

GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL
SURVEYS

KID Claims, 50 Miles S.E. of Nelson, B.C.
49° 116° S.E.

Report By: R.G. Gifford, P.Eng.

Recorded Owner: Helge Fors

Work By: Mercury Explorations Limited

Field Work: July 1 to August 29, 1968

8-1-1

1625

1625

GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL SURVEYS

KID CLAIM GROUP

50 Miles Southeast of Nelson, British Columbia.

49° 116° S.E.

Recorded Owner

Helge Fors

Work By

Mercury Explorations Limited,
700 - 1281 West Georgia St.,
Vancouver 5, B.C.

July 1st to August 29th, 1968.

Report By

R.G. Gifford, P.Eng.,
Vancouver, B.C.

SEPTEMBER 26th, 1968.

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GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL SURVEYSKID CLAIM GROUPNELSON MINING DIVISION49° 116° S.E.INTRODUCTION

Geological, geochemical and geophysical surveys were undertaken on the Kid group of claims between July 1st and August 29th, 1968. Work was done by Mercury Explorations Limited, Vancouver, British Columbia, under the supervision of R. Gifford, P.Eng.

Personnel, category and time employed in the field program are listed below:

Supervision	R. Gifford	16 days
Geology	P. LeCouteur	23 "
Soil sampling	R. Brown	16 "
	K. Kaser	10 "
	E. Birkeland	6 "
	A. Birkeland	1 "
Gravimetric survey:		
Meter	R. Currie	13 "
Altimetry	A. Birkeland	18 "
	W. Campbell	18 "
Stadia	R. Brown	12 "
	E. Birkeland	12 "
	J. Coldham	9 "
Magnetic survey	R. Gifford	3 "
Cook	W. Calvert	28 "

The claims cover a lead-zinc prospect situated in the Nelson Mining Division, fifty miles southeast of Nelson, British Columbia, on the west side of Kid Creek at 3,900 feet elevation, latitude 49° 12'N., longitude 116° 15'W., and N.T.S. 82F-1. Access is obtained by 3½ miles of logging road from Highway 3.

The terrain is mountainous with deeply incised valleys. The slopes are largely forested and rise 2,500 feet out of the main Kid Creek valley. About one-quarter of the area surveyed shows rock outcrop.

contd....

Introduction (continued)....

The property was originally discovered in 1966 by Helge Fors, Kimberley, B.C. Trenching in 1967 by Cominco Ltd. turned up additional lead-zinc mineralization as follow-up on results of limited soil sampling.

Mercury Explorations Limited obtained an option on the property in June, 1968, and their subsequent work on the 69-claims group is detailed in the ensuing report.

GEOLOGY

Sediments of the Middle Aldridge formation of Pre-Cambrian age underlie the prospect. Bedding is northwest in strike and 55 degrees northeast in dip. A major north-striking fault cuts across the west margin of the property, bringing rocks of Aldridge age into contact with the younger Creston formation.

Ten square miles, centred on the Kid property, was geologically mapped at a scale 1 inch = 1,320 feet, Plate 2. Map control was provided by aerial photographs and Forest Series maps at 20-chain scale.

Stratigraphy

All rocks within the map-area belong to the Purcell super-group comprising an extensive, thick assemblage of sedimentary rocks of Pre-Cambrian age. Sediments of the Aldridge formation underlie the greater part of the map-area. Sediments of the younger Creston formation are found as an unfaulted wedge across the spine of Moyie Range. A few microgabbroic sills, all within Aldridge rocks, are present in the region.

The Aldridge formation is a thick succession of weakly metamorphosed clastic sediments that is well-bedded, fine-grained, and siliceous. As elsewhere in the East Kootenay the formation consists of interbedded siliceous argillite and fine-grained argillaceous quartzite. Beds range in thickness from less than an eighth-inch up to ten feet but more commonly they vary from three inches to three feet in thickness.

contd....

Geology - Stratigraphy (continued)....

Both the Middle and Upper Divisions of the Aldridge formation are present. The uppermost stratigraphic limit of thick, pale grey quartzite beds was taken to mark the boundary between these units.

Sediments of the Creston formation are seen in conformable contact with underlying Aldridge rocks about $1\frac{1}{4}$ miles east of Mt. Kitchener. The contact is gradational and the boundary was drawn at the appearance in quantity above the Upper Aldridge of dove grey to olive green sediments containing numerous mud cracks and ripple-like marks.

Structure

The sediments as a rule strike north-northwest and dip between 40 and 70 degrees to the east.

A previously unmapped major fault trends northerly through the area and is probably a continuation of the fault mapped to the north of Moyie Range by Rice⁽¹⁾. The fault was not seen in outcrop but there is clear stratigraphic evidence of its existence. To the west Creston rocks identified by their characteristic color, lithology, and presence of mud cracks conformably overlie Upper Aldridge rocks. To the east the same succession terminates abruptly against Middle Aldridge rocks of the same attitude.

Reversed dips and steeply-plunging kink folds are evidence of structural disturbance close to the inferred trace of the fault.

The inclination of the fault is not observed but a steep westerly dip is suggested from the trace of a coincident lineation seen on air photographs.

contd....

(1) H.M.A. Rice (1937): Nelson Map-Area, East Half, Brit. Col.; Geol. Surv. Can. Memoir 228.

Geology (continued)....Mineralization

Three occurrences of minor lead-zinc replacement mineralization are known on the property: at the original road-cut showing, in a shallow eight-foot trench close to the original showing, and in three bulldozer trenches 1,500 feet to the northwest.

Alteration features include strong bleaching of quartzites in proximity to known mineralization, occurrences of chert rubble, and float material in Peterson Creek of garnetized quartzite.

The coincidence of lead-zinc mineralization with alteration features that elsewhere in Aldridge rocks in the district are associated with important mineral deposits has encouraged further geochemical and geophysical work on the property.

GEOCHEMICAL SURVEY

Reconnaissance soil sampling was undertaken over the entire claim area, Plates 3 to 6. Samples were from the "B" soil horizon and were a quarter-pound in size. Depth to "B", typically brown in color, was usually between four and twelve inches below surface. Overburden as a rule was a few tens of feet in thickness.

