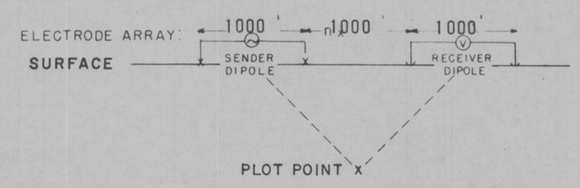
APPROVED: W E Heinrichs Jr.

Walter E. Heinrichs, Jr.
President & General Manager

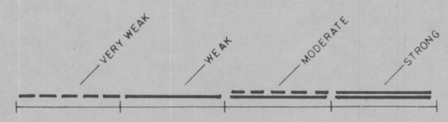
July 17, 1967
Tucson, Arizona



EXPLANATION



RELATIVE ANOMALY STRENGTH



LOOKING N 79° W

ALPHA DELTA CLAIMS

SECTIONAL DATA SHEET

LINE NO. 2

INDUCED POLARIZATION TRAVERSE

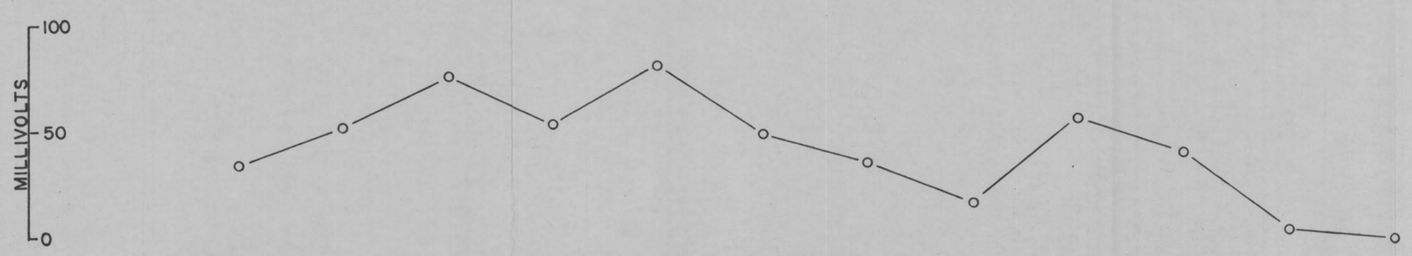
HEINRICHS GEOEXPLORATION COMPANY

SCALE: 1" = 1000' DATE: JUNE 1967

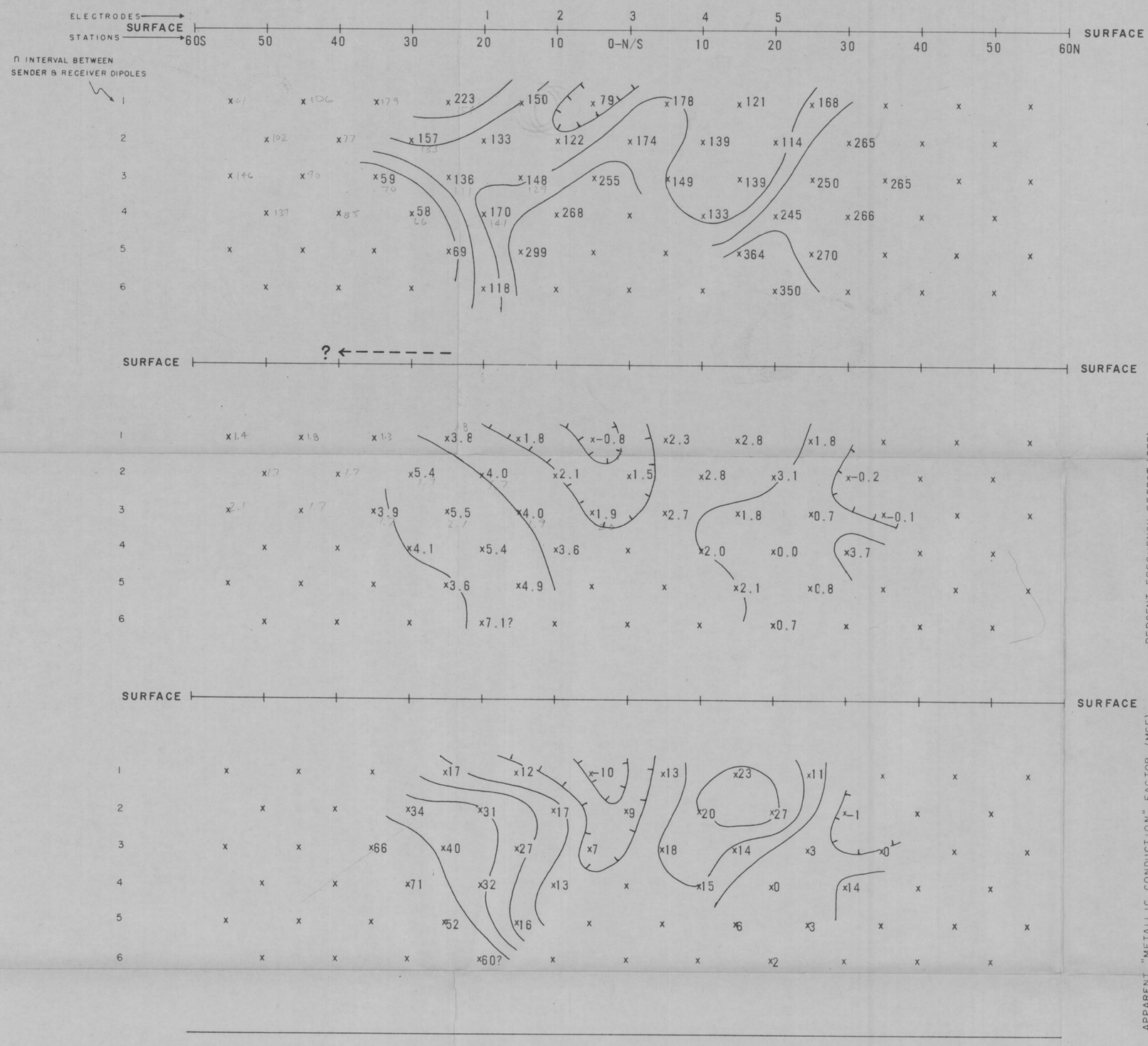
FOR

PICK ENTERPRISES

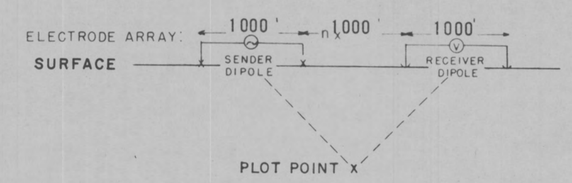
SELF POTENTIAL



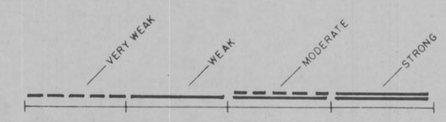
HEINRICHS
GEOEXPLORATION COMPANY
POST OFFICE BOX 5671, TUCSON, ARIZONA, 85703
Phone: 602/623-0578 Cable: GEOEX, Tucson
vancouver
sydney
geophysical engineers



EXPLANATION



RELATIVE ANOMALY STRENGTH



LOOKING N 79° W

ALPHA DELTA CLAIMS

SECTIONAL DATA SHEET

LINE NO. 1

INDUCED POLARIZATION TRAVERSE

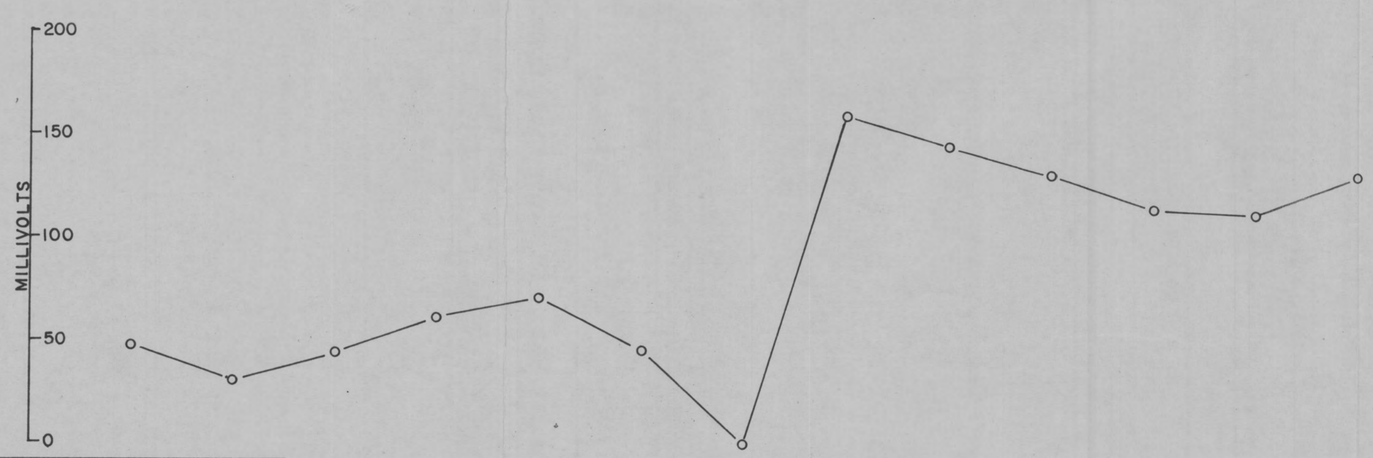
HEINRICHS GEOEXPLORATION COMPANY

SCALE: 1" = 1000' DATE: JUNE 1967

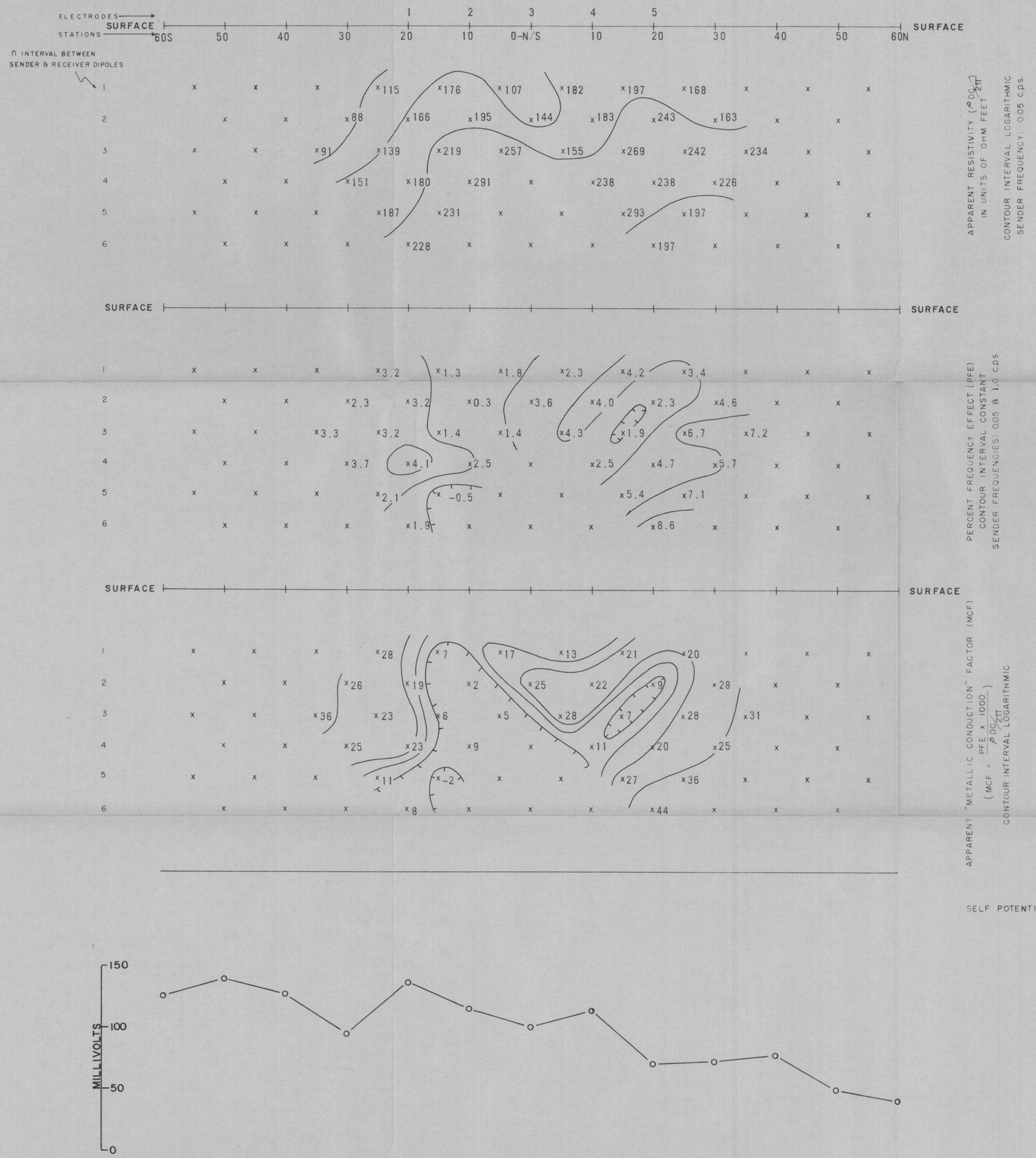
FOR

PICK ENTERPRISES

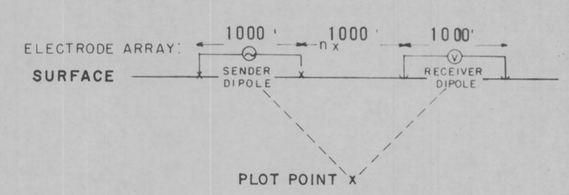
SELF POTENTIAL



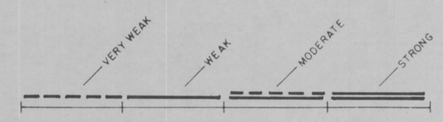
HEINRICHS
GEOEXPLORATION COMPANY
POST OFFICE BOX 5671, TUCSON, ARIZONA, 85703
Phone: 602/623-0578 Cable: GEOEX, Tucson
vancouver
sydney
geophysical engineers



EXPLANATION



RELATIVE ANOMALY STRENGTH



LOOKING N 79° W

ALPHA DELTA CLAIMS

SECTIONAL DATA SHEET

LINE NO. 3

INDUCED POLARIZATION TRAVERSE

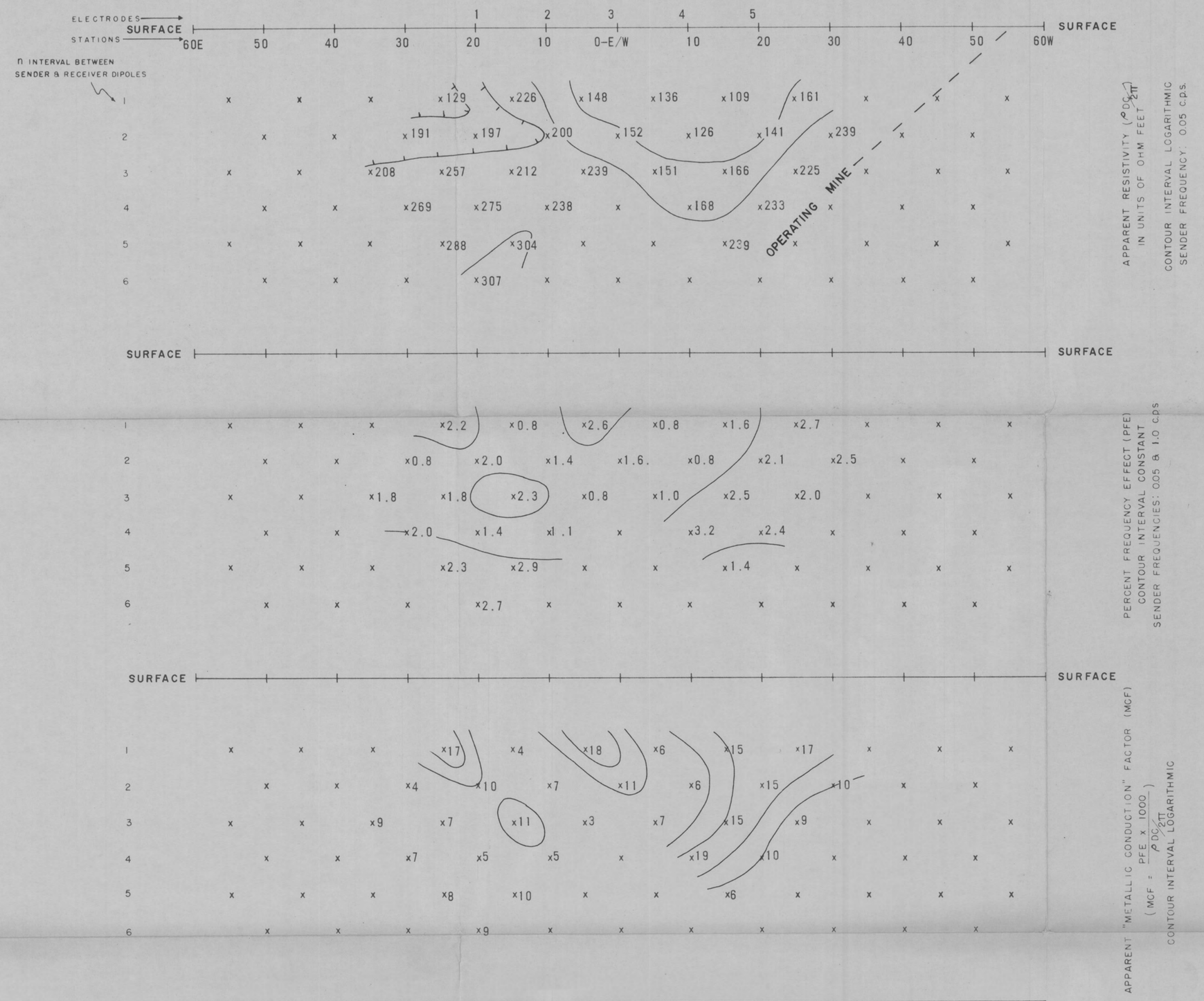
HEINRICHS GEOEXPLORATION COMPANY

SCALE: 1" = 1000' DATE: JUNE 1967

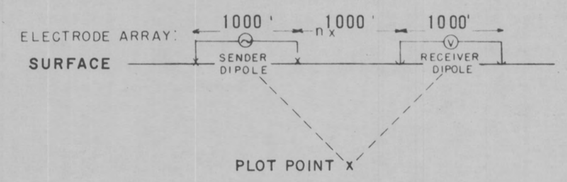
FOR

PICK ENTERPRISES

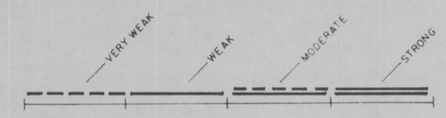
HEINRICHS
GEOEXPLORATION COMPANY
POST OFFICE BOX 5671, TUCSON, ARIZONA, 85703
Phone: 602/623-0578 Cable: GEOEX, Tucson
vancouver
sydney
geophysical engineers



EXPLANATION



RELATIVE ANOMALY STRENGTH



LOOKING S 11° W

APLHA DELTA CLAIMS

SECTIONAL DATA SHEET

LINE NO. 4

INDUCED POLARIZATION TRAVERSE

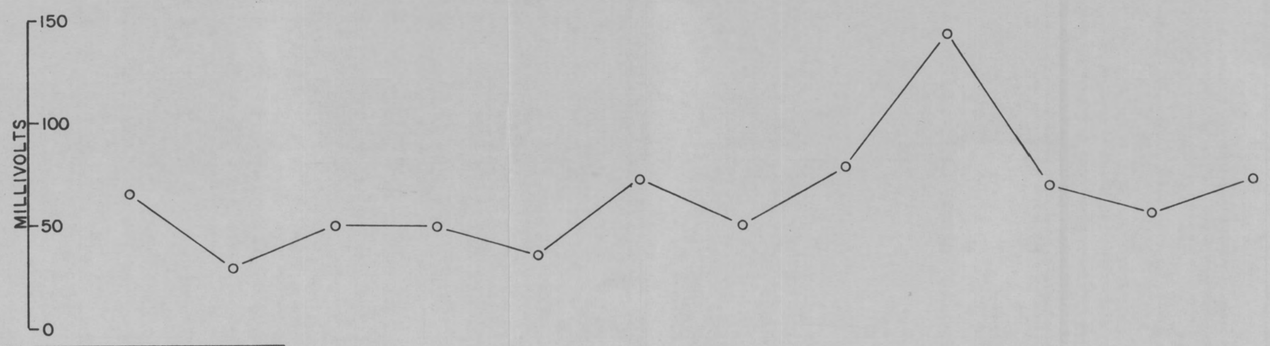
HEINRICHS GEOEXPLORATION COMPANY

SCALE: 1" = 1000' DATE: JUNE 1967

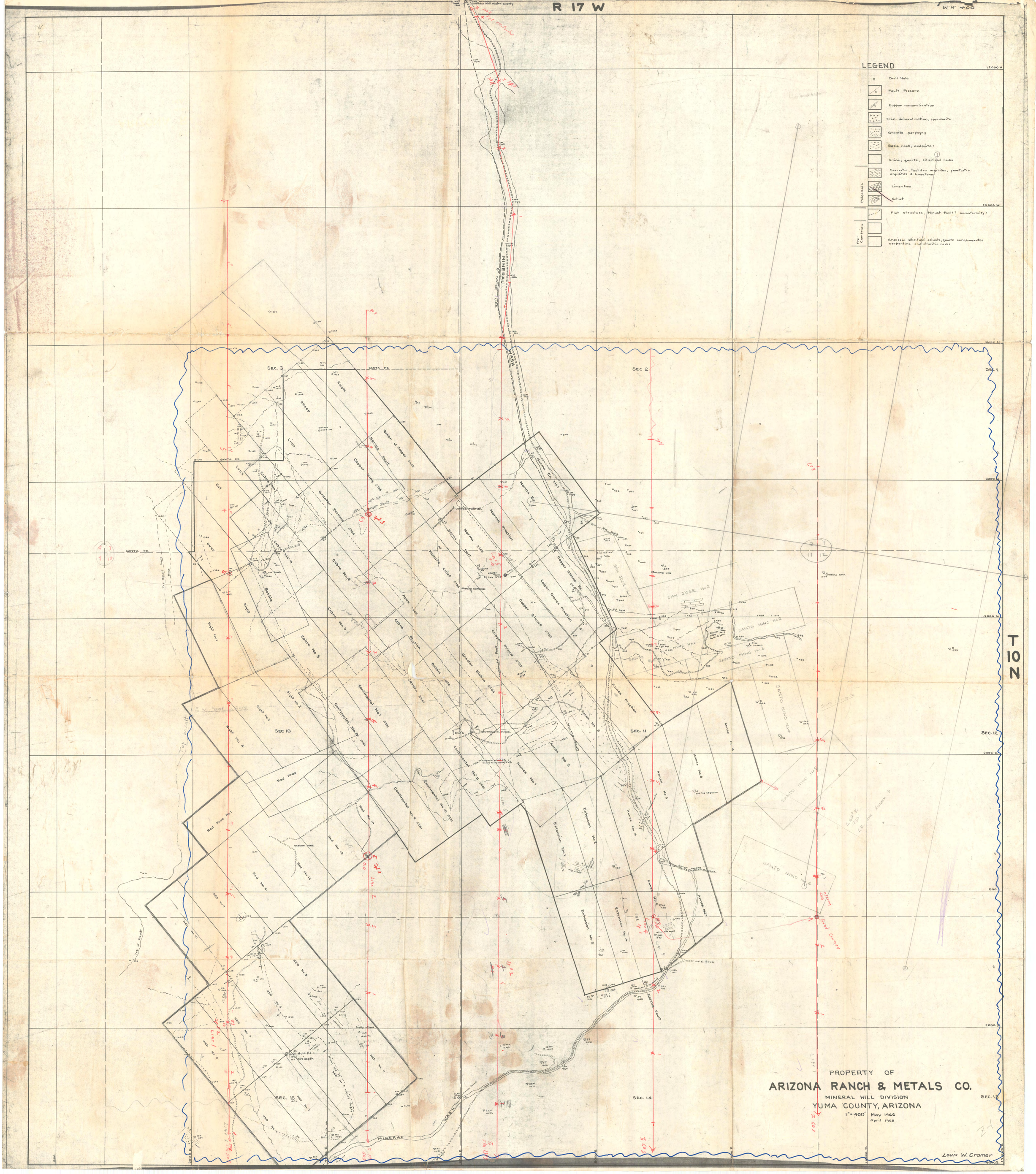
FOR

PICK ENTERPRISES

SELF POTENTIAL

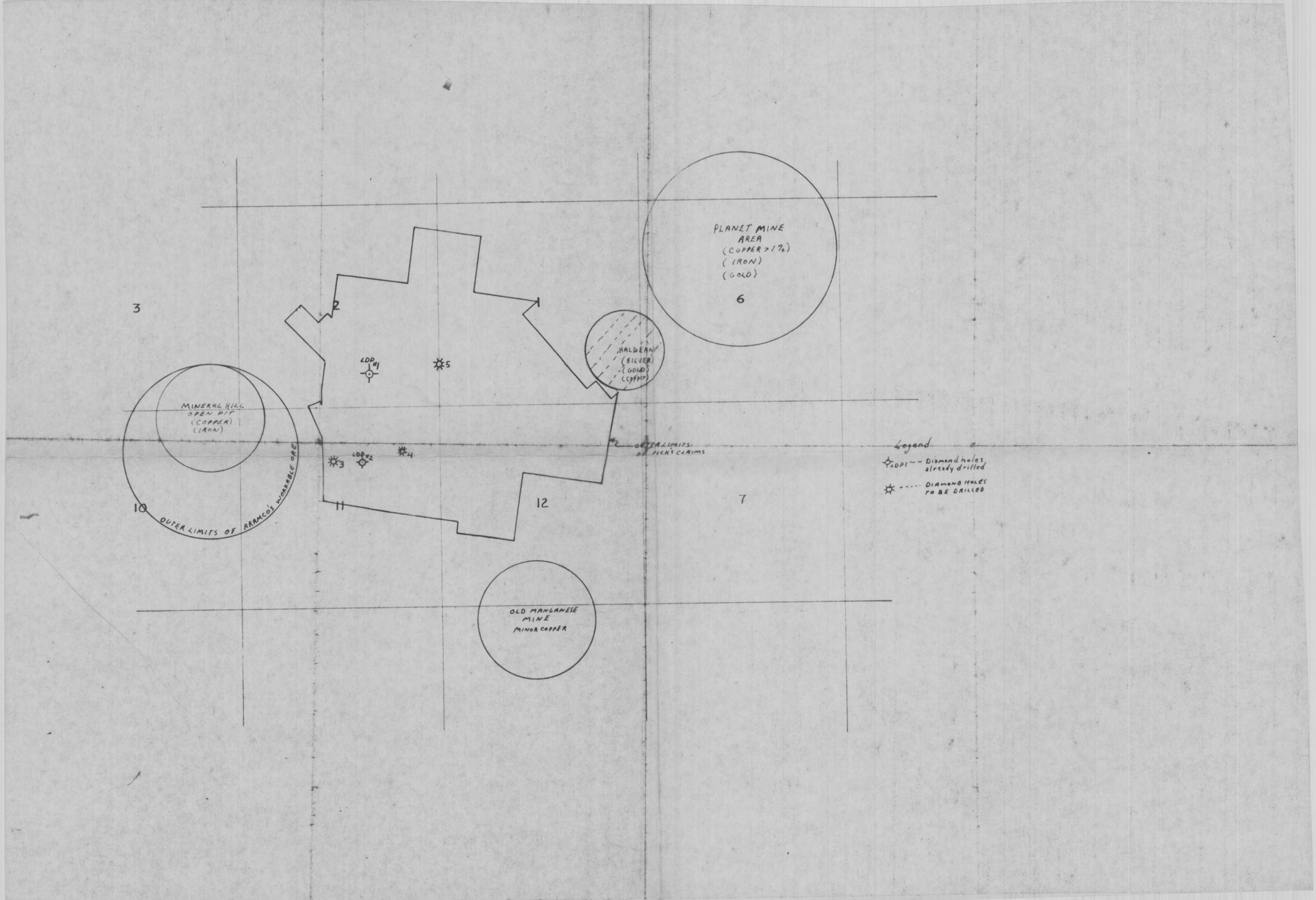


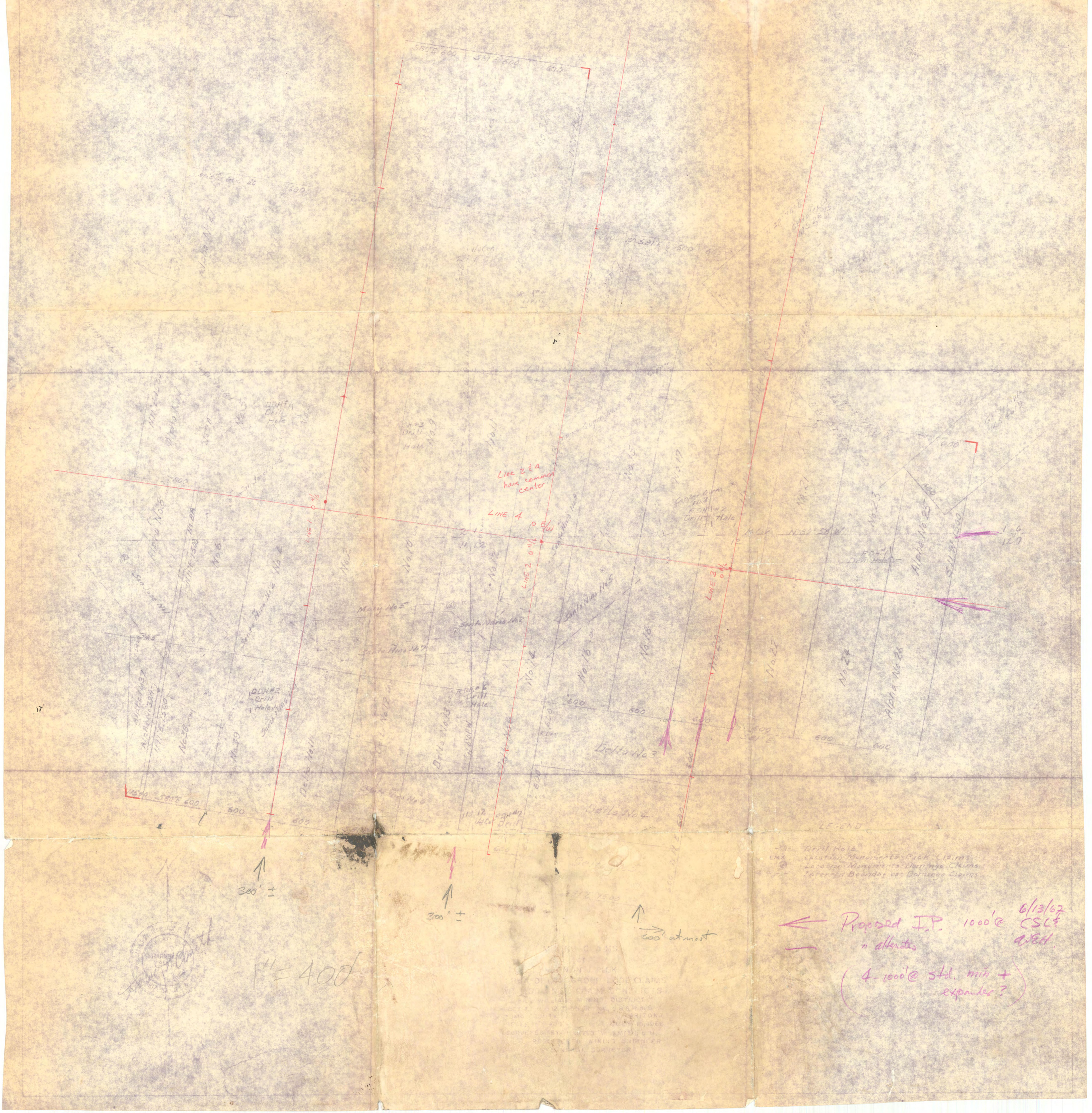
HEINRICHS
GEOEXPLORATION COMPANY
POST OFFICE BOX 5671, TUCSON, ARIZONA, 85703
Phone: 602/623-0578 Cable: GEOEX, Tucson
vancouver
sydney
geophysical engineers


R 17 W
T 10 N
LEGEND
Drill Hole
Fault Fissure
Copper mineralization
Iron mineralization, specularite
Granite porphyry
Basic rock, andesite?
Silica, quartz, silicified rocks
Sericitic, tactitic argillites, quartzitic argillites & limestones
Limestone
Schist
Paleozoic
Flat structure, thrust fault? unconformity?
Pre-Cambrian
Gneissic silicified schists, quartz conglomerates serpentine and chloritic rocks
PROPERTY OF
ARIZONA RANCH & METALS CO.
MINERAL HILL DIVISION
YUMA COUNTY, ARIZONA
1" = 400'
May 1966
April 1968
Louis W. Cramer
SEC. 3
SEC 2
SEC. 1
SEC 10
SEC. 11
SEC. 12
SEC. 15
SEC. 14
SEC. 13
SANTA FE
MINERAL WASH
Eagle
Sheep
Lion
Lynx
Cat
Cobre No 4
Cobre No 2
Cobre No 3
Cobre No 5
Bobbie
Sight
Sight No 1
Sight No 2
Sight No 3
Sight No 4
Red Frog
Red Frog No 1
Red No 14
Red No 13
Red No 12
Red No 11
Red No 10
Red No 9
Red No 8
Red No 7
Red No 6
Red No 5
Red No 4
Red No 3
Red No 2
Red No 1
Queen of Copper
Norma Fault
Copper King
Greater Jerome
Cobre Fraction
Cobre Fault
Essie
Avery
Continental No 1
Continental No 2
Continental No 9
Continental No 10
Continental No 11
Greater Bisbee
Copper Prince
Pickaxe Chief
Norma Fraction
Copper Glance
Copper Glance Fraction
Annex
Annex No 1
Annex No 2
Annex No 3
Annex No 4
Annex No 5
Annex No 6
Annex No 7
Annex Fraction
Extension No 1
Extension No 2
Extension No 3
Extension No 4
Norma Ex. No 1
Norma Ex.
SAN JOSE No 1
SAN JOSE No 2
SANTO NINO No 1
SANTO NINO No 2
SANTO NINO No 3
SANTO NINO No 4
SANTO NINO No 5
SANTO NINO No 6
SANTO NINO No 7
Drill Hole R1
250 depth
highly altered
Massive Lms
Window Rock
Osborn Mine
Lower Tunnel
Upper Tunnel
Water Tank
Spring Mountains
Indian Fault
Island Canyon
To Dome
12000 N
10000 N
8000
6000
4000 N
2000 N
000
2000 S
4000 S

Vernon Pick

GEOLOGIC MAP
OF THE
MINERAL HILL-PLANET MINE DISTRICT,
BUCKSKIN MOUNTAINS, ARIZONA
SCALE 1:24000
EXPLANATION
SEDIMENTARY AND METAMORPHIC ROCKS
Qal ALLUVIUM AND TALUS
Qs DESERT TALUS AND TERRACE GRAVELS
QTb OLIVINE BASALT
QTat ANDESITE FLOWS AND TUFFS
Ts COARSE CONGLOMERATES
Trh RHYOLITE TO DACITE FLOWS
TKsb TKs ARKOSIC SANDSTONES AND CONGLOMERATES INTERBEDDED WITH ANDESITE FLOW AND BRECCIATED LIMESTONE
Mqc MASSIVE, MEDIUM TO FINE GRAINED QUARTZITES INTERBEDDED WITH CHERTS AND FERROAN DOLOMITES
PMp PHYLLITE SCHIST, FREQUENTLY HAS ANOMALOUS VALUES IN DISSEMINATED GOLD, COPPER, AND SILVER
Pmv METATUFF, FREQUENTLY ALTERED, VARIES FROM A QUARTZ-SERICITE SCHIST TO A GREENSCHIST DERIVED FROM DACITE TUFFS
Pq SCHISTOSE QUARTZITE, ALTERED TO A CALC-SILICATE ROCK NEAR THE MINES, ALSO MINOR LENSES OF LIMESTONE PRESENT
Dd HIGHLY MINERALIZED FERROAN DOLOMITE OF (?) DEVONIAN AGE, OFTEN REPLACED ENTIRELY BY SPECULAR HEMATITE
PCs QUARTZ-SERICITE TO QUARTZ-CHLORITE SCHIST, STRONGLY ALTERED IN PLACES
PCg GNEISSIC COMPLEX, VARIES FROM AN AUGEN GNEISS TO GREENSCHISTS AND EPIDOTE-HORNBLENDE GNEISSES
GEOLOGY BY JACKSON M. LANDTON PICK ENTERPRISES
IGNEOUS ROCKS
Lm MAFIC DIKES
Lb QUARTZ BRECCIA DIKES AND PIPES
Lqm Lrd RHYOLITE TO DACITE DIKES, OFTEN BRECCIATED AND CONTAIN FRAGMENTS OF SCHIST, CARBONATE, AND QUARTZITE
STRUCTURE
CONTACT, DASHED WHERE NOT EXPOSED
FAULT, DASHED WHERE INFERRED, DOTTED WHERE HIDDEN
THRUST FAULT, NORMALLY LOW ANGLE
STRIKE SLIP FAULT, DOTTED IF CONCEALED
ANTICLINE, SHOWING AXIAL PLANE TRACE
SYNCLINE, SHOWING AXIAL PLANE TRACE
OVERTURNED ANTICLINE
OVERTURNED SYNCLINE
STRIKE AND DIP OF FORMATIONS
INCLINED VERTICAL OVERTURNED
STRIKE AND DIP OF FOLIATION
INCLINED VERTICAL
MAP SYMBOLS
PAST OR PRESENT BY OPERATIVE MINE
OLD SHAFTS OR ADITS
ROADS, IMPROVED GRAVEL AND SAND
JEEP ROADS
PLANET RANCH AIRSTRIP
WILLIAMS RIVER
BILL WILLIAMS RIVER
Planet Ranch
MOHAVE COUNTY
YUMA COUNTY
R17W R16W


PLANET MINE
AREA
(COPPER > 1%)
(IRON)
(GOLD)
6
3
2
1
HALDEAN
(SILVER)
(GOLD)
(COPPER)
LDP #1
5
MINERAL HILL
OPEN PIT
(COPPER)
(IRON)
4
3
LDP #2
OUTER LIMITS OF PICK'S CLAIMS
10
OUTER LIMITS OF ARAMCO'S WORKABLE ORE
11
12
7
OLD MANGANESE
MINE
MINOR COPPER
Legend
LDP1 -- Diamond holes already drilled
----- DIAMOND HOLES TO BE DRILLED


LINE 1
LINE 2
LINE 3
LINE 4
Line 2 & 4 have common center
Alpha No 8
No. 6
No. 4
No. 2
No. 10
No. 12
No. 14
No. 16
No. 18
No. 20
No. 22
No. 24
Alpha No 26
Alpha No 25
No. 23
No. 21
No. 17
No. 15
No. 11
No. 9
No 38
No 39
Mary No 5
Santa Nino No 5
Santa Nino No 7
Santa Nino No 2
San Jose No 1
Delta No 11
Delta No 13
Delta No 3
Delta No 4
DDH #1 Drill Hole
DDH #2 Drill Hole
RDH #3 Drill Hole
RDH #6 Drill Hole
Copper Queen No 3 RDH #2 Drill Hole
RDH #1 Drill Hole
300' ±
300' ±
600' at most
1" = 400'
LEGEND
Drill Hole
Location Monuments-Pick Claims
Location Monuments-Domingo Claims
Inferred Boundaries Domingo Claims
Proposed I.P. 1000' @
" alternates
(4-1000' @ std. min + expander?)
6/13/67
CSL & WEH.