Reconnaissance samples were collected at two hundred-foot intervals along lines one-quarter mile apart. Local detail was obtained at Peterson Creek with samples spaced at one hundred-foot intervals on lines 800 feet apart.

All samples were collected in high wet-strength Kraft bags and air-dried. Dried samples were sized by screening with an 80-mesh stainless steel sieve. The minus 80-mesh fraction was transferred to a new bag for later analysis.

Analysis for lead and zinc in all cases was made by the atomic absorption method with a Techtron Model 4 spectrophotometer. Metal content was determined from a one gram portion of minus 80-mesh material that was digested by hot hydrochloric and nitric acids.

contd....

Geochemical Survey (continued)....

Results show anomalous lead values to lie astride Peterson Creek in a northwest trending zone 10,000 feet in length and 2,000 feet in width. Best values were located 800 feet on strike from mineralized outcrop and reached a peak of 1,600 ppm Pb and 800 ppm Zn.

GRAVIMETRIC SURVEY

Gravimetric readings were obtained in a grid centred on the middle reaches of Peterson Creek, Plate 7. The reconnaissance lines were spaced 1,000 to 1,600 feet apart with stations at 100-foot intervals. No strong density contrasts were evident from the survey.

Elevation control was provided by altimetric methods used in conjunction with stadia levelling. Horizontal control was provided by chain and compass traverse lines.

Two altimeters monitored by recording barograph and thermograph gave elevations for stations along the traverse lines. Stadia levelling on intermediate base lines provided overall control for the altimetric survey. Elevations were held to $\pm 2\frac{1}{2}$ feet, Plate 8.

Diurnal and meter drift was established by repeat observations on select points and then mathematically proportioned between stations. Observed Gravity was obtained by correcting meter readings for drift. Adjustment of the observed gravity for misclosure on previously measured stations were made when appropriate. Data was further reduced with respect to an arbitrary datum of 3,500 feet elevation by free-air, Bouguer, and latitude corrections to obtain the Bouguer Gravity. The Bouguer density was taken at 2.7 gms/cc.

Instruments used in the survey are listed below:

- 2 - Thommen Altimeters, Type 3B5.01
- 1 - Paulin Microbarograph, Model SMB-5
- 1 - Casella Thermograph, Model T6554
- 1 - Kern Theodolite, Model DKM-1
- 1 - Worden Gravity Meter, Texas Instruments, Serial No.35.

contd./...

MAGNETIC SURVEY

A magnetic survey was carried out on the same grid as that of the gravimetric survey on Peterson Creek. Values were uniform and no significant magnetic response was indicated by the survey.

A Sabre fluxgate magnetometer was employed. It provides a relative measure of the vertical component of the earth's magnetic field and reads directly in gammas with a resolution of 20 gammas per scale division.

Survey control was provided by chain and compass traverse lines with 100-foot stations on lines spaced 1,000 to 1,600 feet apart. Base values of magnetic intensity were determined at convenient points in the surveyed area. Check readings were made at two-hour intervals to establish the diurnal correction. The value of the vertical magnetic component corrected to \pm 50 gammas is shown on Plate 9.

CONCLUSIONS

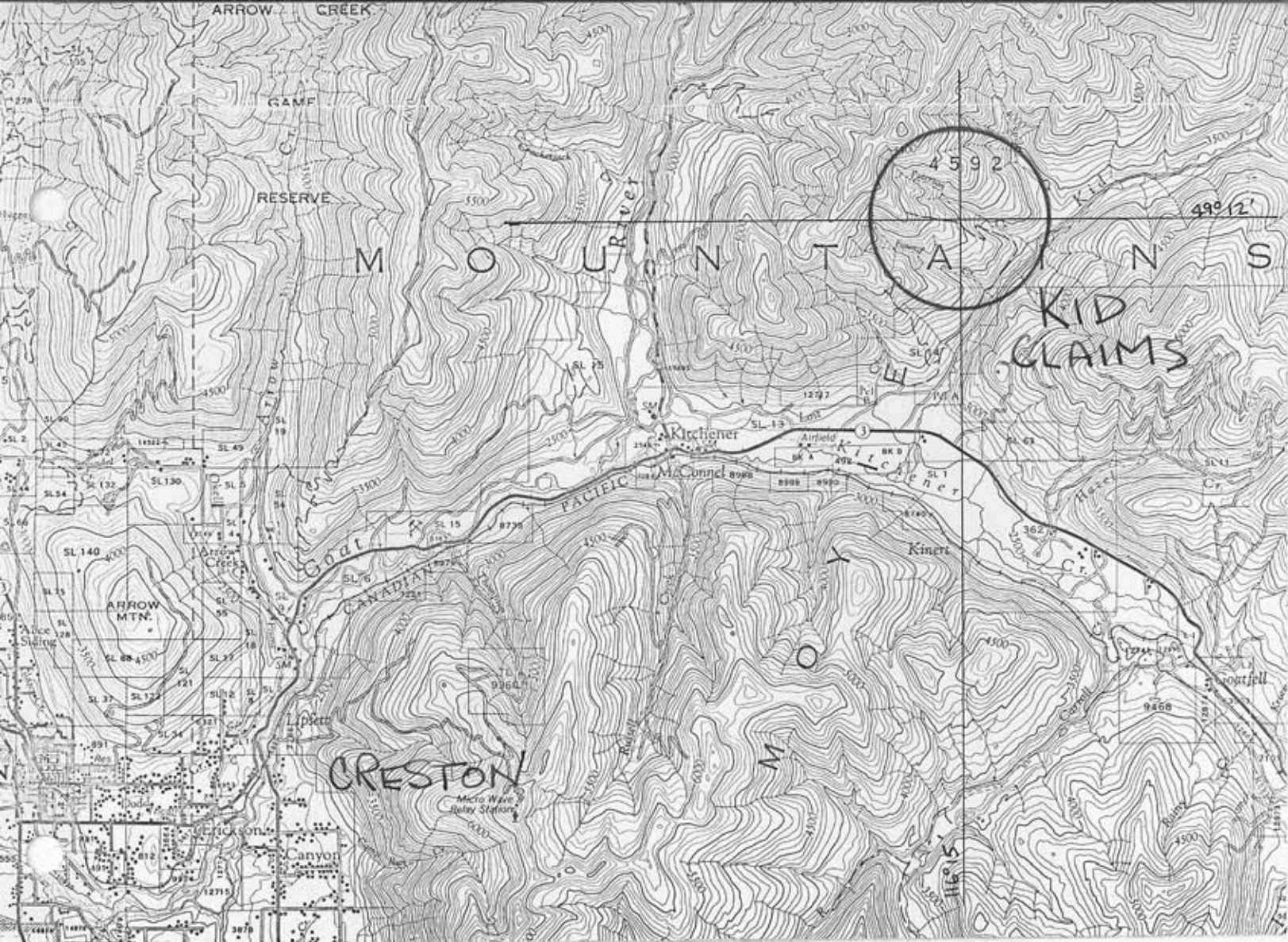
The Peterson Creek area contains higher than normal lead values in its soil and includes a zone that is strongly anomalous in lead and zinc.