GEOLOGIC MAP OF THE MINERAL HILL-PLANET MINE DISTRICT, BUCKSKIN MOUNTAINS, ARIZONA

EXPLANATION

SEDIMENTARY AND METAMORPHIC ROCKS

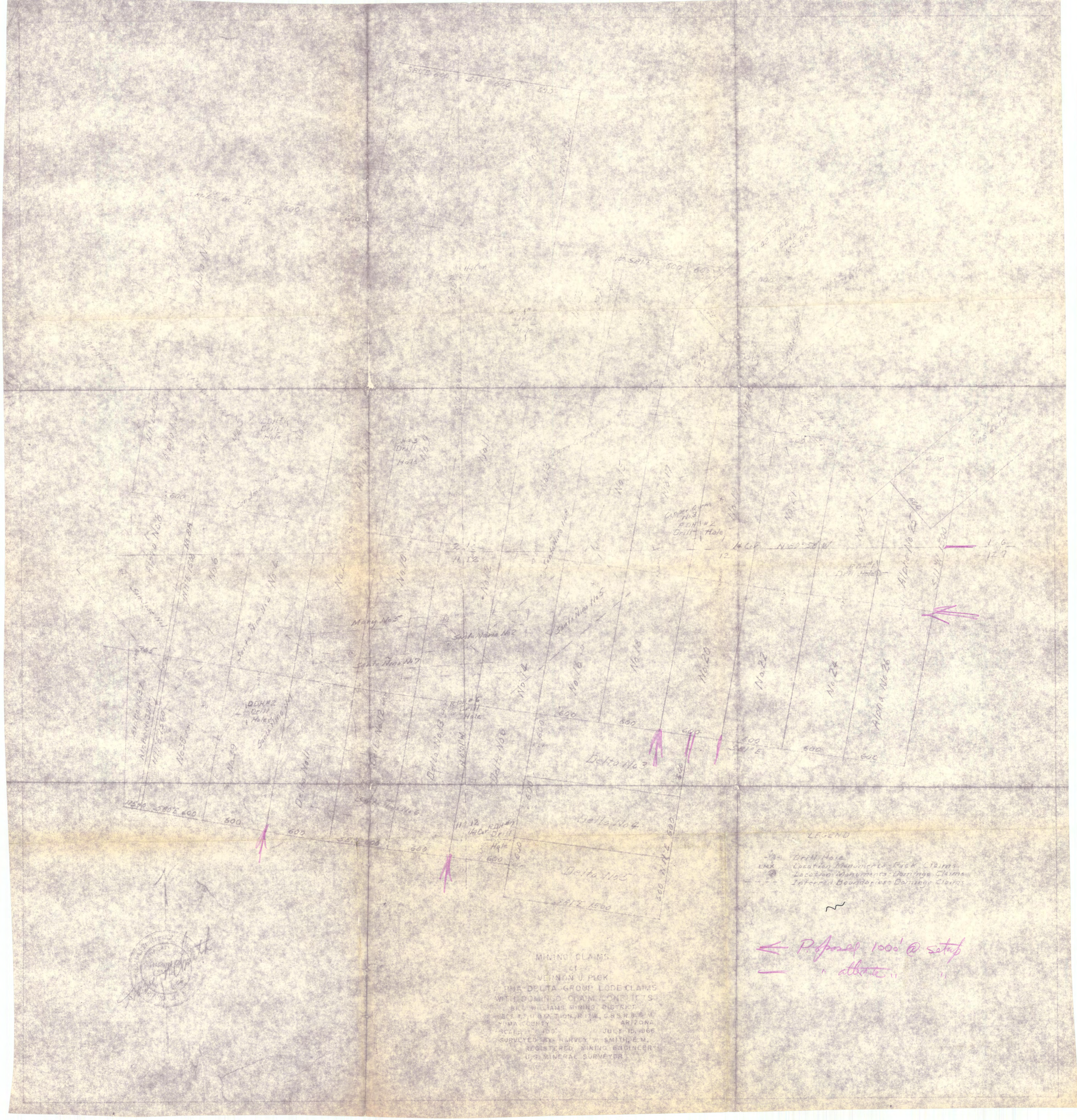
- Qal — ALLUVIUM AND TALUS
- Qs — DESERT TALUS AND TERRACE GRAVELS
- QTb — OLIVINE-BASALT
- QTat — ANDESITE FLOWS AND TUFFS
- Tr — RHYOLITE TO DACITE FLOWS, PORPHYRITIC, EXPLOSION BRECCIA
- Trh — RHYOLITE TO DACITE FLOWS
- TKsb, TKs — ARKOSIC SANDSTONES AND CONGLOMERATES INTERBEDDED WITH ANDESITE FLOWS AND BRECCIATED LIMESTONES
- Mac — MASSIVE MEDIUM TO FINE GRAINED QUARTZITES INTERBEDDED WITH CHERTS AND CAMBRIAN DOLOMITES
- PMp — PHYLLITE SCHIST, FREQUENTLY HAS ANOMALOUS VALUES IN DISSEMINATED GOLD, COPPER, AND SILVER
- Pmv — METATUFF, FREQUENTLY ALTERED, VARIES FROM A QUARTZ-SERICITE SCHIST TO A SUPERSCHIST DERIVED FROM DACITE TUFFS
- Pq — SCHISTOSE QUARTZITE, ALTERED TO A CALC-SILICATE ROCK NEAR THE MINES, A SC MINOR LENSES OF LIMESTONE PRESENT
- Dd — HIGHLY MINERALIZED FERROAN DOLOMITE OF DEVONIAN AGE, OREN REPLACED, ENRICHED BY SPECULAR HEMATITE
- PCs — QUARTZ-SERICITE TO QUARTZ-CHLORITE SCHIST, STRONGLY ALTERED IN PLACES
- PCg — GNEISSIC COMPLEX, VARIES FROM AN ADEEN GNEISS TO GREENSCHISTS AND EPIDOTE-HORNBLENDE GNEISSES

IGNEOUS ROCKS

- Lm — MAFIC DIKES
- Lb — QUARTZ BRECCIA DIKES AND PIPES
- Lrd — RHYOLITE TO DACITE DIKES, OFTEN BRECCIATED AND CONTAIN FRAGMENTS OF SCHIST, CARBONATE, AND QUARTZITE

STRUCTURE

- CONTACT, DASHED WHERE NOT EXPOSED
- FAULT, DASHED WHERE INFERRED, DOTTED WHERE HIDDEN
- THRUST FAULT, NORMALLY LOW ANGLE
- STRIKE SLIP FAULT, DOTTED IF CONCEALED
- ANTICLINE, SHOWING AXIAL PLANE TRACE
- SYNCLINE, SHOWING AXIAL PLANE TRACE
- OVERTURNED ANTICLINE
- OVERTURNED SYNCLINE
- TRACE AND DIP OF FORMATIONS
- INCLINED, VERTICAL, OVERTURNED
- STRIKE AND DIP OF FOLIATION
- INCLINED, VERTICAL
- MAP SYMBOLS
- APPROXIMATE LOCATION OF PRINCIPAL MINES
- DIRECTIONS OF ADITS
- ROADS, IMPROVED GRAVEL AND SAND
- JEEP ROADS
- PLANET RANCH AIRSTRIP


MINING CLAIMS
OF
VERNON J. PICK
ALPHA-DELTA GROUP LODE CLAIMS
WITH DOMINGO CLAIM CONFLICTS
BILL WILLIAMS MINING DISTRICT
SEC. 8 T. 18 S. R. 17 W. G.&S.R.B.&M.
YUMA COUNTY ARIZONA
SCALE 1" = 100' JULY 15, 1966
SURVEYED BY: HARVEY W. SMITH, E.M.
REGISTERED MINING ENGINEER
U.S. MINERAL SURVEYOR
LEGEND
Drill Hole
Location Monuments - Pick Claims
Location Monuments - Domingo Claims
Interior Boundaries Domingo Claims
Proposed 1000' @ setup
" alternate " "
Delta No 3
Delta No 4
Delta No 5
Alpha No 26
Alpha No 25
Alpha No 24
Alpha No 23
Alpha No 22
Alpha No 21
Alpha No 20
Alpha No 18
Alpha No 16
Alpha No 14
Alpha No 12
Alpha No 10
Alpha No 8
Alpha No 6
Alpha No 4
Alpha No 2
Alpha No 1
Alpha No 3
Alpha No 5
Alpha No 7
Alpha No 9
Alpha No 11
Alpha No 13
Alpha No 15
Alpha No 17
Alpha No 19
Alpha No 21
Santa Nina No 1
Santa Nina No 2
Santa Nina No 3
Santa Nina No 4
Santa Nina No 5
Santa Nina No 6
Santa Nina No 7
Mary No 5
Alpha No 37
Alpha No 39
Alpha No 38
Alpha No 36
Alpha No 34
Alpha No 32
Alpha No 30
Alpha No 28
Alpha No 26
Alpha No 24
Alpha No 22
Alpha No 20
Alpha No 18
Alpha No 16
Alpha No 14
Alpha No 12
Alpha No 10
Alpha No 8
Alpha No 6
Alpha No 4
Alpha No 2
Alpha No 1
Alpha No 3
Alpha No 5
Alpha No 7
Alpha No 9
Alpha No 11
Alpha No 13
Alpha No 15
Alpha No 17
Alpha No 19
Alpha No 21
Alpha No 23
Alpha No 25
DDH #1 Drill Hole
DDH #2 Drill Hole
DDH #3 Drill Hole
DDH #4 Drill Hole
DDH #5 Drill Hole
DDH #6 Drill Hole
DDH #7 Drill Hole
DDH #8 Drill Hole
DDH #9 Drill Hole
DDH #10 Drill Hole
DDH #11 Drill Hole
DDH #12 Drill Hole
DDH #13 Drill Hole
DDH #14 Drill Hole
DDH #15 Drill Hole
DDH #16 Drill Hole
DDH #17 Drill Hole
DDH #18 Drill Hole
DDH #19 Drill Hole
DDH #20 Drill Hole
DDH #21 Drill Hole
DDH #22 Drill Hole
DDH #23 Drill Hole
DDH #24 Drill Hole
DDH #25 Drill Hole
DDH #26 Drill Hole
DDH #27 Drill Hole
DDH #28 Drill Hole
DDH #29 Drill Hole
DDH #30 Drill Hole
DDH #31 Drill Hole
DDH #32 Drill Hole
DDH #33 Drill Hole
DDH #34 Drill Hole
DDH #35 Drill Hole
DDH #36 Drill Hole
DDH #37 Drill Hole
DDH #38 Drill Hole
DDH #39 Drill Hole
DDH #40 Drill Hole
DDH #41 Drill Hole
DDH #42 Drill Hole
DDH #43 Drill Hole
DDH #44 Drill Hole
DDH #45 Drill Hole
DDH #46 Drill Hole
DDH #47 Drill Hole
DDH #48 Drill Hole
DDH #49 Drill Hole
DDH #50 Drill Hole
DDH #51 Drill Hole
DDH #52 Drill Hole
DDH #53 Drill Hole
DDH #54 Drill Hole
DDH #55 Drill Hole
DDH #56 Drill Hole
DDH #57 Drill Hole
DDH #58 Drill Hole
DDH #59 Drill Hole
DDH #60 Drill Hole
DDH #61 Drill Hole
DDH #62 Drill Hole
DDH #63 Drill Hole
DDH #64 Drill Hole
DDH #65 Drill Hole
DDH #66 Drill Hole
DDH #67 Drill Hole
DDH #68 Drill Hole
DDH #69 Drill Hole
DDH #70 Drill Hole
DDH #71 Drill Hole
DDH #72 Drill Hole
DDH #73 Drill Hole
DDH #74 Drill Hole
DDH #75 Drill Hole
DDH #76 Drill Hole
DDH #77 Drill Hole
DDH #78 Drill Hole
DDH #79 Drill Hole
DDH #80 Drill Hole
DDH #81 Drill Hole
DDH #82 Drill Hole
DDH #83 Drill Hole
DDH #84 Drill Hole
DDH #85 Drill Hole
DDH #86 Drill Hole
DDH #87 Drill Hole
DDH #88 Drill Hole
DDH #89 Drill Hole
DDH #90 Drill Hole
DDH #91 Drill Hole
DDH #92 Drill Hole
DDH #93 Drill Hole
DDH #94 Drill Hole
DDH #95 Drill Hole
DDH #96 Drill Hole
DDH #97 Drill Hole
DDH #98 Drill Hole
DDH #99 Drill Hole
DDH #100 Drill Hole
DDH #101 Drill Hole
DDH #102 Drill Hole
DDH #103 Drill Hole
DDH #104 Drill Hole
DDH #105 Drill Hole
DDH #106 Drill Hole
DDH #107 Drill Hole
DDH #108 Drill Hole
DDH #109 Drill Hole
DDH #110 Drill Hole
DDH #111 Drill Hole
DDH #112 Drill Hole
DDH #113 Drill Hole
DDH #114 Drill Hole
DDH #115 Drill Hole
DDH #116 Drill Hole
DDH #117 Drill Hole
DDH #118 Drill Hole
DDH #119 Drill Hole
DDH #120 Drill Hole
DDH #121 Drill Hole
DDH #122 Drill Hole
DDH #123 Drill Hole
DDH #124 Drill Hole
DDH #125 Drill Hole
DDH #126 Drill Hole
DDH #127 Drill Hole
DDH #128 Drill Hole
DDH #129 Drill Hole
DDH #130 Drill Hole
DDH #131 Drill Hole
DDH #132 Drill Hole
DDH #133 Drill Hole
DDH #134 Drill Hole
DDH #135 Drill Hole
DDH #136 Drill Hole
DDH #137 Drill Hole
DDH #138 Drill Hole
DDH #139 Drill Hole
DDH #140 Drill Hole
DDH #141 Drill Hole
DDH #142 Drill Hole
DDH #143 Drill Hole
DDH #144 Drill Hole
DDH #145 Drill Hole
DDH #146 Drill Hole
DDH #147 Drill Hole
DDH #148 Drill Hole
DDH #149 Drill Hole
DDH #150 Drill Hole
DDH #151 Drill Hole
DDH #152 Drill Hole
DDH #153 Drill Hole
DDH #154 Drill Hole
DDH #155 Drill Hole
DDH #156 Drill Hole
DDH #157 Drill Hole
DDH #158 Drill Hole
DDH #159 Drill Hole
DDH #160 Drill Hole
DDH #161 Drill Hole
DDH #162 Drill Hole
DDH #163 Drill Hole
DDH #164 Drill Hole
DDH #165 Drill Hole
DDH #166 Drill Hole
DDH #167 Drill Hole
DDH #168 Drill Hole
DDH #169 Drill Hole
DDH #170 Drill Hole
DDH #171 Drill Hole
DDH #172 Drill Hole
DDH #173 Drill Hole
DDH #174 Drill Hole
DDH #175 Drill Hole
DDH #176 Drill Hole
DDH #177 Drill Hole
DDH #178 Drill Hole
DDH #179 Drill Hole
DDH #180 Drill Hole
DDH #181 Drill Hole
DDH #182 Drill Hole
DDH #183 Drill Hole
DDH #184 Drill Hole
DDH #185 Drill Hole
DDH #186 Drill Hole
DDH #187 Drill Hole
DDH #188 Drill Hole
DDH #189 Drill Hole
DDH #190 Drill Hole
DDH #191 Drill Hole
DDH #192 Drill Hole
DDH #193 Drill Hole
DDH #194 Drill Hole
DDH #195 Drill Hole
DDH #196 Drill Hole
DDH #197 Drill Hole
DDH #198 Drill Hole
DDH #199 Drill Hole
DDH #200 Drill Hole
DDH #201 Drill Hole
DDH #202 Drill Hole
DDH #203 Drill Hole
DDH #204 Drill Hole
DDH #205 Drill Hole
DDH #206 Drill Hole
DDH #207 Drill Hole
DDH #208 Drill Hole
DDH #209 Drill Hole
DDH #210 Drill Hole
DDH #211 Drill Hole
DDH #212 Drill Hole
DDH #213 Drill Hole
DDH #214 Drill Hole
DDH #215 Drill Hole
DDH #216 Drill Hole
DDH #217 Drill Hole
DDH #218 Drill Hole
DDH #219 Drill Hole
DDH #220 Drill Hole
DDH #221 Drill Hole
DDH #222 Drill Hole
DDH #223 Drill Hole
DDH #224 Drill Hole
DDH #225 Drill Hole
DDH #226 Drill Hole
DDH #227 Drill Hole
DDH #228 Drill Hole
DDH #229 Drill Hole
DDH #230 Drill Hole
DDH #231 Drill Hole
DDH #232 Drill Hole
DDH #233 Drill Hole
DDH #234 Drill Hole
DDH #235 Drill Hole
DDH #236 Drill Hole
DDH #237 Drill Hole
DDH #238 Drill Hole
DDH #239 Drill Hole
DDH #240 Drill Hole
DDH #241 Drill Hole
DDH #242 Drill Hole
DDH #243 Drill Hole
DDH #244 Drill Hole
DDH #245 Drill Hole
DDH #246 Drill Hole
DDH #247 Drill Hole
DDH #248 Drill Hole
DDH #249 Drill Hole
DDH #250 Drill Hole
DDH #251 Drill Hole
DDH #252 Drill Hole
DDH #253 Drill Hole
DDH #254 Drill Hole
DDH #255 Drill Hole
DDH #256 Drill Hole
DDH #257 Drill Hole
DDH #258 Drill Hole
DDH #259 Drill Hole
DDH #260 Drill Hole
DDH #261 Drill Hole
DDH #262 Drill Hole
DDH #263 Drill Hole
DDH #264 Drill Hole
DDH #265 Drill Hole
DDH #266 Drill Hole
DDH #267 Drill Hole
DDH #268 Drill Hole
DDH #269 Drill Hole
DDH #270 Drill Hole
DDH #271 Drill Hole
DDH #272 Drill Hole
DDH #273 Drill Hole
DDH #274 Drill Hole
DDH #275 Drill Hole
DDH #276 Drill Hole
DDH #277 Drill Hole
DDH #278 Drill Hole
DDH #279 Drill Hole
DDH #280 Drill Hole
DDH #281 Drill Hole
DDH #282 Drill Hole
DDH #283 Drill Hole
DDH #284 Drill Hole
DDH #285 Drill Hole
DDH #286 Drill Hole
DDH #287 Drill Hole
DDH #288 Drill Hole
DDH #289 Drill Hole
DDH #290 Drill Hole
DDH #291 Drill Hole
DDH #292 Drill Hole
DDH #293 Drill Hole
DDH #294 Drill Hole
DDH #295 Drill Hole
DDH #296 Drill Hole
DDH #297 Drill Hole
DDH #298 Drill Hole
DDH #299 Drill Hole
DDH #300 Drill Hole
DDH #301 Drill Hole
DDH #302 Drill Hole
DDH #303 Drill Hole
DDH #304 Drill Hole
DDH #305 Drill Hole
DDH #306 Drill Hole
DDH #307 Drill Hole
DDH #308 Drill Hole
DDH #309 Drill Hole
DDH #310 Drill Hole
DDH #311 Drill Hole
DDH #312 Drill Hole
DDH #313 Drill Hole
DDH #314 Drill Hole
DDH #315 Drill Hole
DDH #316 Drill Hole
DDH #317 Drill Hole
DDH #318 Drill Hole
DDH #319 Drill Hole
DDH #320 Drill Hole
DDH #321 Drill Hole
DDH #322 Drill Hole
DDH #323 Drill Hole
DDH #324 Drill Hole
DDH #325 Drill Hole
DDH #326 Drill Hole
DDH #327 Drill Hole
DDH #328 Drill Hole
DDH #329 Drill Hole
DDH #330 Drill Hole
DDH #331 Drill Hole
DDH #332 Drill Hole
DDH #333 Drill Hole
DDH #334 Drill Hole
DDH #335 Drill Hole
DDH #336 Drill Hole
DDH #337 Drill Hole
DDH #338 Drill Hole
DDH #339 Drill Hole
DDH #340 Drill Hole
DDH #341 Drill Hole
DDH #342 Drill Hole
DDH #343 Drill Hole
DDH #344 Drill Hole
DDH #345 Drill Hole
DDH #346 Drill Hole
DDH #347 Drill Hole
DDH #348 Drill Hole
DDH #349 Drill Hole
DDH #350 Drill Hole
DDH #351 Drill Hole
DDH #352 Drill Hole
DDH #353 Drill Hole
DDH #354 Drill Hole
DDH #355 Drill Hole
DDH #356 Drill Hole
DDH #357 Drill Hole
DDH #358 Drill Hole
DDH #359 Drill Hole
DDH #360 Drill Hole
DDH #361 Drill Hole
DDH #362 Drill Hole
DDH #363 Drill Hole
DDH #364 Drill Hole
DDH #365 Drill Hole
DDH #366 Drill Hole
DDH #367 Drill Hole
DDH #368 Drill Hole
DDH #369 Drill Hole
DDH #370 Drill Hole
DDH #371 Drill Hole
DDH #372 Drill Hole
DDH #373 Drill Hole
DDH #374 Drill Hole
DDH #375 Drill Hole
DDH #376 Drill Hole
DDH #377 Drill Hole
DDH #378 Drill Hole
DDH #379 Drill Hole
DDH #380 Drill Hole
DDH #381 Drill Hole
DDH #382 Drill Hole
DDH #383 Drill Hole
DDH #384 Drill Hole
DDH #385 Drill Hole
DDH #386 Drill Hole
DDH #387 Drill Hole
DDH #388 Drill Hole
DDH #389 Drill Hole
DDH #390 Drill Hole
DDH #391 Drill Hole
DDH #392 Drill Hole
DDH #393 Drill Hole
DDH #394 Drill Hole
DDH #395 Drill Hole
DDH #396 Drill Hole
DDH #397 Drill Hole
DDH #398 Drill Hole
DDH #399 Drill Hole
DDH #400 Drill Hole
DDH #401 Drill Hole
DDH #402 Drill Hole
DDH #403 Drill Hole
DDH #404 Drill Hole
DDH #405 Drill Hole
DDH #406 Drill Hole
DDH #407 Drill Hole
DDH #408 Drill Hole
DDH #409 Drill Hole
DDH #410 Drill Hole
DDH #411 Drill Hole
DDH #412 Drill Hole
DDH #413 Drill Hole
DDH #414 Drill Hole
DDH #415 Drill Hole
DDH #416 Drill Hole
DDH #417 Drill Hole
DDH #418 Drill Hole
DDH #419 Drill Hole
DDH #420 Drill Hole
DDH #421 Drill Hole
DDH #422 Drill Hole
DDH #423 Drill Hole
DDH #424 Drill Hole
DDH #425 Drill Hole
DDH #426 Drill Hole
DDH #427 Drill Hole
DDH #428 Drill Hole
DDH #429 Drill Hole
DDH #430 Drill Hole
DDH #431 Drill Hole
DDH #432 Drill Hole
DDH #433 Drill Hole
DDH #434 Drill Hole
DDH #435 Drill Hole
DDH #436 Drill Hole
DDH #437 Drill Hole
DDH #438 Drill Hole
DDH #439 Drill Hole
DDH #440 Drill Hole
DDH #441 Drill Hole
DDH #442 Drill Hole
DDH #443 Drill Hole
DDH #444 Drill Hole
DDH #445 Drill Hole
DDH #446 Drill Hole
DDH #447 Drill Hole
DDH #448 Drill Hole
DDH #449 Drill Hole
DDH #450 Drill Hole
DDH #451 Drill Hole
DDH #452 Drill Hole
DDH #453 Drill Hole
DDH #454 Drill Hole
DDH #455 Drill Hole
DDH #456 Drill Hole
DDH #457 Drill Hole
DDH #458 Drill Hole
DDH #459 Drill Hole
DDH #460 Drill Hole
DDH #461 Drill Hole
DDH #462 Drill Hole
DDH #463 Drill Hole
DDH #464 Drill Hole
DDH #465 Drill Hole
DDH #466 Drill Hole
DDH #467 Drill Hole
DDH #468 Drill Hole
DDH #469 Drill Hole
DDH #470 Drill Hole
DDH #471 Drill Hole
DDH #472 Drill Hole
DDH #473 Drill Hole
DDH #474 Drill Hole
DDH #475 Drill Hole
DDH #476 Drill Hole
DDH #477 Drill Hole
DDH #478 Drill Hole
DDH #479 Drill Hole
DDH #480 Drill Hole
DDH #481 Drill Hole
DDH #482 Drill Hole
DDH #483 Drill Hole
DDH #484 Drill Hole
DDH #485 Drill Hole
DDH #486 Drill Hole
DDH #487 Drill Hole
DDH #488 Drill Hole
DDH #489 Drill Hole
DDH #490 Drill Hole
DDH #491 Drill Hole
DDH #492 Drill Hole
DDH #493 Drill Hole
DDH #494 Drill Hole
DDH #495 Drill Hole
DDH #496 Drill Hole
DDH #497 Drill Hole
DDH #498 Drill Hole
DDH #499 Drill Hole
DDH #500 Drill Hole
DDH #501 Drill Hole
DDH #502 Drill Hole
DDH #503 Drill Hole
DDH #504 Drill Hole
DDH #505 Drill Hole
DDH #506 Drill Hole
DDH #507 Drill Hole
DDH #508 Drill Hole
DDH #509 Drill Hole
DDH #510 Drill Hole
DDH #511 Drill Hole
DDH #512 Drill Hole
DDH #513 Drill Hole
DDH #514 Drill Hole
DDH #515 Drill Hole
DDH #516 Drill Hole
DDH #517 Drill Hole
DDH #518 Drill Hole
DDH #519 Drill Hole
DDH #520 Drill Hole
DDH #521 Drill Hole
DDH #522 Drill Hole
DDH #523 Drill Hole
DDH #524 Drill Hole
DDH #525 Drill Hole
DDH #526 Drill Hole
DDH #527 Drill Hole
DDH #528 Drill Hole
DDH #529 Drill Hole
DDH #530 Drill Hole
DDH #531 Drill Hole
DDH #532 Drill Hole
DDH #533 Drill Hole
DDH #534 Drill Hole
DDH #535 Drill Hole
DDH #536 Drill Hole
DDH #537 Drill Hole
DDH #538 Drill Hole
DDH #539 Drill Hole
DDH #540 Drill Hole
DDH #541 Drill Hole
DDH #542 Drill Hole
DDH #543 Drill Hole
DDH #544 Drill Hole
DDH #545 Drill Hole
DDH #546 Drill Hole
DDH #547 Drill Hole
DDH #548 Drill Hole
DDH #549 Drill Hole
DDH #550 Drill Hole
DDH #551 Drill Hole
DDH #552 Drill Hole
DDH #553 Drill Hole
DDH #554 Drill Hole
DDH #555 Drill Hole
DDH #556 Drill Hole
DDH #557 Drill Hole
DDH #558 Drill Hole
DDH #559 Drill Hole
DDH #560 Drill Hole
DDH #561 Drill Hole
DDH #562 Drill Hole
DDH #563 Drill Hole
DDH #564 Drill Hole
DDH #565 Drill Hole
DDH #566 Drill Hole
DDH #567 Drill Hole
DDH #568 Drill Hole
DDH #569 Drill Hole
DDH #570 Drill Hole
DDH #571 Drill Hole
DDH #572 Drill Hole
DDH #573 Drill Hole
DDH #574 Drill Hole
DDH #575 Drill Hole
DDH #576 Drill Hole
DDH #577 Drill Hole
DDH #578 Drill Hole
DDH #579 Drill Hole
DDH #580 Drill Hole
DDH #581 Drill Hole
DDH #582 Drill Hole
DDH #583 Drill Hole
DDH #584 Drill Hole
DDH #585 Drill Hole
DDH #586 Drill Hole
DDH #587 Drill Hole
DDH #588 Drill Hole
DDH #589 Drill Hole
DDH #590 Drill Hole
DDH #591 Drill Hole
DDH #592 Drill Hole
DDH #593 Drill Hole
DDH #594 Drill Hole
DDH #595 Drill Hole
DDH #596 Drill Hole
DDH #597 Drill Hole
DDH #598 Drill Hole
DDH #599 Drill Hole
DDH #600 Drill Hole
DDH #601 Drill Hole
DDH #602 Drill Hole
DDH #603 Drill Hole
DDH #604 Drill Hole
DDH #605 Drill Hole
DDH #606 Drill Hole
DDH #607 Drill Hole
DDH #608 Drill Hole
DDH #609 Drill Hole
DDH #610 Drill Hole
DDH #611 Drill Hole
DDH #612 Drill Hole
DDH #613 Drill Hole
DDH #614 Drill Hole
DDH #615 Drill Hole
DDH #616 Drill Hole
DDH #617 Drill Hole
DDH #618 Drill Hole
DDH #619 Drill Hole
DDH #620 Drill Hole
DDH #621 Drill Hole
DDH #622 Drill Hole
DDH #623 Drill Hole
DDH #624 Drill Hole
DDH #625 Drill Hole
DDH #626 Drill Hole
DDH #627 Drill Hole
DDH #628 Drill Hole
DDH #629 Drill Hole
DDH #630 Drill Hole
DDH #631 Drill Hole
DDH #632 Drill Hole
DDH #633 Drill Hole
DDH #634 Drill Hole
DDH #635 Drill Hole
DDH #636 Drill Hole
DDH #637 Drill Hole
DDH #638 Drill Hole
DDH #639 Drill Hole
DDH #640 Drill Hole
DDH #641 Drill Hole
DDH #642 Drill Hole
DDH #643 Drill Hole
DDH #644 Drill Hole
DDH #645 Drill Hole
DDH #646 Drill Hole
DDH #647 Drill Hole
DDH #648 Drill Hole
DDH #649 Drill Hole
DDH #650 Drill Hole
DDH #651 Drill Hole
DDH #652 Drill Hole
DDH #653 Drill Hole
DDH #654 Drill Hole
DDH #655 Drill Hole
DDH #656 Drill Hole
DDH #657 Drill Hole
DDH #658 Drill Hole
DDH #659 Drill Hole
DDH #660 Drill Hole
DDH #661 Drill Hole
DDH #662 Drill Hole
DDH #663 Drill Hole
DDH #664 Drill Hole
DDH #665 Drill Hole
DDH #666 Drill Hole
DDH #667 Drill Hole
DDH #668 Drill Hole
DDH #669 Drill Hole
DDH #670 Drill Hole
DDH #671 Drill Hole
DDH #672 Drill Hole
DDH #673 Drill Hole
DDH #674 Drill Hole
DDH #675 Drill Hole
DDH #676 Drill Hole
DDH #677 Drill Hole
DDH #678 Drill Hole
DDH #679 Drill Hole
DDH #680 Drill Hole
DDH #681 Drill Hole
DDH #682 Drill Hole
DDH #683 Drill Hole
DDH #684 Drill Hole
DDH #685 Drill Hole
DDH #686 Drill Hole
DDH #687 Drill Hole
DDH #688 Drill Hole
DDH #689 Drill Hole
DDH #690 Drill Hole
DDH #691 Drill Hole
DDH #692 Drill Hole
DDH #693 Drill Hole
DDH #694 Drill Hole
DDH #695 Drill Hole
DDH #696 Drill Hole
DDH #697 Drill Hole
DDH #698 Drill Hole
DDH #699 Drill Hole
DDH #700 Drill Hole
DDH #701 Drill Hole
DDH #702 Drill Hole
DDH #703 Drill Hole
DDH #704 Drill Hole
DDH #705 Drill Hole
DDH #706 Drill Hole
DDH #707 Drill Hole
DDH #708 Drill Hole
DDH #709 Drill Hole
DDH #710 Drill Hole
DDH #711 Drill Hole
DDH #712 Drill Hole
DDH #713 Drill Hole
DDH #714 Drill Hole
DDH #715 Drill Hole
DDH #716 Drill Hole
DDH #717 Drill Hole
DDH #718 Drill Hole
DDH #719 Drill Hole
DDH #720 Drill Hole
DDH #721 Drill Hole
DDH #722 Drill Hole
DDH #723 Drill Hole
DDH #724 Drill Hole
DDH #725 Drill Hole
DDH #726 Drill Hole
DDH #727 Drill Hole
DDH #728 Drill Hole
DDH #729 Drill Hole
DDH #730 Drill Hole
DDH #731 Drill Hole
DDH #732 Drill Hole
DDH #733 Drill Hole
DDH #734 Drill Hole
DDH #735 Drill Hole
DDH #736 Drill Hole
DDH #737 Drill Hole
DDH #738 Drill Hole
DDH #739 Drill Hole
DDH #740 Drill Hole
DDH #741 Drill Hole
DDH #742 Drill Hole
DDH #743 Drill Hole
DDH #744 Drill Hole
DDH #745 Drill Hole
DDH #746 Drill Hole
DDH #747 Drill Hole
DDH #748 Drill Hole
DDH #749 Drill Hole
DDH #750 Drill Hole
DDH #751 Drill Hole
DDH #752 Drill Hole
DDH #753 Drill Hole
DDH #754 Drill Hole
DDH #755 Drill Hole
DDH #756 Drill Hole
DDH #757 Drill Hole
DDH #758 Drill Hole
DDH #759 Drill Hole
DDH #760 Drill Hole
DDH #761 Drill Hole
DDH #762 Drill Hole
DDH #763 Drill Hole
DDH #764 Drill Hole
DDH #765 Drill Hole
DDH #766 Drill Hole
DDH #767 Drill Hole
DDH #768 Drill Hole
DDH #769 Drill Hole
DDH #770 Drill Hole
DDH #771 Drill Hole
DDH #772 Drill Hole
DDH #773 Drill Hole
DDH #774 Drill Hole
DDH #775 Drill Hole
DDH #776 Drill Hole
DDH #777 Drill Hole
DDH #778 Drill Hole
DDH #779 Drill Hole
DDH #780 Drill Hole
DDH #781 Drill Hole
DDH #782 Drill Hole
DDH #783 Drill Hole
DDH #784 Drill Hole
DDH #785 Drill Hole
DDH #786 Drill Hole
DDH #787 Drill Hole
DDH #788 Drill Hole
DDH #789 Drill Hole
DDH #790 Drill Hole
DDH #791 Drill Hole
DDH #792 Drill Hole
DDH #793 Drill Hole
DDH #794 Drill Hole
DDH #795 Drill Hole
DDH #796 Drill Hole
DDH #797 Drill Hole
DDH #798 Drill Hole
DDH #799 Drill Hole
DDH #800 Drill Hole
DDH #801 Drill Hole
DDH #802 Drill Hole
DDH #803 Drill Hole
DDH #804 Drill Hole
DDH #805 Drill Hole
DDH #806 Drill Hole
DDH #807 Drill Hole
DDH #808 Drill Hole
DDH #809 Drill Hole
DDH #810 Drill Hole
DDH #811 Drill Hole
DDH #812 Drill Hole
DDH #813 Drill Hole
DDH #814 Drill Hole
DDH #815 Drill Hole
DDH #816 Drill Hole
DDH #817 Drill Hole
DDH #818 Drill Hole
DDH #819 Drill Hole
DDH #820 Drill Hole
DDH #821 Drill Hole
DDH #822 Drill Hole
DDH #823 Drill Hole
DDH #824 Drill Hole
DDH #825 Drill Hole
DDH #826 Drill Hole
DDH #827 Drill Hole
DDH #828 Drill Hole
DDH #829 Drill Hole
DDH #830 Drill Hole
DDH #831 Drill Hole
DDH #832 Drill Hole
DDH #833 Drill Hole
DDH #834 Drill Hole
DDH #835 Drill Hole
DDH #836 Drill Hole
DDH #837 Drill Hole
DDH #838 Drill Hole
DDH #839 Drill Hole
DDH #840 Drill Hole
DDH #841 Drill Hole
DDH #842 Drill Hole
DDH #843 Drill Hole
DDH #844 Drill Hole
DDH #845 Drill Hole
DDH #846 Drill Hole
DDH #847 Drill Hole
DDH #848 Drill Hole
DDH #849 Drill Hole
DDH #850 Drill Hole
DDH #851 Drill Hole
DDH #852 Drill Hole
DDH #853 Drill Hole
DDH #854 Drill Hole
DDH #855 Drill Hole
DDH #856 Drill Hole
DDH #857 Drill Hole
DDH #858 Drill Hole
DDH #859 Drill Hole
DDH #860 Drill Hole
DDH #861 Drill Hole
DDH #862 Drill Hole
DDH #863 Drill Hole
DDH #864 Drill Hole
DDH #865 Drill Hole
DDH #866 Drill Hole
DDH #867 Drill Hole
DDH #868 Drill Hole
DDH #869 Drill Hole
DDH #870 Drill Hole
DDH #871 Drill Hole
DDH #872 Drill Hole
DDH #873 Drill Hole
DDH #874 Drill Hole
DDH #875 Drill Hole
DDH #876 Drill Hole
DDH #877 Drill Hole
DDH #878 Drill Hole
DDH #879 Drill Hole
DDH #880 Drill Hole
DDH #881 Drill Hole
DDH #882 Drill Hole
DDH #883 Drill Hole
DDH #884 Drill Hole
DDH #885 Drill Hole
DDH #886 Drill Hole
DDH #887 Drill Hole
DDH #888 Drill Hole
DDH #889 Drill Hole
DDH #890 Drill Hole
DDH #891 Drill Hole
DDH #892 Drill Hole
DDH #893 Drill Hole
DDH #894 Drill Hole
DDH #895 Drill Hole
DDH #896 Drill Hole
DDH #897 Drill Hole
DDH #898 Drill Hole
DDH #899 Drill Hole
DDH #900 Drill Hole
DDH #901 Drill Hole
DDH #902 Drill Hole
DDH #903 Drill Hole
DDH #904 Drill Hole
DDH #905 Drill Hole
DDH #906 Drill Hole
DDH #907 Drill Hole
DDH #908 Drill Hole
DDH #909 Drill Hole
DDH #910 Drill Hole
DDH #911 Drill Hole
DDH #912 Drill Hole
DDH #913 Drill Hole
DDH #914 Drill Hole
DDH #915 Drill Hole
DDH #916 Drill Hole
DDH #917 Drill Hole
DDH #918 Drill Hole
DDH #919 Drill Hole
DDH #920 Drill Hole
DDH #921 Drill Hole
DDH #922 Drill Hole
DDH #923 Drill Hole
DDH #924 Drill Hole
DDH #925 Drill Hole
DDH #926 Drill Hole
DDH #927 Drill Hole
DDH #928 Drill Hole
DDH #929 Drill Hole
DDH #930 Drill Hole
DDH #931 Drill Hole
DDH #932 Drill Hole
DDH #933 Drill Hole
DDH #934 Drill Hole
DDH #935 Drill Hole
DDH #936 Drill Hole
DDH #937 Drill Hole
DDH #938 Drill Hole
DDH #939 Drill Hole
DDH #940 Drill Hole
DDH #941 Drill Hole
DDH #942 Drill Hole
DDH #943 Drill Hole
DDH #944 Drill Hole
DDH #945 Drill Hole
DDH #946 Drill Hole
DDH #947 Drill Hole
DDH #948 Drill Hole
DDH #949 Drill Hole
DDH #950 Drill Hole
DDH #951 Drill Hole
DDH #952 Drill Hole
DDH #953 Drill Hole
DDH #954 Drill Hole
DDH #955 Drill Hole
DDH #956 Drill Hole
DDH #957 Drill Hole
DDH #958 Drill Hole
DDH #959 Drill Hole
DDH #960 Drill Hole
DDH #961 Drill Hole
DDH #962 Drill Hole
DDH #963 Drill Hole
DDH #964 Drill Hole
DDH #965 Drill Hole
DDH #966 Drill Hole
DDH #967 Drill Hole
DDH #968 Drill Hole
DDH #969 Drill Hole
DDH #970 Drill Hole
DDH #971 Drill Hole
DDH #972 Drill Hole
DDH #973 Drill Hole
DDH #974 Drill Hole
DDH #975 Drill Hole
DDH #976 Drill Hole
DDH #977 Drill Hole
DDH #978 Drill Hole
DDH #979 Drill Hole
DDH #980 Drill Hole
DDH #981 Drill Hole
DDH #982 Drill Hole
DDH #983 Drill Hole
DDH #984 Drill Hole
DDH #985 Drill Hole
DDH #986 Drill Hole
DDH #987 Drill Hole
DDH #988 Drill Hole
DDH #989 Drill Hole
DDH #990 Drill Hole
DDH #991 Drill Hole
DDH #992 Drill Hole
DDH #993 Drill Hole
DDH #994 Drill Hole
DDH #995 Drill Hole
DDH #996 Drill Hole
DDH #997 Drill Hole
DDH #998 Drill Hole
DDH #999 Drill Hole
DDH #1000 Drill Hole