Lack of positive response in the geophysical surveys is considered inconclusive since the integration of results is complicated by factors such as mountainous terrain, steepness of dip, associated minerals, and depth of burial of a possible mineral deposit.

Further work is warranted on the property to determine the source of the geochemical anomaly 800 feet on strike from the mineralized outcrop. The association of strata-controlled lead and zinc with favourable rock alteration in Aldridge sediments makes the prospect a promising exploration bet having the potential for discovery of a large tonnage, medium grade base metal deposit.



R.G. Gifford, P.Eng.,
Vancouver, B.C.
September 26th, 1968.



KID CLAIMS
LOCATION MAP

1" = 2 mi

PLATE No. 1

Accompanies: Report on Geological,
Geochemical, and Geophysical Surveys.

Signed: R. G. Gifford Sept 26/68

GEOLOGICAL GEOCHEMICAL AND GEOPHYSICAL SURVEYS

Kid Claim Group
Nelson M.D., 49° 116° S.E.

Statement of Expenditures - July 1st to August 29th, 1968

Salaries

A. Birkeland	19 days	\$450	
E. Birkeland	18 days	330	
R. Brown	28 days	520	
W. Calvert	28 days	660	
W. Campbell	18 days	370	
J. Coldham	9 days	115	
R. Currie	13 days	715	
R. Gifford	19 days	825	
K. Kaser	10 days	110	
P. LeCouteur	<u>23 days</u>	<u>825</u>	
Sub-total	185 man/days	4,920	\$ 4,920.00

Camp Support

185 man/days @ \$15 per man/day 2,775.00

Transportation

1 - GMC 4 WD,	1 month	\$310	
1 - Ford Van with winch,	1 month	340	
1 - Honda Trailbike,	1 month	<u>50</u>	
Sub-total		\$700	700.00

Instrument Rental

2 - Thommen Altimeters,	1 month @ \$40 ea/mo	\$ 80	
1 - Paulin Micro Barograph,	1 month @ \$170/mo	170	
1 - Casella Thermograph,	1 month @ \$20/mo	20	
1 - Kern Theodolite,	1 month @ \$75/mo	75	
1 - Worden Gravimeter,	1 month @ \$400/mo	400	
1 - Sabre magnetometer,	1 month @ \$150/mo	<u>150</u>	
Sub-total		\$895	895.00

Expenditures - Kid Claim Group - Continued

Analyses

440 soil samples @ \$1.50/Pb Zn assay \$ 660.00

TOTAL, July 1 - August 29 \$ 9,950.00

Endorsed by

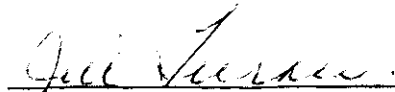


P. Walsh

Accountant, Mercury Explorations Limited

This is Exhibit "A" to the Statutory Declaration
of Robert Gordon Gifford, P. Eng. declared before
me the 27 day of

September, A.D. 1968.



Commissioner for taking Affidavits
for the Province of British Columbia

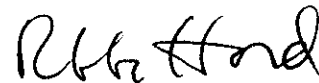
Sub-mining Recorder

CERTIFICATE

I, ROBERT G. GIFFORD OF VANCOUVER B.C. DO HEREBY CERTIFY
THAT:

1. I AM A GRADUATE OF THE UNIVERSITY OF BRITISH COLUMBIA
WHERE I OBTAINED MY BACHELOR OF APPLIED SCIENCE, GEOLOGY
IN 1962.
2. I AM A GEOLOGICAL ENGINEER IN THE EMPLOY OF MERCURY
EXPLORATIONS LIMITED, VANCOUVER, B.C., AND A REGISTERED
MEMBER IN GOOD STANDING OF THE ASSOCIATION OF PROFESSIONAL
ENGINEERS OF BRITISH COLUMBIA.
3. I HAVE BEEN ENGAGED CONTINUOUSLY IN MINING AND EXPLORATION
GEOLOGY IN THE EMPLOY OF COMINCO LIMITED FROM MAY 1958 to
JULY 1967 AND IN THE EMPLOY OF P.H.SEVENSMA CONSULTANTS
LIMITED, VANCOUVER, B.C. FROM JULY 1967 to APRIL 1968.
4. I HAVE PERSONALLY SUPERVISED THE EXPLORATION PROGRESS ON
THE CLAIMS WHICH ARE THE SUBJECT OF THIS REPORT.

RESPECTFULLY SUBMITTED,



R. G. GIFFORD, P.ENG.

Canada
Province of British Columbia
To Wit

) Statutory Declaration relating
) to Expenditures on Geological,
) Geochemical and Geophysical
) Surveys of Certain Mineral
) Claims Located in the Nelson
) Mining Division.

I, Robert Gordon Gifford, Professional Engineer, of the City of Port Moody, in the Province of British Columbia, do solemnly declare:

That I am the person who prepared a geological, geochemical, and geophysical report as a result of surveys carried out on certain mineral claims by Mercury Explorations Limited, as agents for the owners of the said claims.

That copies of the said report are being filed with the Mining Recorder at Nelson, B.C.

That attached hereto and marked with letter "A" upon which I have signed my name, at the time of declaring hereof, is a statement of expenditures incurred in connection with the geological, geochemical, and geophysical survey of the said claims.