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PAGE

PROJECT PICK ENTERPRISES

LINE 3 HALF SW SP. 1 DATE

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	0-10	10-20	→	20-30	→	→	30-40	→	→	→
RANGE										
VOLTAGE	595	575	600	530	575	600	545	530	575	600
CURRENT	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5		CAL
RECEIVE	40-50	→	→	→	50-60	→	→	→		1-2
RANGE										
VOLTAGE	550V	530V	570V	600V	550V	530V	570V	600V		230
CURRENT	2.5A	2.5A	2.5A	2.5A	2.5A	2.5A	2.5A	2.5A		1.0

FREQUENCIES .05 1.0

SENDER NO. 6644-S

OPERATOR DAVE

RECEIVER NO. 10661-R

OPERATOR RON

COMMENTS:

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Pick Ent.
LINE 3 HALF SW SP. 1 DATE

PAGE

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	0-10	10-20	→	20-30	→	→	30-40	→	→	→
RANGE	300	300	100	300	100	100	300	100	30	30
DC 1	150.5	93.0	29.7	145	40.4	22.2	94.0	35.4	17.8	12.0
DC 2	150.0	85.0	29.7	146	40.4	20.3	96.0	33.4	18.5	12.1
DC 3	150.5	93.0	29.7	145	40.4	22.2	94.0	35.4	17.8	12.0
DC 4	150.0	85.0	29.7	146	40.4	20.3	96.0	33.4	18.5	12.1
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.	300.5	178.0	59.4	291.0	80.8	42.5	190.0	68.8	36.3	24.1
AC 1	144.5	85.5	28.1	140.5	39.4	20.5	90.0	32.6	17.5	11.5
AC 2	144.5	85.5	28.1	140.5	39.4	20.5	90.0	32.6	17.5	11.5
AC AVG.	289.0	171.0	56.2	281.0	78.8	41.0	180.0	65.2	35.0	23.0
S.P.	+14.6	+20.5		-40.6			+31.5			
AC NOISE	.06	.06		.06			.06			
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Pick Ent.
LINE 3 HALF SW SP. 1 DATE

PAGE

SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5	cal	
RECEIVE	40-50	→	→	→	50-60	→	→	→	10-20	
RANGE	30	30	30	10	30	10	10	10	300	
DC 1	18.5	10.6	7.60	6.38	7.10	6.08	4.40	3.18	99.5	
DC 2	17.9	12.5	7.30	5.08	7.90	6.00	4.62	3.42	99.5	
DC 3	18.5	10.6	7.60	570	7.10	6.62	4.42	3.20	99.5	
DC 4	17.9	12.5	7.30	5.82	7.90	6.50	4.24	3.40	99.5	
DC 5				5.42		5.84	4.48	3.44		
DC 6				5.30		6.04	4.34	3.78		
DC 7				5.10		6.57	4.54	3.00		
DC 8				5.46		6.40	4.24	3.58		
DC AVG.	36.4	23.1	14.9	10.95	15.0	12.51	8.85	6.75	199.0	
AC 1	17.4	10.95	7.00	5.38	7.10	5.90	4.24	3.24	96.0	
AC 2	17.4	10.95	7.00	5.38	7.10	5.90	4.24	3.24	96.0	
AC AVG.	34.8	21.9	14.0	10.76	14.2	11.80	8.48	6.48	192.0	
S.P.	+11.7				-13.3					
AC NOISE	.07				.07					
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PAGE

PROJECT Pick Enterprises

LINE 3 HALF NE SP. 1 DATE

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	0-10	10-20	→	20-30	→	→	30-40	→	→	→
RANGE										
VOLTAGE	605	570	600	645	565	600	650	640	565	600
CURRENT	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2		CAL
RECEIVE	40-50	→	→	→	50-60	→	→	→		3-4
RANGE										
VOLTAGE	645	640	565	600	645	635	565	595		405
CURRENT	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5		1.0

FREQUENCIES .05 1.0

SENDER NO. 6644S

OPERATOR DAVE

RECEIVER NO. 10661R

OPERATOR Ron

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT Pick Ent.

LINE 3 HALF NE SP. 1 DATE 6-27

PAGE

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	0-10	10-20	→	20-30	→	→	30-40	→	→	→
RANGE	300	300	100	300	100	30	300	100	100	30
DC 1	[illegible]	150	31.2	163	37.7	12.6	139	50.4	22.4	10.1
DC 2	[illegible]	151	28.8	163	38.0	13.1	140	50.4	22.2	9.6
DC 3		150	31.2	163	37.7	12.6	139	50.4	22.4	10.1
DC 4		151	28.8	163	38.0	13.1	140	50.4	22.2	9.6
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.		301	60.0	326	75.7	25.7	279	100.8	44.6	19.7
AC 1		143	28.3	153	35.6	12.05	132	48.2	21.4	9.40
AC 2		143	28.3	153	35.6	12.05	132	48.2	21.4	9.40
AC AVG.		286	56.6	306	71.2	24.1	264	96.4	42.8	18.8
S.P.	+12.7	-43.1		+1.5			+4.7			
AC NOISE	.06	.06		.05			.06			
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Pick Ent.
LINE 3 HALF NE SP. 1 DATE 6-27

PAGE

SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2	cal	
RECEIVE	40-50	→	→	→	50-60	→	→	→	10-20	
RANGE	100	30	30	10	30	30	10	10	300	
DC 1	32.8	18.3	10.4	4.05	19.0	9.90	4.10	2.65	99.5	
DC 2	34.8	21.0	9.30	5.55	19.8	8.80	5.20	3.08	99.5	
DC 3	32.8	18.3	10.4	4.00	19.0	9.90	4.00	2.73		
DC 4	34.8	21.8	9.30	5.65	19.8	8.80	5.30	3.02		
DC 5				3.90			4.05	2.92		
DC 6				5.70			5.26	2.90		
DC 7				3.95			4.15	2.90		
DC 8				5.60			5.15	3.00		
DC AVG.	67.6	40.1	19.7	9.59	38.8	18.7	9.31	5.82	199.0	
AC 1	31.6	18.35	9.20	4.45	17.7	8.65	4.25	2.62	96.0	
AC 2	31.6	18.35	9.20	4.45	17.7	8.65	4.25	2.62	96.0	
AC AVG.	63.2	36.7	18.4	8.90	35.4	17.3	8.50	5.24	192.0	
S.P.	-27.7				-8.9					
AC NOISE	.07				.06					
POT RES.										

HEINRICHS GEOEXPLORATION COMPANY

INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project V. Pick BW Line 3 SW½ Field date_____ Data page_____ Comp. date_____. Comp by [illegible]

(A) Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5		
(B) Receive	—	—	—	—	—	—	—	—	—	—		
(C) n separation												
(D) I	2.5	—	—	—	—	—	—	—	—	—		
(E) Vdc (avg)	300.5	178.0	59.4	291	80.8	42.5	190	68.8	26.3	24.1		
(F) DCcal	.503	—	—	—	—	—	—	—	—	—		
(G) Kn x 10^{-3}	3	7	12	3	12	30	3	12	30	60		
(H) ρ dc=ExFxGx10^3/D	181	107	147	176	195	257	115	166	219	291		
(I) Vac Σ	289.0	171.0	56.2	281	78.8	41.0	180	65.2	35.0	23.0		
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal. USED	0.978	—	—	—	—	—	—	—	—	—		
(M) ρ dc/ρac=ExL/K												
(N) PFE=(M-1)(10^2)	1.7	1.8	3.4	1.3	0.3	1.4	3.2	3.2	1.4	2.5		
(O) MCF=(M-1)(10^5)/H	9	17	24	7	2	5	28	19	6	9		

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5		5-6		
(B) Receive	—	—	—	—	—	—	—	—				
(C) n separation												
(D) I	—	—	—	—	—	—	—	→		1000		
(E) Vdc (avg)	36.4	25.1	14.9	10.95	15.0	12.51	8.45	6.75		199.0		
(F) DCcal	—	—	—	—	—	—	—	→		.503		
(G) Kn x 10^{-3}	12	30	60	105	30	60	105	168				
(H) ρ dc=ExFxGx10^3/D	88	139	180	231	91	151	187	228				
(I) Vac Σ	34.8	21.9	14.0	10.76	14.2	11.80	8.48	6.48		192.0		
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	—	—	—	—	—	—	—	→		~~.505~~	USE 0.978	
(M) ρdc/ρac =ExL/K												
(N) PFE=(M-1)(10^2)	2.3	3.2	4.1	-0.5	3.3	3.7	2.1	1.9				
(O) MCF=(M-1)(10^5)/H	26	23	23	-2	36	25	11	8				

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project U. Pick D.W Line 3 - NE ½ Field date_____ Data page_____ Comp. date_____. Comp by SL.

(A) Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	2-4	2-3	1-2		
(B) Receive	—	—	—	—	—	—	—	—	—	—		
(C) n separation												
(D) I	2.5	—	—	—	—	—	—	—	—	—		
(E) Vdc (avg)	—	90.1	60.0	32.6	75.7	25.7	27.9	100.8	44.6	19.7		
(F) DCcal	.503	—	—	—	—	—	—	—	—	—		
(G) Kn x 10^{-3}	3	3	12	3	12	30	3	12	30	60		
(H) ρ dc=ExFxGx10^3/D		182	145	197	183	155	168	247	269	278		
(I) Vac Σ		286	56.6	30.6	71.2	24.1	26.4	96.4	42.8	18.8		
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.978	—	—	—	—	—	—	—	—	—		
(M) ρ dc/ρac=ExL/K												
(N) PFE=(M-1)(10^2)		2.9	3.7	4.2	4.0	4.3	3.4	2.3	1.9	2.5		
(O) MCF=(M-1)(10^5)/H		16	26	21	22	28	20	9	7	11		

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	2-3	3-4	2-3	1-2	4-5	2-4	2-3	1-2		CAL		
(B) Receive	—	—	—	—	—	—	—	—				
(C) n separation												
(D) I	—	—	—	—	—	—	—	→		1950		
(E) Vdc (avg)	67.6	40.1	19.7	9.59	28.8	18.2	9.21	5.82		199.0		
(F) DCcal	—	—	—	—	—	—	—	→		.503		
(G) Kn x 10^{-3}	12	30	60	105	30	60	105	168				
(H) ρ dc=ExFxGx10^3/D	163	242	238	203	234	226	197	197				
(I) Vac Σ	63.2	36.7	18.4	8.90	35.4	17.2	8.50	5.24		1950		
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	—	—	—	—	—	—	—	→		.965	→ .978	
(M) ρdc/ρac =ExL/K												
(N) PFE=(M-1)(10^2)	4.6	1.7	4.7	5.4	7.2	5.7	7.1	8.6				
(O) MCF=(M-1)(10^5)/H	28	28	20	27	31	25	36	44				

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PAGE

PROJECT PICK ENTERPRISES

LINE 2 HALF NE SP. 1 DATE

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	0-10	10-20	→	20-30	→	→	30-40	→	→	→
RANGE										
VOLTAGE	860	485	860	675	490	870	620	675	490	870
CURRENT	2.5	2.5	2.5	2.5	2.5	2.5	1.5	2.5	2.5	2.5
SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2		CAL
RECEIVE	40-50	→	→	→	50-60	→	→	→		3-4
RANGE										
VOLTAGE	620	675	490	870	620	680	490	870		130
CURRENT	1.5	2.5	2.5	2.5	1.5	2.5	2.5	2.5		200MA

FREQUENCIES .05 1

SENDER NO. 6644-S

OPERATOR DAVE

RECEIVER NO. 10661-R

OPERATOR RON

COMMENTS:

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Pick Ent.
LINE 2 HALF NE SP. 1 DATE

PAGE

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	0-10	10-20	→	20-30	→	→	30-40	→	→	→
RANGE		300	100	300	100	30	300	100	30	30
DC 1		220	36.2	156	41.7	12.6	71.0	30.0	19.0	7.40
DC 2		224	31.8	154	41.4	15.0	75.0	26.4	16.7	8.10
DC 3		220	36.2	156	41.7	12.6	71.0	30.0	19.0	7.40
DC 4		224	31.8	154	41.4	15.0	75.0	26.4	16.7	8.10
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.		444	68.0	310	83.1	27.6	146	56.4	35.7	15.5
AC 1		213	32.4	153.5	40.3	13.4	71.0	27.4	17.1	7.50
AC 2		213	32.4	153.5	40.3	13.4	71.0	27.4	17.1	7.50
AC AVG.		426	64.8	307	80.6	26.8	142	54.8	34.2	15.0
S.P.	-13.8	-18.7		+39.7			-15.5			
AC NOISE	.06	.04		.06			.06			
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Pick Ent.
LINE 2 HALF NE SP. 1 DATE

PAGE

SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2	cal.	
RECEIVE	40-50	→		→	50-60	→		→	10-20	
RANGE	100	30	30	10	30	10	10	3	30	
DC 1	24.6	14.6	11.3	5.00	9.00	5.16	3.68	2.41 2.77	205	
DC 2	23.8	13.4	9.0	5.32	7.60	5.08	4.06	1.65 1.70	205	
DC 3	24.6	14.6	11.3	5.12	9.00	5.24	3.74	2.64 2.21	205	
DC 4	23.8	13.4	9.0	5.38	7.60	5.02	3.98	1.37 1.72	205	
DC 5				4.98		5.32	3.70	2.82 2.16		
DC 6				5.30		4.94	4.00	1.40 2.18		
DC 7				4.96		5.26	3.66	2.81 2.30		
DC 8				5.34		4.98	4.02	0.96 1.42		
DC AVG.	48.4	28.0	20.3	10.35	16.6	10.27	7.71	4.08	410	
AC 1	23.6	13.55	9.60	5.02	7.95	4.94	3.72	1.90	202	
AC 2	23.6	13.55	9.60	5.02	7.95	4.94	3.72	1.92	202	
AC AVG.	47.2	27.1	19.2	10.04	15.9	9.88	7.44	3.82	404	
S.P.	-35.6				-4.9					
AC NOISE	.07				.07					
POT RES.										

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT PUCK ENTERPRISES

LINE 2 HALF SW SP. 1 DATE

PAGE

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	0-10	10-20	→	20-30	→	→	30-40	→	→	→
RANGE										
VOLTAGE	630	675	620	485	675	405	870	485	675	410
CURRENT	1.5	2.5	1.5	2.5	2.5	1.0	2.5	2.5	2.5	1.0
SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5		CAL
RECEIVE	40-50	→	→	→	50-60	→	→	→		1-2
RANGE										
VOLTAGE	875	490	675	410						320
CURRENT	2.5	2.5	2.5	1.0						600MA

FREQUENCIES _____ _____

SENDER NO.

OPERATOR

RECEIVER NO.

OPERATOR

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I.P. RECEIVER NOTES

PROJECT Pick Ent.

LINE 2 HALF SW SP. 1 DATE

PAGE

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	0-10	10-20	→	20-30	→	→	30-40	→	→	→
RANGE	300	100	30	300	100	30	300	100	30	10
DC 1	119	51.0	20.0	134	27.0	9.90	162	28.0	9.60	4.06
DC 2	116	51.8	15.6	134	26.6	9.60	164	27.4	10.7	4.42
DC 3	119	51.0	20.0	134	27.0	9.90	162	28.0	9.60	4.28
DC 4	116	51.8	15.6	134	26.6	9.60	164	27.4	10.7	4.20
DC 5										4.32
DC 6										4.16
DC 7										4.40
DC 8										4.08
DC AVG.	235	102.8	35.6	268	53.6	19.5	326	55.4	20.3	8.53
AC 1	115.5	54.2	18.6	132.5	26.6	9.65	156	26.2	9.65	4.12
AC 2	115.5	54.2	18.6	132.5	26.6	9.65	156	26.2	9.65	4.12
AC AVG.	231	108.4	37.2	265	53.2	19.3	312	52.4	19.3	8.24
S.P.	+30.7	-27.2		+22.4			-24.2			
AC NOISE	.07	.06		.06			.05			
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Pick Ent
LINE 2 HALF SW SP. 1 DATE

PAGE

SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5	dal	
RECEIVE	40-50	→	→	→	50-60	→	→	→	10-20	
RANGE	100	30	10	10					100	
DC 1	31.8	14.5	6.52	3.22					61.6	
DC 2	32.4	14.6	7.38	3.28					61.6	
DC 3	31.8	14.5	6.60	3.40					61.6	
DC 4	32.4	14.6	7.28	3.08					61.6	
DC 5			6.70	3.38						
DC 6			7.15	3.12						
DC 7			6.82	3.44						
DC 8			7.10	3.02						
DC AVG.	64.2	29.1	13.93	6.52					123.2	
AC 1	30.4	13.45	6.40	3.00					59.5	
AC 2	30.4	13.45	6.40	3.00					59.5	
AC AVG.	60.9	26.9	12.8	6.00					119.0	
S.P.	-16.7									
AC NOISE	.08									
POT RES.										

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Pick Ent Line 2 NE Field date_____ Data page_____ Comp. date 6/29/62. Comp by C.J.L.

(A) Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2		
(B) Receive	—	—	—	—	—	—	—	—	—	—		
(C) n separation												
(D) I	2.5	2.5	2.5	2.5	2.5	2.5	1.5	2.5	2.5	2.5		
(E) Vdc (avg)		444	68.0	310	83.1	27.6	14.6	56.4	35.7	15.5		
(F) DCcal	.488	—	—	—	—	—	—	—	—	—		
(G) Kn x 10^{-3}	3	3	12	3	12	30	3	12	30	60		
(H) ρ dc=ExFxGx10^3/D		260	159	182	195	162	142	132	209	182		
(I) Vac Σ		426	64.8	307	20.6	26.8	142	54.8	34.2	15.0		
(J) AC noise x 2												
(K) Vac(corr) $=\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.985	—	—	—	—	—	—	—	—	—		
(M) ρ dc/ρac=ExL/K												
(N) PFE=(M-1)(10^2)		2.7	3.4	-0.5	1.6	1.4	1.3	1.4	2.8	1.8		
(O) MCF=(M-1)(10^5)/H				-3	8	9	9	11	13	10		

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2		C.J.L.		
(B) Receive	—	—	—	—	—	—	—	—				
(C) n separation												
(D) I	1.5	2.5	2.5	2.5	1.5	2.5	2.5	2.5		200		
(E) Vdc (avg)	48.4	28.0	39.5	10.35	16.6	10.27	7.71	4.08		420		
(F) DCcal	—	—	—	—	—	—	—	→		.488		
(G) Kn x 10^{-3}	12	30	60	105	30	60	105	168				
(H) ρ dc=ExFxGx10^3/D	189	164	238	212	162	120	158	134				
(I) Vac Σ	47.2	27.1	19.2	10.04	5.9	9.88	7.44	3.82		404		
(J) AC noise x 2												
(K) Vac (corr) $=\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	—	—	—	—	—	—	—	→		.985		
(M) ρdc/ρac =ExL/K												
(N) PFE=(M-1)(10^2)	1.0	1.8	4.1	1.5	2.8	2.4	2.1	5.2				
(O) MCF=(M-1)(10^5)/H	5	11	17	7	17	20	13	39				

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Pick Entr Line 2 SW½ Field date_____ Data page_____ Comp. date 6/29/67. Comp by C.S.L.

(A) Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5		
(B) Receive	—	—	—	—	—	—	—	—	—	—		
(C) n separation												
(D) I	1.5	2.5	1.5	2.5	2.5	1.0	2.5	2.5	2.5	1.0		
(E) Vdc (avg)	275	102.8	55.6	268	53.6	19.5	326	55.4	20.3	8.53		
(F) DCcal	.487	→										
(G) Kn x 10^{-3}	3	3	12	3	12	30	3	12	30	60		
(H) ρ dc=ExFxGx10^3/D	229	60	139	157	125	285	191	130	119	249		
(I) Vac Σ	271	108.4	37.2	265	53.2	19.3	312	52.4	19.3	8.24		
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	[illegible]	0.985	→									
(M) ρ dc/ρac=ExL/K												
(N) PFE=(M-1)(10^2)	0.2	-6.0	-5.7	-0.4	-0.8	-0.5	2.9	4.1	3.6	2.0		
(O) MCF=(M-1)(10^5)/H	1	—	—	-3	-6	-2	15	32	30	8		

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	1-2	2-3	3-4	4-5	1-2	3-4	3-4	4-5		CAL		
(B) Receive	—	—	—	—	—	—	—	—				
(C) n separation												
(D) I	2.5	2.5	2.5	1.0						000		
(E) Vdc (avg)	64.2	29.1	17.93	6.52						123.2		
(F) DCcal	→									.487		
(G) Kn x 10^{-3}	12	30	60	105	30	60						
(H) ρ dc=ExFxGx10^3/D	150	170	163	333								
(I) Vac Σ	60.4	26.9	12.80	6.00						119.0		
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	→											
(M) ρdc/ρac =ExL/K												
(N) PFE=(M-1)(10^2)	4.7	6.6	7.2	7.0								
(O) MCF=(M-1)(10^5)/H	31	39	44	21								

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Pick Ent. Line / Sp1 S11°W Field date_____ Data page_____ Comp. date_____. Comp by RP.

(A) Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5		
(B) Receive	0-10	10-20	→	20-30	→	→	30-40	→	→	→		
(C) n separation	1	1	2	1	2	3	1	2	3	4		
(D) I	2.5	→	→	→	→	→	→	→	→	→		
(E) Vdc (avg)	305	137	71.5	248	50.4	42.4	370	54.7	24.5	22.2		
(F) DCcal	.504											
(G) Kn x 10^{-3}	3	3	12	3	12	30	3	12	30	68		
(H) ρ dc=ExFxGx10^3/D	184	83	173	150	122	255	223	133	148	268		
(I) Vac Σ	290	136	69.2	240	48.6	41.0	351	51.8	23.2	21.1		
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.960	[illegible]	0.785	→	→	→	→	→	→	→		
(M) ρ dc/ρac=ExL/K	1.010	.968	.993	.994	.995	.994	1.011	1.012	1.012	1.010		
(N) PFE=(M-1)(10^2)	1.0 3.6	-3.2 [illegible]	-0.7 1.8	-0.6 1.8	-0.5 2.1	-0.6 1.9	1.1 3.8	1.2 4.0	1.2 4.0	1.0 3.6		
(O) MCF=(M-1)(10^5)/H				12	17	7	17	31	27	13		

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5		col		
(B) Receive	40-50	→	→	→	50-60	→	→	→		10-20		
(C) n separation	2	3	4	5	3	4	5	6				
(D) I	2.5	→	→	→	→	→	→	→		1.0		
(E) Vdc (avg)	65.3	22.6	14.04	14.1	9.70	4.82	3.24	3.55		198		
(F) DCcal								[illegible]				
(G) Kn x 10^{-3}	12	30	60	105	30	60	105	168				
(H) ρ dc=ExFxGx10^3/D	157	136	170	299	59	58	69	118				
(I) Vac Σ	61.0	21.1	13.12	13.24	9.20	4.56	3.08	3.20		190		
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	→	→	→	→	→	→	→	→				
(M) ρdc/ρac =ExL/K	1.026	1.029	1.028	1.021	1.013	1.014	1.010	1.064				
(N) PFE=(M-1)(10^2)	2.65 4	2.95 5	2.85 4	2.14 9	1.3 3.7	1.4 4.1	1.0 3.6	6.4 ?7.2				
(O) MCF=(M-1)(10^5)/H	34	40	32	16	66	71	52	60?				

Located 100' N of NW Corner Alpha #2

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project Pick Ent. Line 1 Sp/ N11°E Field date 6-20-21-67 Data page_____ Comp. date_____. Comp by R.P.

(A) Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2		
(B) Receive	0-10	10-20	→	20-30	→	→	30-40	→	→	→		
(C) n separation	1	1	2	1	2	3	1	2	3	4		
(D) I	2A	2.5A	2.0A	2.5	→	2.0	2.5	→	→	2.0		
(E) Vdc (avg)	~~99.2~~	287	58.0	200.4	57.6	19.7	278	47.3	21.5	~~8.83~~ 8.8		
(F) DCcal	.504											
(G) Kn x 10^{-3}	3	3	12	3	12	30	3	12	30	60		
(H) ρ dc=ExFxGx10^3/D	75	173	175	121	139	149	168	114	130	133		
(I) Vac Σ	102.8	280	56.4	192	55.2	18.9	269.0	45.2	20.8	8.48		
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.964	.985	.985									
(M) ρ dc/ρac=ExL/K		.989	.992	1.007	1.006	.995	.996	1.008	.998	1.002		
(N) PFE=(M-1)(10^2)		-1.1 1.0	-0.8 1.3	0.7 2.8	0.6 2.8	-0.5 2.7	-0.4 1.8	0.8 3.1	-0.2 1.8	0.2 2.0		
(O) MCF=(M-1)(10^5)/H				23	20	18	11	27	14	15		

Project_____ Line ?_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2		cal		
(B) Receive	40-50	→	→	→	50-60	→	→	→		10-20		
(C) n separation	2	3	4	5	3	4	5	6				
(D) I	2.5	→	→	2.0	2.5	→	→	2.0		1A		
(E) Vdc (avg)	109.6	41.5	20.3	12.33	43.8	22.1	12.73	8.26		198		
(F) DCcal												
(G) Kn x 10^{-3}	12	30	60	105	30	60	105	168				
(H) ρ dc=ExFxGx10^3/D	265	250	245	364	265	266	270	350				
(I) Vac Σ	108.2	40.6	20.0	11.90	43.2	21.0	12.44	8.08		191		
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.												
(M) ρdc/ρac =ExL/K	.975	.985	.978	1.001	.978	1.014	.988	.988				
(N) PFE=(M-1)(10^2)	-2.5 -0.2	-1.5 0.7	-2.2 0.0	0.1 2.1	-2.2 -0.1	1.4 3.7	-1.2 0.8	-1.2 0.7				
(O) MCF=(M-1)(10^5)/H	-1	3	0	6	0	14	3	2				

PAGE

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Pick Enterprises

LINE 1 HALF NE SP. 1 DATE 6/12/62

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	0-10	10-20	→	20-30	→	→	30-40	→	→	→
RANGE										
VOLTAGE	720	430	710	380	430	705	625	380	430	705
CURRENT	2.0	2.5	2.0	2.5	2.5	2.0	2.5	2.5	2.5	2.0
SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2	cal	
RECEIVE	40-50	→	→	→	50-60	→	→	→	3-4	
RANGE										
VOLTAGE	580	350	415	860	580	350	415	860	195	
CURRENT	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	1.0	

FREQUENCIES .05 1.0

SENDER NO. 6644-S

OPERATOR S. Cruze

RECEIVER NO. 10661-R

OPERATOR R. Palmer

COMMENTS:

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PAGE

PROJECT Pick Enterprises

LINE 1 HALF SW SP. 1 DATE

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	0-10	10-20	→	20-30	→	→	30-40	→	→	→
RANGE										
VOLTAGE	580	350	580	420	350	580	870	420	350	580
CURRENT	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5		CAL
RECEIVE	40-50	→	→	→	50-60	→	→	→		1-2
RANGE										
VOLTAGE	860	420	350	580	860	420	350	580		395
CURRENT	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5		2.0

FREQUENCIES .05 1.0

SENDER NO. 6644-S

OPERATOR Dave

RECEIVER NO. 10661-R

OPERATOR Ron

COMMENTS:

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PAGE

PROJECT Pick Ent.
LINE 1 HALF SW SP. 1 DATE 6-17

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	0-10	10-20	→	20-30	→	→	30-40	→	→	→
RANGE	300	100	100	300	100	30	300	100	30	30
DC 1	152	70.2	32.0	123	26.2	22.3	185	27.7	12.0	11.0
DC 2	153	66.8	39.5	125	24.2	20.1	185	27.0	12.5	11.2
DC 3	152	70.2	32.0	123	26.2	22.3	185	27.7	12.0	11.0
DC 4	153	66.8	39.5	125	24.2	20.1	185	27.0	12.5	11.2
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.	305	137.0	71.5	248	50.4	42.4	370.0	54.7	24.5	22.2
AC 1	145.0	68.0	34.6	120	24.3	20.5	175.5	25.9	11.6	10.55
AC 2	145.0	68.0	34.6	120	24.3	20.5	175.5	25.9	11.6	10.55
AC AVG.	290.0	136.0	69.2	240	48.6	41.0	351.0	51.8	23.2	21.1
S.P.	+46.4	+25.3		-9.6			-17.3			
AC NOISE	.06	.06		.07			.05			
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Pick Ent.
LINE 1 HALF NE SP. 1 DATE 6-17

PAGE

SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2	Cal	
RECEIVE	40-50	→	→	→	50-60	→	→	→	10-20	
RANGE	100	30	30	10	30	30	10	10	300	
DC 1	53.8	19.9	9.90	6.00	22.4	11.0	6.38	4.10	99.0	
DC 2	55.8	21.6	10.4	6.34	21.4	11.1	6.42	4.18	99.0	
DC 3	53.8	19.9	9.9	5.96	22.4	11.0	6.00	4.06	99.0	
DC 4	55.8	21.6	10.4	6.36	21.4	11.1	6.50	4.20	99.0	
DC 5				5.98			6.34	4.04		
DC 6				6.36			6.54	4.22		
DC 7				6.00			5.98	4.06		
DC 8				6.34			6.84	4.20		
DC AVG.	109.6	41.5	20.3	12.33	43.8	22.1	12.73	8.26	198	
AC 1	54.1	20.3	10.0	5.95	21.6	10.5	6.22	4.04	95.5	
AC 2	54.1	20.3	10.0	5.95	21.6	10.5	6.22	4.04	95.5	
AC AVG.	108.2	40.6	20.0	11.9	43.2	21.0	12.44	8.08	191	
S.P.	-2.9				+19.0					
AC NOISE	.05				.06					
POT RES.										