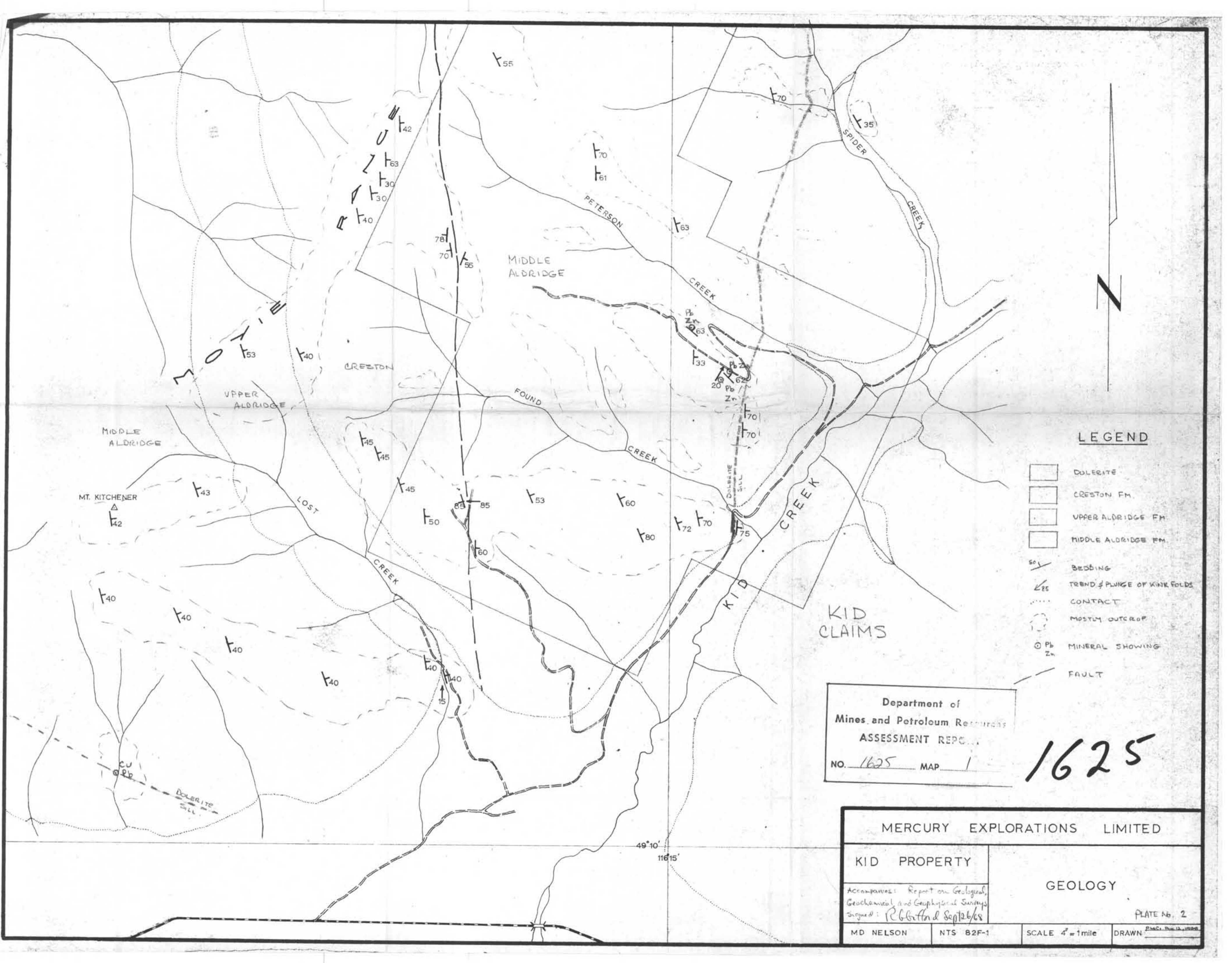
And I make this solemn declaration conscientiously believing it to be true and knowing it is the same force and effect as if made under oath and by virtue of the Canada Evidence Act.

Declared before me at
Nelson in the
Province of British Columbia
this 27 day of
September, A.D. 1968.

Gill Surman

A Commissioner for taking Affidavits for British Columbia

Robert Gifford



LEGEND

- DOLERITE
- CRESTON FM.
- UPPER ALDRIDGE FM.
- MIDDLE ALDRIDGE FM.
- BEDDING
- TREND & PLUNGE OF KINK FOLDS
- CONTACT
- MOSTLY OUTCROP
- MINERAL SHOWING
- FAULT

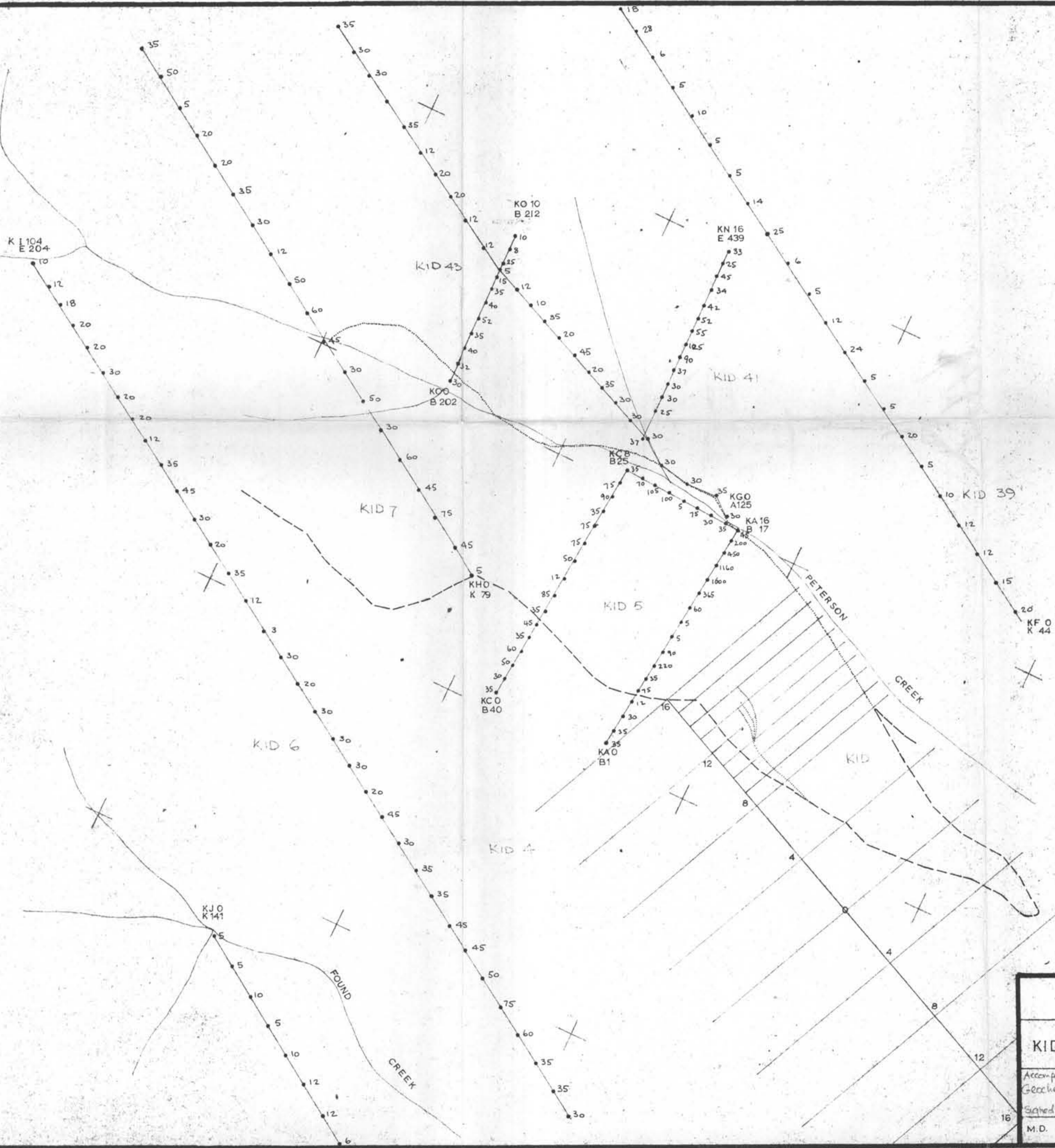
Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 1625 MAP 1

1625

MERCURY EXPLORATIONS LIMITED	
KID PROPERTY	GEOLOGY
Accompanied: Report on Geological, Geochemical, and Geophysical Surveys Signed: R.B. Griffith Sept 26/68	
MD NELSON	NTS B2F-1
SCALE 4" = 1 mile	DRAWN: [Signature]

PLATE No. 2

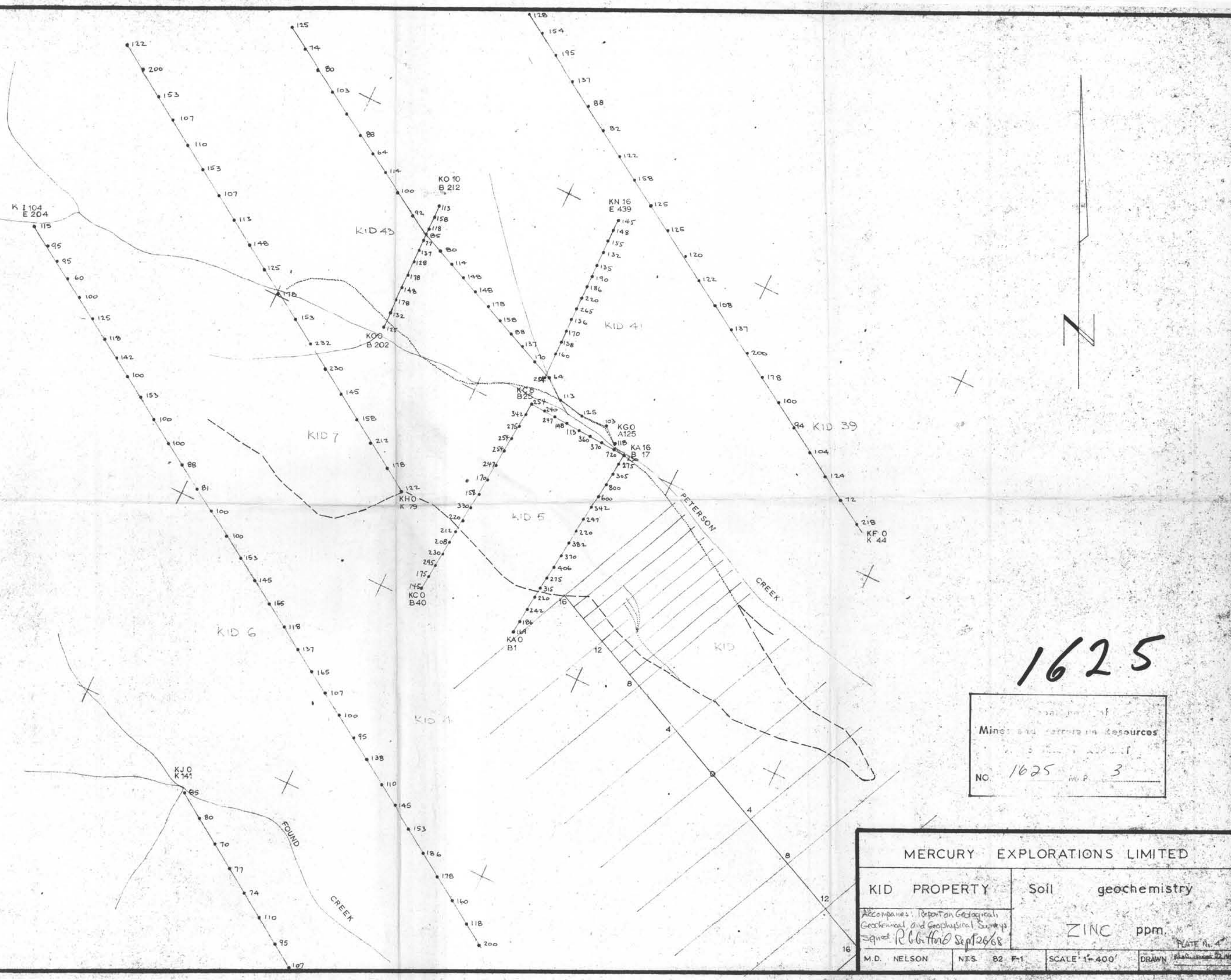
49° 10'
116° 15'