PAGE

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Pick Ent.
LINE 1 HALF NE SP. 1 DATE 6-17-67

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	0-10	10-20	→	20-30	→	→	30-40	→	→	→
RANGE	100	300	100	300	100	30	300	100	30	10
DC 1	50.0	144	28.2	100.2	29.0	9.70	140.0	25.5	10.8	4.44
DC 2	44.2	143	29.8	100.2	28.6	10.0	138.0	21.8	10.7	4.42
DC 3	50.0	144	28.2	100.2	29.0	9.70	140.0	25.5	10.8	4.38
DC 4	44.2	143	29.8	100.2	28.6	10.0	138.0	21.8	10.7	4.36
DC 5										4.34
DC 6										4.40
DC 7										4.42
DC 8										4.38
DC AVG.	99.2	287	58.0	200.4	57.6	19.7	278	47.3	21.5	8.83
AC 1	51.4	140.0	28.2	96.0	27.6	9.45	134.5	22.6	10.4	4.24
AC 2	51.4	140.0	28.2	96.0	27.6	9.45	134.5	22.6	10.4	4.24
AC AVG.	102.8	280.0	56.4	192.0	55.2	18.9	269.0	45.2	20.8	8.48
S.P.	+160.1	-14.8		-13.7			-16.2			
AC NOISE	.06	.05		.05			.06			
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Pick Ent.
LINE 1 HALF SW SP. 1 DATE 6-17

PAGE

SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5	cal	
RECEIVE	40-50	→		→	50-60	→		→	10-20	
RANGE	100	30	10	10	10	3	3	3	300	
DC 1	31.8	11.0	7.62	6.32	5.02	2.43	1.81	1.35	99.0	
DC 2	33.5	11.6	6.32	7.42	4.66	2.39	1.42	2.19	99.0	
DC 3	31.8	11.0	7.70	6.66	5.02	2.44	1.71	1.69	99.0	
DC 4	33.5	11.6	6.08	7.94	4.68	2.38	1.34	1.74	99.0	
DC 5			7.54	6.62	5.00	2.40	1.99	1.76		
DC 6			6.64	7.00	4.70	2.42	1.34	1.73		
DC 7			7.44	6.72	5.04	2.42	1.97	1.74		
DC 8			6.80	7.64	4.66	2.39	1.31	1.79 3.48		
DC AVG.	65.3	22.6	14.04	14.10	9.70	4.82	3.24	3.55	198	
AC 1	30.5	10.55	6.56	6.62	4.60	2.28	1.54	1.60	95.0	
AC 2	30.5	10.55	6.56	6.62	4.60	2.28	1.54	1.60	95.0	
AC AVG.	61.0	21.1	13.12	13.24	9.20	4.56	3.08	3.20	190.	
S.P.	+14.0				+16.7					
AC NOISE	.06				.06					
POT RES.										

JUN 1967
GEOEX

Chris,

I am puzzled about this line I hope you can figured it out. All my batteries are up and internal cal is running around 100. Dave said if the batteries were good and cal checked out that the receiver is working okay. My daily cal has been running low and this could be the problem. If you can tell me anything to do I wish you would.

Also I missed the last station on line 2 which I didn't compute because of a gorge about 100' deep that we couldn't get across. I think I can get to it if I go back out off of the property and come in from the south. If I have time I will try this but I am working on line 3 and should be done with it early Wednesday. Anyhow here is line 2 which I didn't compute.

Ron

P.S. Line 2 is centered between N center end of Alpha 14 and S center end of Alpha 13.

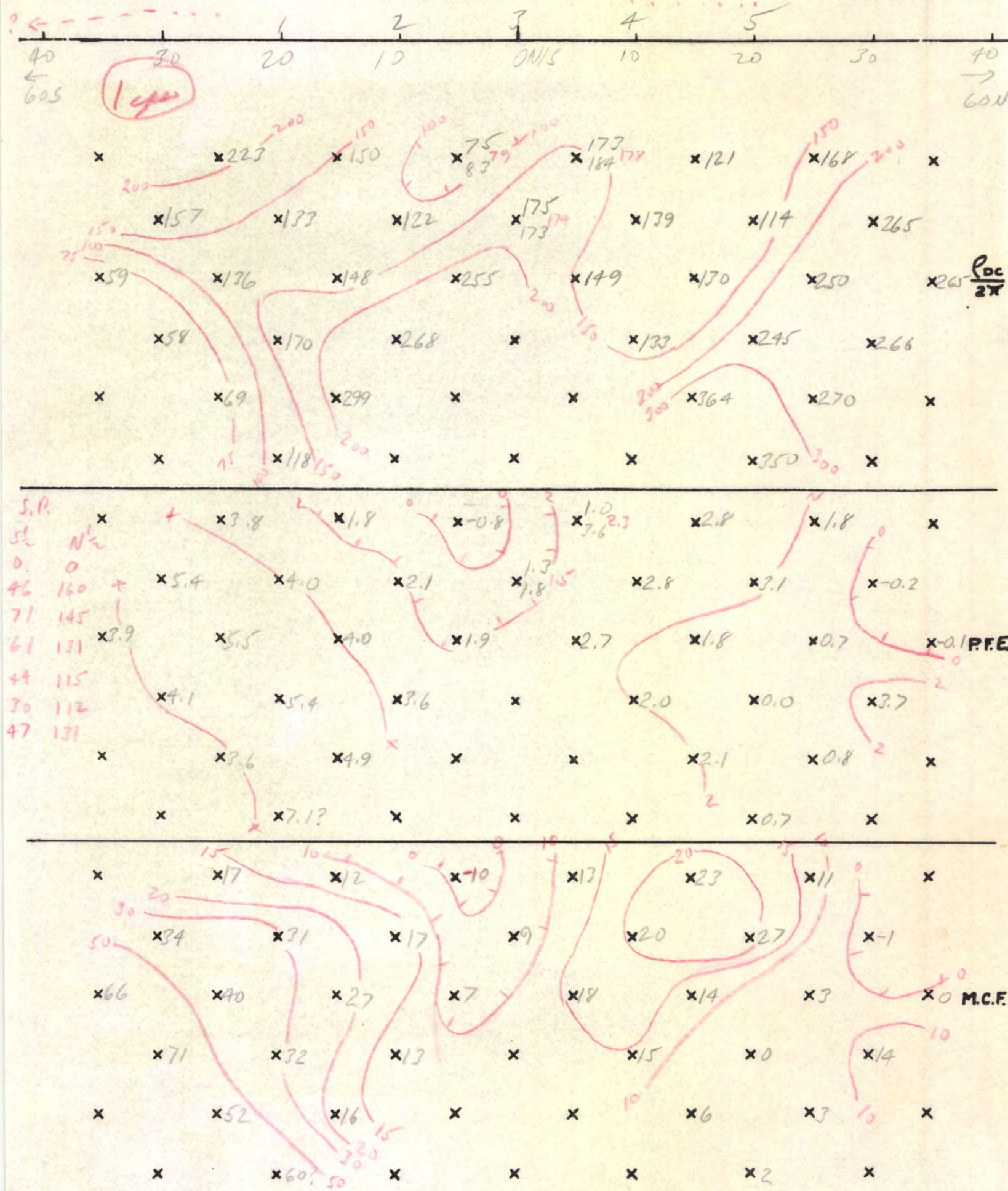
Both lines are running N 11° E

GENERAL LOCATION OF

PICK ENTERPRISES PROPERTY
(ALPHA-DELTA CLAIM GROUP)

ARIZONA

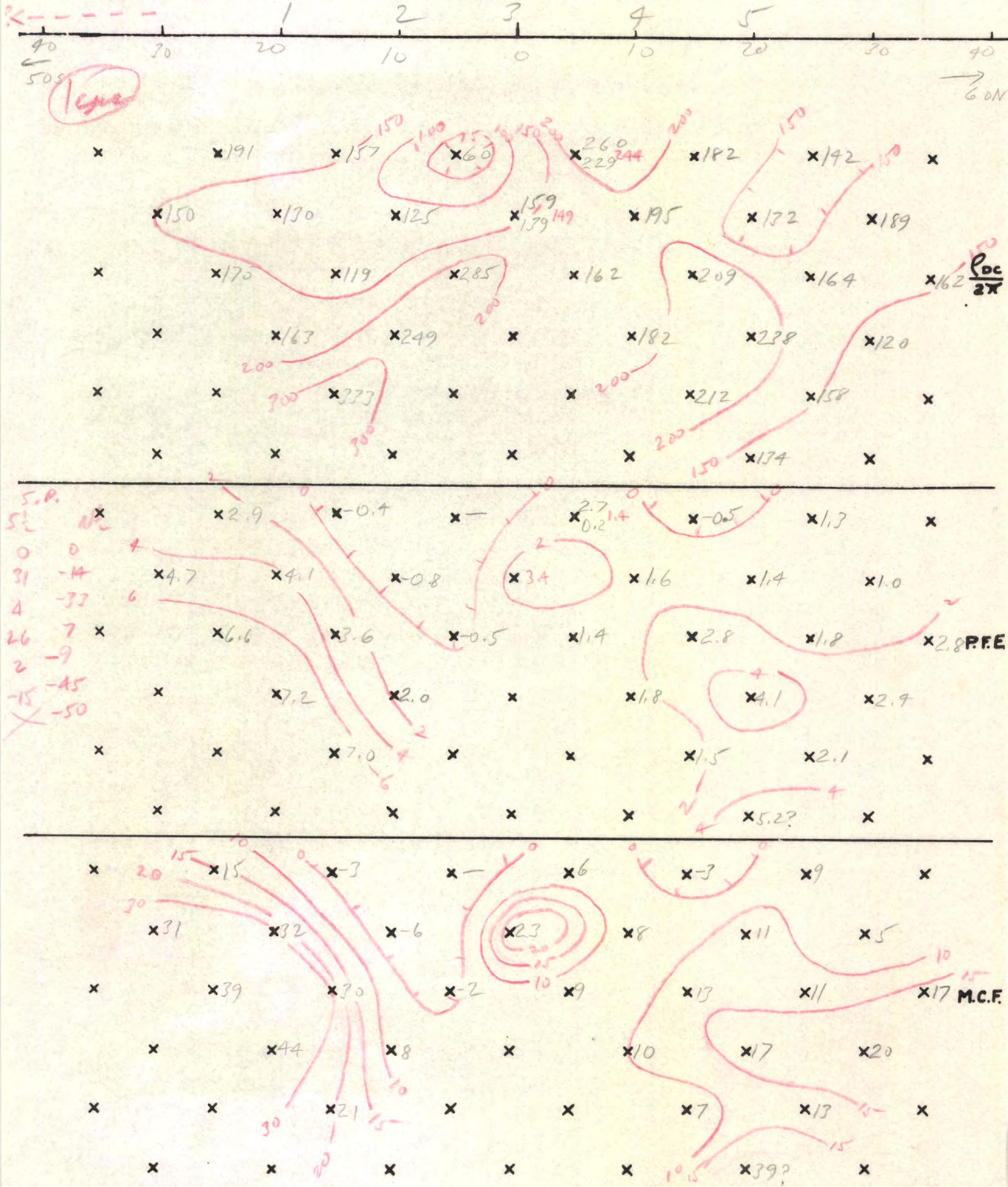
HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING N 79 W



Alpha Delta Claims Pick Enterprises

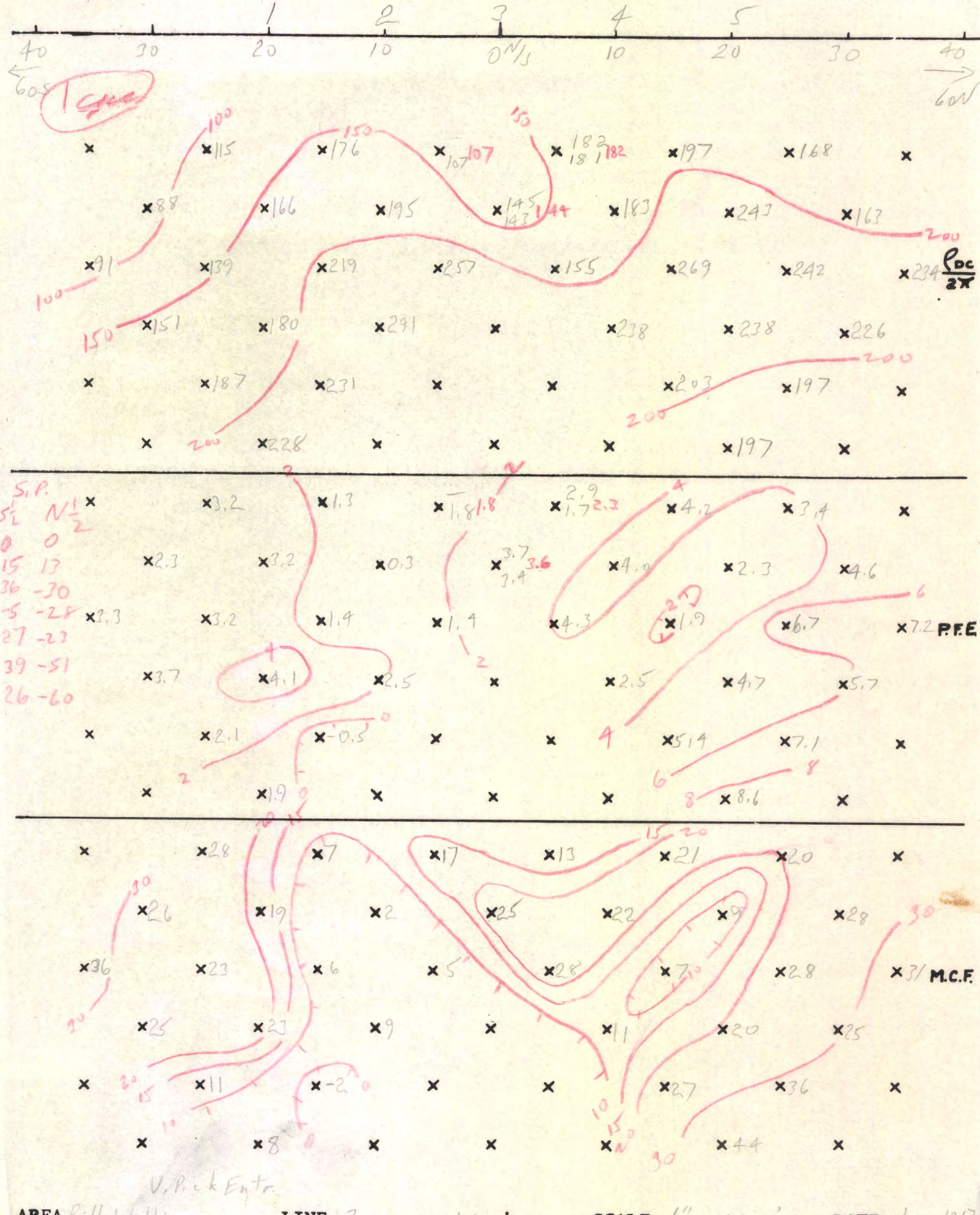
AREA B.W. Pick Ests LINE 1 a = 1000 ' SCALE: 1" = 1000' DATE: May 1967

HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING N 79 W



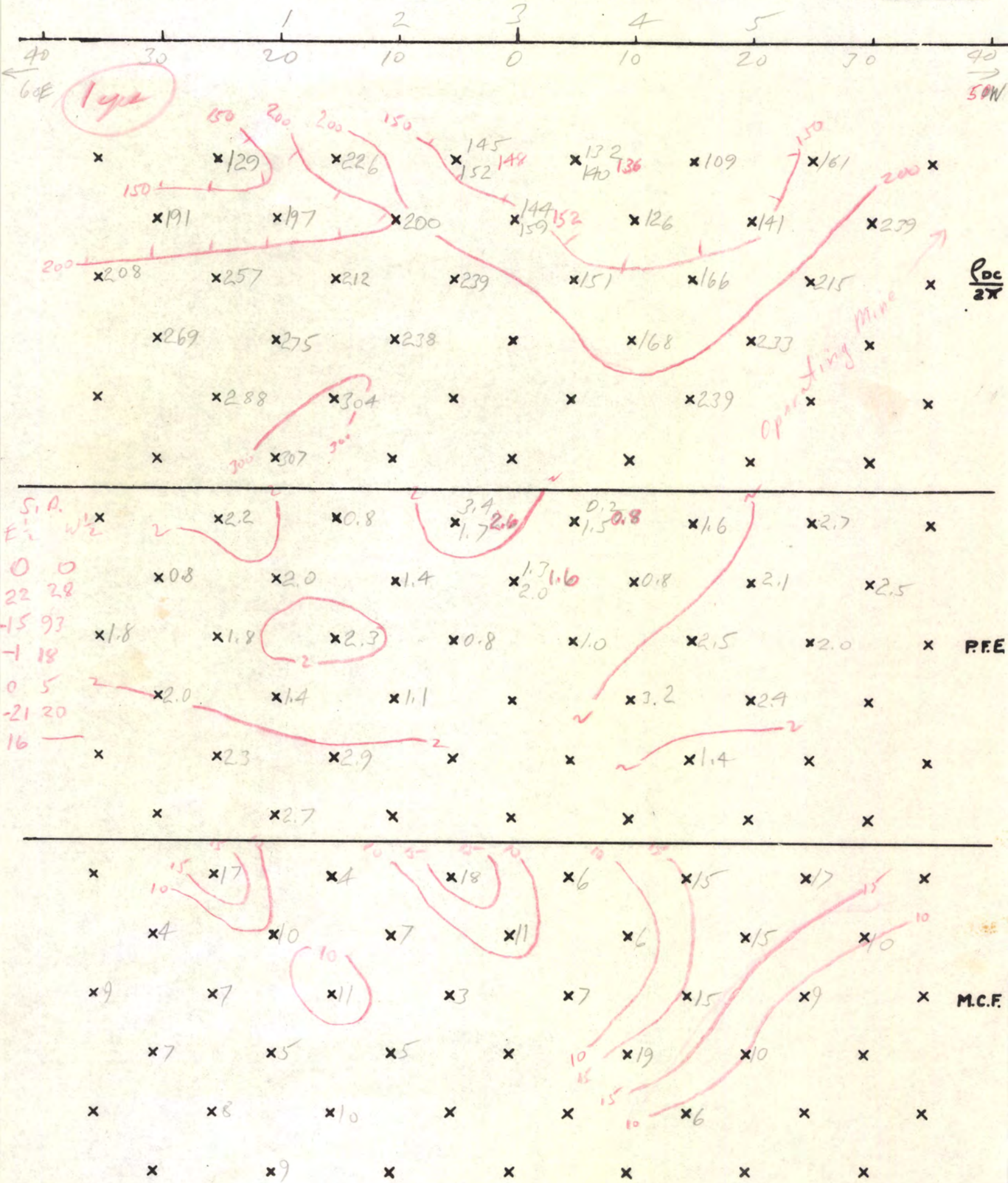
AREA B.W. Pick. Entr. LINE 2 a = 1000' SCALE: 1" = 1000' DATE: June 1967

HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING N79W



AREA Bill Williams LINE 3 a = 1000' SCALE: 1" = 1000' DATE: June 1967

HEINRICHS GEOEX. INDUCED POLARIZATION SECTIONAL DATA PLOT, LOOKING S 11 W



AREA B.W. V. Pick Entry LINE 4 a = 1000' SCALE: 1" = 1000' DATE: June 1967

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PAGE

PROJECT Pick Enterprises

LINE 4 HALF NW SP. 1 DATE

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	0-10	10-20	→	20-30	→	→	30-40	→	→	→
RANGE										
VOLTAGE	630	495	630	495	495	625	595	500	495	625
CURRENT	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2		CAL
RECEIVE	40-50	→	→	→	50-60	→	→	→		3-4
RANGE										
VOLTAGE	595	495	495	625	590	500	495	620		325
CURRENT	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5		1.0

FREQUENCIES .05 1.0

SENDER NO. 66445

OPERATOR DAVE

RECEIVER NO. 10661R

OPERATOR RON

COMMENTS:

PAGE

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Pick East
LINE 4 HALF NW SP. 1 DATE 6-30

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	0-10	10-20	→	20-30	→	→	30-40	→	→	→
RANGE	300	300	100	300	100	30	300	100	30	30
DC 1	118	107	31.6	89.0	28.0	12.4	135	28.2	13.5	6.40
DC 2	121	110	27.6	91.0	23.8	12.5	131	29.8	13.9	7.50
DC 3	118	107	31.6	89.0	28.0	12.4	135	28.2	13.5	6.40
DC 4	121	110	27.6	91.0	23.8	12.5	131	29.8	13.9	7.50
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.	239	217	59.2	180.0	51.8	24.9	266	58.0	27.4	13.9
AC 1	111.5	104.5	28.2	85.5	24.8	11.9	125	27.4	12.9	6.50
AC 2	111.5	104.5	28.2	85.5	24.8	11.9	125	27.4	12.9	6.50
AC AVG.	223	209.0	56.4	171.0	49.6	23.8	250	54.8	25.8	13.0
S.P.	+27.9	+64.5		-74.8			-13.4			
AC NOISE	.06	.06		.07			.06			
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Pick Ent.
LINE 4 HALF NW SP. 1 DATE 6-30

PAGE

SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5	Col	
RECEIVE	40-50	→	→	→	50-60	→	→	→	10-20	
RANGE	100	30	30	10					300	
DC 1	48.2	17.9	9.10	5.58					99.0	
DC 2	50.2	17.6	10.1	5.66					99.0	
DC 3	48.2	17.9	9.1	5.62					99.0	
DC 4	50.2	17.6	10.1	5.64					99.0	
DC 5				5.60						
DC 6				5.70						
DC 7				5.56						
DC 8				5.66						
DC AVG.	98.4	35.5	19.2	11.26					198.0	
AC 1	46.3	16.8	9.05	5.36					94.5	
AC 2	46.3	16.8	9.05	5.36					94.5	
AC AVG.	92.6	33.6	18.1	10.72					189.0	
S.P.	+15.2									
AC NOISE	.05									
POT RES.										