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
No. 1625 MAP 2

1625

MERCURY EXPLORATIONS LIMITED			
KID PROPERTY		Soil geochemistry	
Accompanied by Report on Geological, Geotechnical, and Geophysical Surveys		LEAD ppm	
Signed: R.G. Gifford Sept 1963		PLATE No. 3	
M.D. NELSON	N.T.S. 82' F-1	SCALE 1"=400'	DRAWN [Signature]

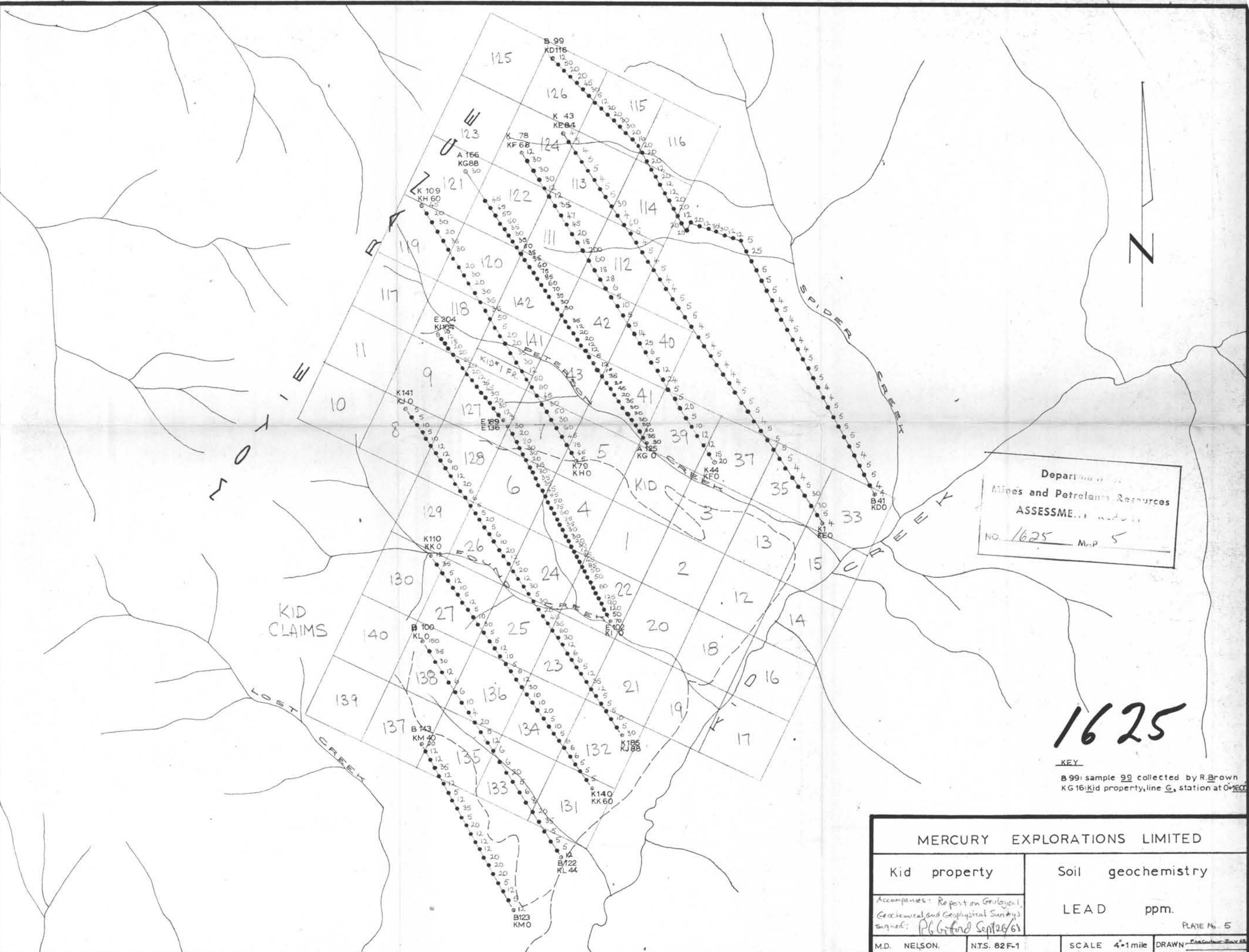


1625

Mines and Minerals Resources
 No. 1625 m.p. 3

MERCURY EXPLORATIONS LIMITED			
KID PROPERTY		Soil geochemistry	
Accompanies Report on Geological, Geometrical, and Geophysical Surveys signed R. Bifford Sept 26/68		ZINC ppm.	
M.D. NELSON	N.T.S. 82 F-1	SCALE 1"=400'	DRAWN [Signature]