OPEN
Mine Blasting

HEINRICHS GEOEXPLORATION CO.

I. P. SENDER NOTES

PROJECT Pick Enterprises

LINE 4 HALF S E SP. 1 DATE

PAGE

SEND	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5
RECEIVE	0-10	10-20	→	20-30	→	→	30-40	→	→	→
RANGE										
VOLTAGE	595	595	590	595	495	590	615	490	495	590
CURRENT	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
SEND	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5		CAL
RECEIVE	40-50	→	→	→	50-60	→	→	→		2-3
RANGE										
VOLTAGE	615	595	595	580						280
CURRENT	2.5	2.5	2.5	2.5						1.0

FREQUENCIES .05 1.0

SENDER NO. 6644 S

OPERATOR DAVE

RECEIVER NO. 10661 R

OPERATOR ROY

COMMENTS:

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Pick Ent.
LINE 4 HALF SE SP. 1 DATE 6-30

PAGE

SEND	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2
RECEIVE	0-10	10-20	→	20-30	→	→	30-40	→	→	→
RANGE	300	300	100	300	100	30	300	100	30	30
DC 1	116	126	31.8	188	41.5	19.5	110	41.2	17.7	10.1
DC 2	115.5	126	34.2	186	41.3	20.1	104	40.2	17.5	9.60
DC 3	116	126	31.8	188	41.5	19.5	110	41.2	17.7	10.1
DC 4	115.5	126	34.2	186	41.3	20.1	104	40.2	17.5	9.60
DC 5										
DC 6										
DC 7										
DC 8										
DC AVG.	231.5	252	66.0	374	82.8	39.6	214	81.4	35.2	19.7
AC 1	110	119.5	31.2	179	39.4	18.95	101	38.5	16.6	9.40
AC 2	110	119.5	31.2	179	39.4	18.95	101	38.5	16.6	9.40
AC AVG.	220.0	239	62.4	358	78.8	37.9	202	77.0	33.2	18.8
S.P.	+22.1	-36.6		+14.3			+0.6			
AC NOISE	.06	.06		.07			.06			
POT RES.										

HEINRICHS GEOEXPLORATION CO.
I.P. RECEIVER NOTES

PROJECT Pick Ent.
LINE 4 HALF SE SP. 1 DATE 6-30

PAGE

SEND	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2	cal	
RECEIVE	40-50	→	→	→	50-60	→	→	→	10-20	
RANGE	100	100	30	30	30	30	10	10	300	
DC 1	40.4	20.2	11.1	6.90	17.0	11.7	6.38	5.10	99.5	
DC 2	38.6	22.4	11.7	7.50	17.5	10.6	7.24	3.94	99.5	
DC 3	40.4	20.2	11.1	6.90	17.0	11.7	6.36	5.12	99.5	
DC 4	38.6	22.4	11.7	7.50	17.5	10.6	7.30	3.96	99.5	
DC 5							6.30	5.12		
DC 6							7.28	3.94		
DC 7							6.34	5.14		
DC 8							7.26	3.96		
DC AVG.	79.0	42.6	22.8	14.4	34.5	22.3	13.61	9.07	199.0	
AC 1	37.8	20.2	10.85	6.75	16.35	10.55	6.42	4.26	96.0	
AC 2	37.8	20.2	10.85	6.75	16.35	10.55	6.42	4.26	96.0	
AC AVG.	75.6	40.4	21.7	13.5	32.7	21.1	12.84	8.52	192.0	
S.P.	-21.1				+36.7					
AC NOISE	.05				.06					
POT RES.										

Pick Enterprise

Dutch Hildebrand
Bancroft called

Mail from Denver

< $5400 Definite

Harvey Smith ←

Surveyed Claims

all marked within

last month

1.7

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

Project V. Pick - B.W. Line 4 - NW½ Field date_____ Data page_____ Comp. date_____. Comp by C. S. L.

(A) Send	1-2	2-3	1-2	3-4	2-3	1-2	4-5	3-4	2-3	1-2		
(B) Receive												
(C) n separation												
(D) I	2.5											
(E) Vdc (avg)	239	217	59.2	180	51.8	24.9	266	58.0	27.4	13.9		
(F) DCcal	.505											
(G) Kn x 10^{-3}	3	3	12	3	12	30	3	12	30	60		
(H) ρ dc=ExFxGx10^3/D	145	132	144	109	126	151	161	141	166	168		
(I) Vac Σ	223	209	56.4	171	49.6	23.8	250	54.8	25.8	13.0		
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal. USED	0.965											
(M) ρ dc/ρac=ExL/K												
(N) PFE=(M-1)(10^2)	3.4	0.2	1.3	1.6	0.8	1.0	2.7	2.1	2.5	3.2		
(O) MCF=(M-1)(10^5)/H	23	2	9	15	6	7	17	15	15	19		

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	4-5	3-4	2-3	1-2	4-5	3-4	2-3	1-2		C 4		
(B) Receive												
(C) n separation												
(D) I										1000		
(E) Vdc (avg)	98.4	35.5	19.2	11.26						198		
(F) DCcal										.505		
(G) Kn x 10^{-3}	12	30	60	105								
(H) ρ dc=ExFxGx10^3/D	239	215	233	239								
(I) Vac Σ	92.6	33.6	18.1	10.72						189		
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.										.9550	USE	0.965
(M) ρdc/ρac =ExL/K												
(N) PFE=(M-1)(10^2)	2.5	2.0	2.4	1.4								
(O) MCF=(M-1)(10^5)/H	10	9	10	6								

HEINRICHS GEOEXPLORATION COMPANY
INDUCED POLARIZATION SURVEY COMPUTATION SHEET

Page_____

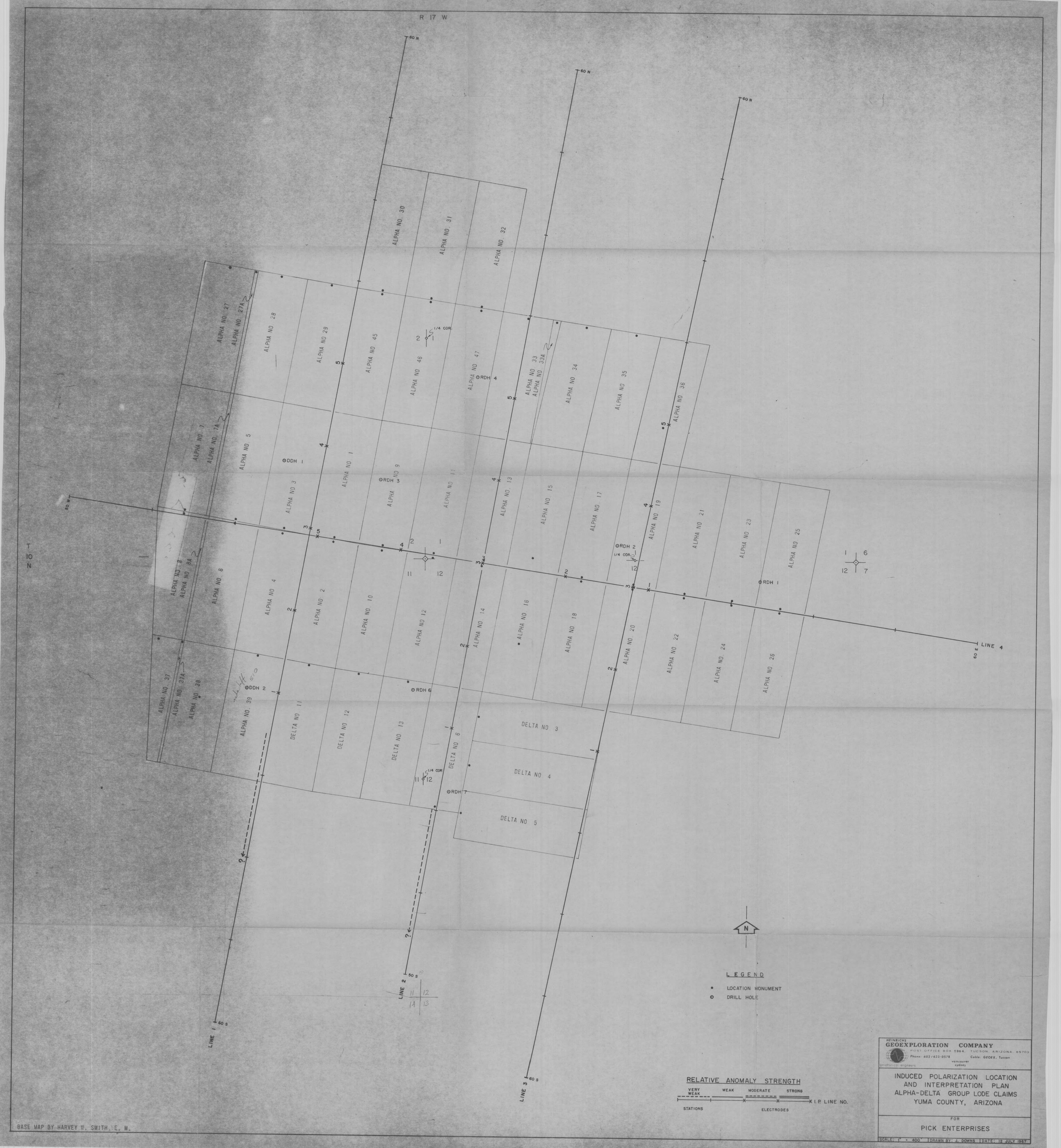
Project V. Pick - B.W. Line 4 - SE ½ Field date_____ Data page_____ Comp. date_____. Comp by C.S.L.

(A) Send	4-5	3-4	4-5	2-3	3-4	4-5	1-2	2-3	3-4	4-5		
(B) Receive												
(C) n separation												
(D) I	2.5											
(E) Vdc (avg)	231.5	252	66.0	374	82.8	39.6	214	81.4	35.2	19.7		
(F) DCcal	.503											
(G) Kn x 10^{-3}	3	3	12	3	12	30	3	12	30	60		
(H) ρ dc=ExFxGx10^3/D	140	152	159	226	200	239	129	197	212	238		
(I) Vac Σ	220.0	239	62.4	358	78.8	37.9	202	77.0	33.2	18.8		
(J) AC noise x 2												
(K) Vac(corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.	.965											
(M) ρ dc/ρac=ExL/K												
(N) PFE=(M-1)(10^2)	1.5	1.7	2.0	0.8	1.4	0.8	2.2	2.0	2.3	1.1		
(O) MCF=(M-1)(10^5)/H	11	11	13	4	7	3	17	10	11	5		

Project_____ Line_____ Field date_____ Data page_____ Comp. date_____ Comp by_____

(A) Send	1-2	2-3	3-4	4-5	1-2	2-3	3-4	4-5		CAL		
(B) Receive												
(C) n separation												
(D) I										1000		
(E) Vdc (avg)	79.0	42.6	22.8	14.4	24.5	22.3	13.61	9.07		199		
(F) DCcal										.503		
(G) Kn x 10^{-3}	12	30	60	105	30	60	105	168				
(H) ρ dc=ExFxGx10^3/D	191	257	275	304	208	269	288	307				
(I) Vac Σ	75.6	40.4	21.7	13.5	32.7	21.1	12.84	8.52		192		
(J) AC noise x 2												
(K) Vac (corr) = $\sqrt{I^2 - J^2}$												
(L) AC-DC cal.										.965		
(M) ρdc/ρac =ExL/K												
(N) PFE=(M-1)(10^2)	1.8	1.8	1.4	2.9	1.8	2.0	2.3	2.7				
(O) MCF=(M-1)(10^5)/H	4	7	5	10	9	7	8	9				

R 17 W
T 10 N
60 N
ALPHA NO. 27
ALPHA NO. 27A
ALPHA NO. 28
ALPHA NO. 29
ALPHA NO. 30
ALPHA NO. 31
ALPHA NO. 32
ALPHA NO. 45
ALPHA NO. 46
ALPHA NO. 47
ALPHA NO. 33
ALPHA NO. 33A
ALPHA NO. 34
ALPHA NO. 35
ALPHA NO. 36
ALPHA NO. 7
ALPHA NO. 7A
ALPHA NO. 5
ALPHA NO. 8
ALPHA NO. 8A
ALPHA NO. 6
ALPHA NO. 3
ALPHA NO. 1
ALPHA NO. 9
ALPHA NO. 11
ALPHA NO. 13
ALPHA NO. 15
ALPHA NO. 17
ALPHA NO. 19
ALPHA NO. 21
ALPHA NO. 23
ALPHA NO. 25
ALPHA NO. 4
ALPHA NO. 2
ALPHA NO. 10
ALPHA NO. 12
ALPHA NO. 14
ALPHA NO. 16
ALPHA NO. 18
ALPHA NO. 20
ALPHA NO. 22
ALPHA NO. 24
ALPHA NO. 26
ALPHA NO. 37
ALPHA NO. 37A
ALPHA NO. 38
ALPHA NO. 39
DELTA NO. 11
DELTA NO. 12
DELTA NO. 13
DELTA NO. 6
DELTA NO. 3
DELTA NO. 4
DELTA NO. 5
DDH 1
DDH 2
RDH 1
RDH 2
RDH 3
RDH 4
RDH 6
RDH 7
1/4 COR.
50 W
60 E
LINE 4
LINE 1
LINE 2
LINE 3
50 S
60 S
N
LEGEND
LOCATION MONUMENT
DRILL HOLE
RELATIVE ANOMALY STRENGTH
VERY WEAK
WEAK
MODERATE
STRONG
I.P. LINE NO.
STATIONS
ELECTRODES
HEINRICHS GEOEXPLORATION COMPANY
POST OFFICE BOX 5964, TUCSON, ARIZONA, 85703
Phone: 602/623-0578
Cable: GEOEX, Tucson
vancouver sydney
geophysical engineers
INDUCED POLARIZATION LOCATION AND INTERPRETATION PLAN
ALPHA-DELTA GROUP LODE CLAIMS
YUMA COUNTY, ARIZONA
FOR
PICK ENTERPRISES
SCALE: 1" = 400'
DRAWN BY: J. DOWNS
DATE: 12 JULY 1967
BASE MAP BY HARVEY W. SMITH, E. M.


R 17 W
T 10 N
60 N
60 S
60 E
LINE 1
LINE 2
LINE 3
LINE 4
ALPHA NO 27
ALPHA NO 27A
ALPHA NO 28
ALPHA NO 29
ALPHA NO 30
ALPHA NO 31
ALPHA NO 32
ALPHA NO 33
ALPHA NO 33A
ALPHA NO 34
ALPHA NO 35
ALPHA NO 36
ALPHA NO 37
ALPHA NO 37A
ALPHA NO 38
ALPHA NO 39
ALPHA NO 1
ALPHA NO 2
ALPHA NO 3
ALPHA NO 4
ALPHA NO 5
ALPHA NO 6
ALPHA NO 7
ALPHA NO 7A
ALPHA NO 8
ALPHA NO 8A
ALPHA NO 9
ALPHA NO 10
ALPHA NO 11
ALPHA NO 12
ALPHA NO 13
ALPHA NO 14
ALPHA NO 15
ALPHA NO 16
ALPHA NO 17
ALPHA NO 18
ALPHA NO 19
ALPHA NO 20
ALPHA NO 21
ALPHA NO 22
ALPHA NO 23
ALPHA NO 24
ALPHA NO 25
ALPHA NO 26
ALPHA NO 45
ALPHA NO 46
ALPHA NO 47
DELTA NO 3
DELTA NO 4
DELTA NO 5
DELTA NO 6
DELTA NO 11
DELTA NO 12
DELTA NO 13
DDH 1
DDH 2
RDH 1
RDH 2
RDH 3
RDH 4
RDH 6
RDH 7
1/4 COR.
N
LEGEND
LOCATION MONUMENT
DRILL HOLE
RELATIVE ANOMALY STRENGTH
VERY WEAK
WEAK
MODERATE
STRONG
I.P. LINE NO.
STATIONS
ELECTRODES
HEINRICHS GEOEXPLORATION COMPANY
POST OFFICE BOX 5964, TUCSON, ARIZONA, 85703
Phone: 602/623-0578
Cable: GEOEX, Tucson
vancouver
sydney
geophysical engineers
INDUCED POLARIZATION LOCATION AND INTERPRETATION PLAN
ALPHA-DELTA GROUP LODE CLAIMS
YUMA COUNTY, ARIZONA
FOR
PICK ENTERPRISES
SCALE: 1" = 400'
DRAWN BY: J. DOWNS
DATE: 12 JULY 1967
BASE MAP BY HARVEY W. SMITH, E. M.