PLATE No. 4



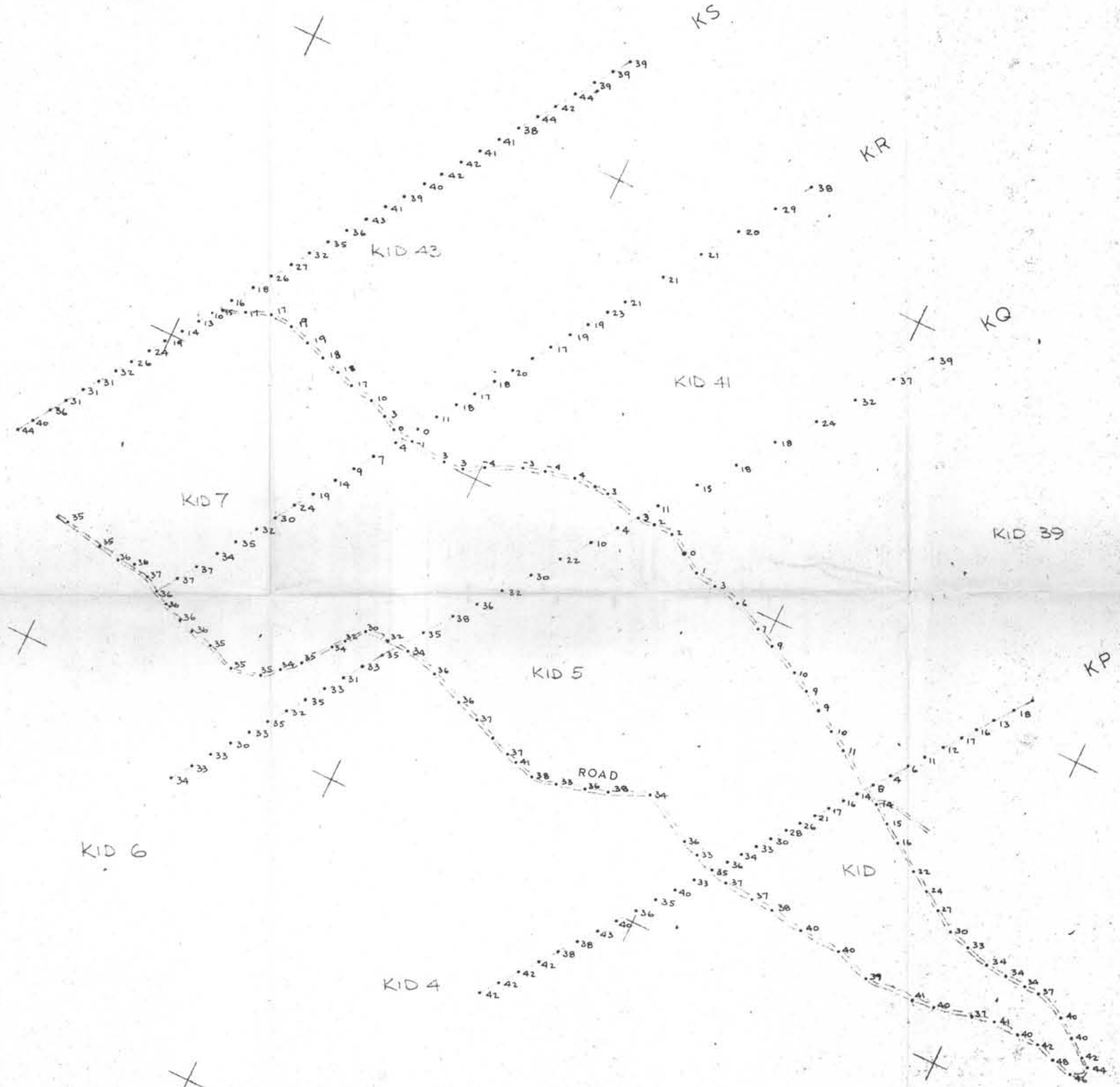
Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 1625 M.P. 5

1625

KEY
 B 99: sample 99 collected by R. Brown
 KG 16: Kid property, line G, station at 01600

MERCURY EXPLORATIONS LIMITED	
Kid property	Soil geochemistry
Accompanies: Report on Geological, Geochemical and Geophysical Surveys signed: P. Gifford Sept 26/61	
M.D. NELSON.	N.T.S. 82F-1
SCALE 4"=1 mile	DRAWN [Signature]

PLATE No. 5

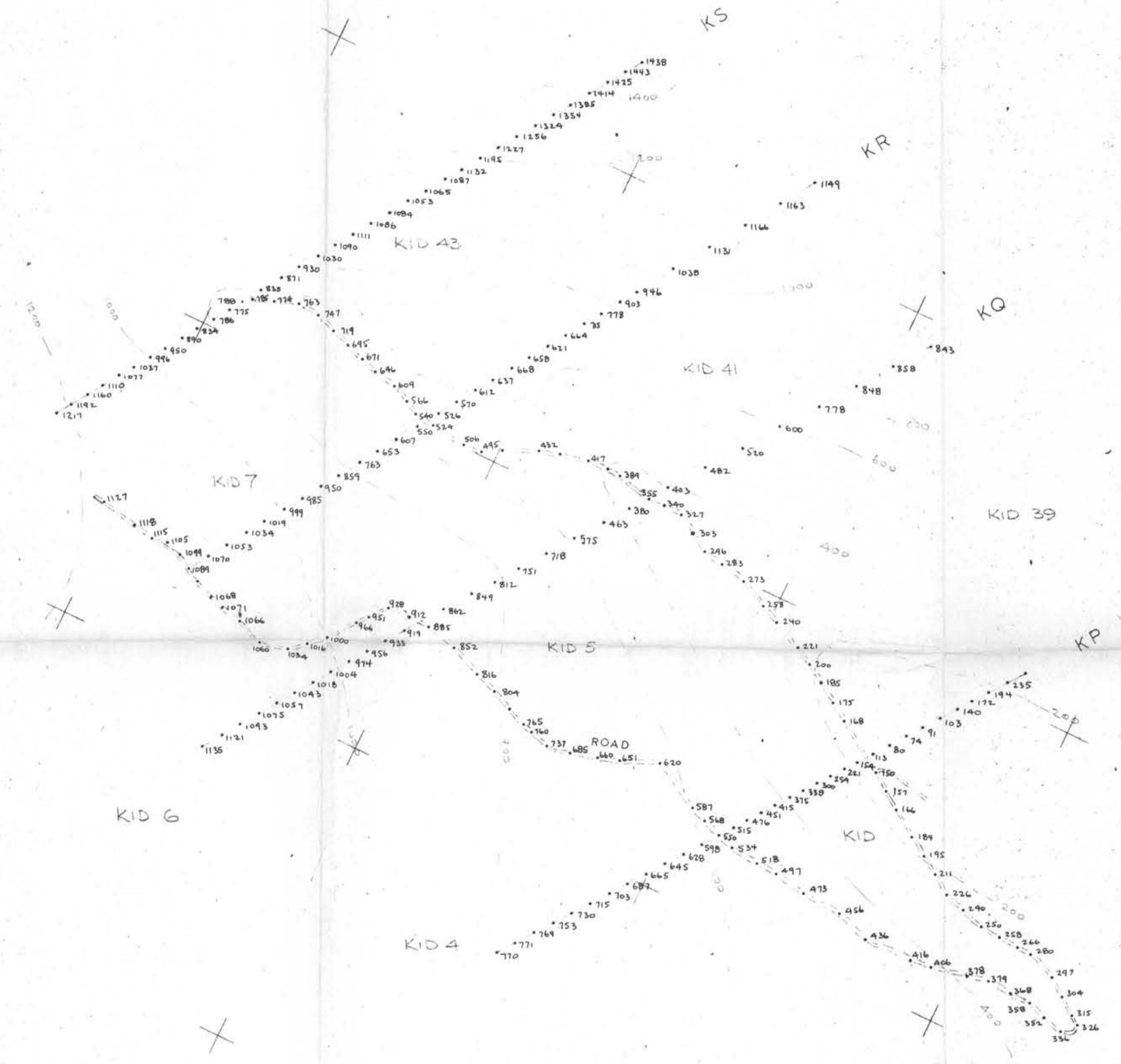


Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 1625 MAP 6

1625

VALUES IN GRAVITY UNITS
 1 gravity unit = 0.1 mill.gals

MERCURY EXPLORATIONS LIMITED			
KID PROPERTY		GRAVIMETRIC SURVEY	
ACCOMPANIES: Report on Geological, Geotechnical and Geophysical Surveys		BOUGUER GRAVITY	
SIGNED: <i>R. Nelson</i> 12/20/68		PLATE No. 7	
MD NELSON	NTS. 82 F-1	SCALE: 1" = 400'	DRAWN: <i>logc</i> Aug 27/68

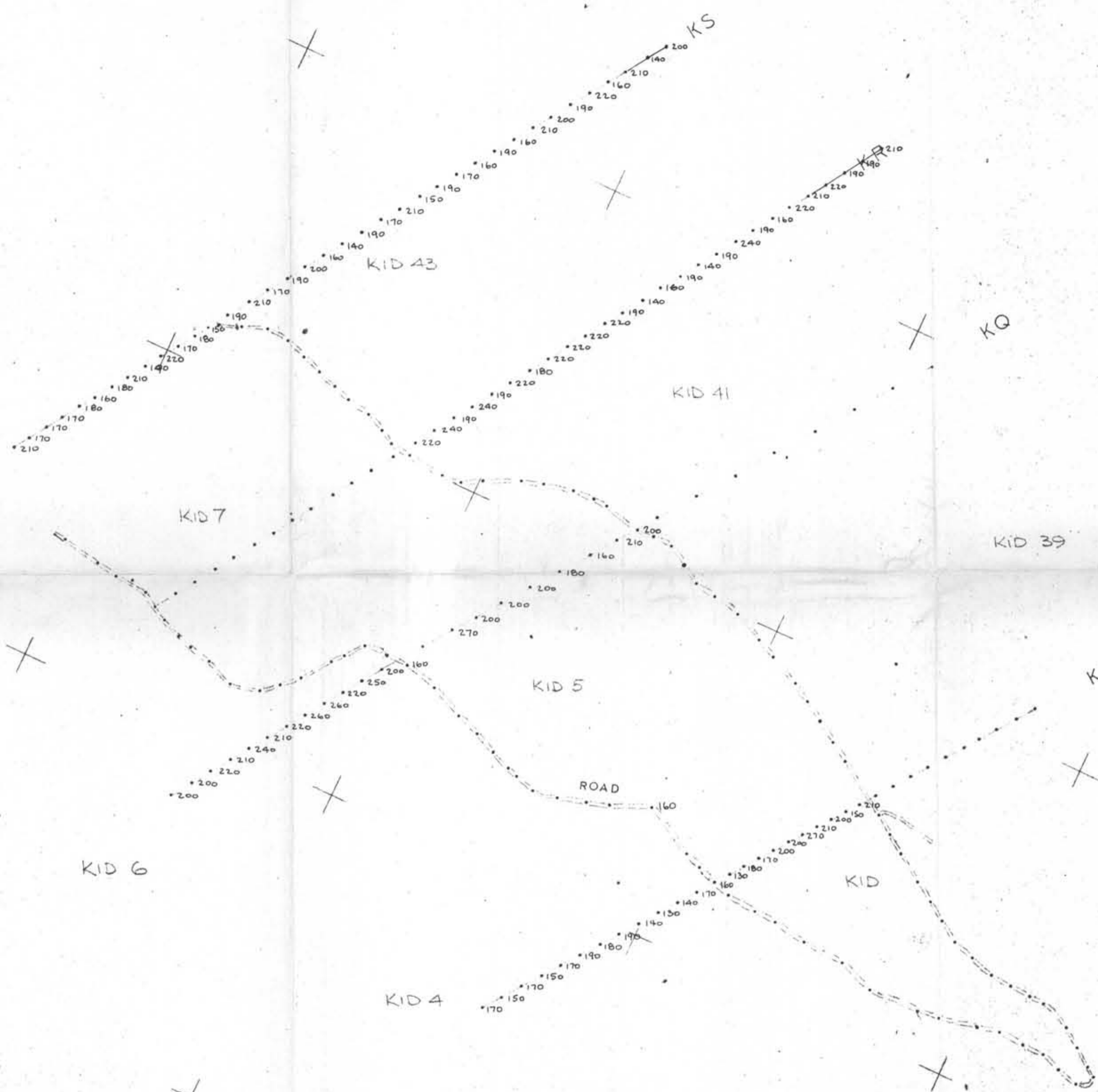


Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 1625 MAP 67

1625

ELEVATION DATUM = 3500' A.S.L.
ADJUSTED ELEVATIONS IN FEET

MERCURY EXPLORATIONS LIMITED			
KID PROPERTY		TOPOGRAPHY	
ACCOMPANIES: Report on Geological, Geochemical and Geophysical Studies			
SIGNED: R. Blufford, Sept 2/68			
MD. NELSON	N.T.S. 82 F-1	SCALE: 1" = 400'	PLATE No. 8 DRAWN: P.C.G. Aug 29/68



1625

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 1625 MAP 8

VALUES IN GAMMAS

MERCURY EXPLORATIONS LIMITED			
KID PROPERTY		MAGNETIC SURVEY	
ACCOMPANIES: <i>Report on Geology, Geochemical and Geophysical Surveys</i>			
SIGNED: <i>R. Blufford Sept 26/68</i>			PLATE No. 9
MD NELSON	NTS. 82F-1	SCALE. 1" = 400'	DRAWN <i>R. Blufford</i>