

77-#263-#6373 vic.

IMPERIAL OIL LIMITED

KUTCHO CREEK PROJECT

104 I 1W

GROUPS I, XI, XIII

6373

TABLE OF CONTENTS

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT

NO. 6373

Drill Log DDH 63
64
65
66
67
68
69
70
71

Cost Statement DDH 63
64
65, 66, 70, 71
67, 68, 69

Copy of Drill Contract and Letter

Maps

Location Map of Mineral Claims	1:250,000
Index Map of Mineral Claims	1.2" = 1 mi.
Location Map DDH 63	1" = 1000'
Location Map DDH 64	1" = 1000'
Location Map DDH 65, 66, 70, 71	1" = 1000'
Location Map DDH 67, 68, 69	1" = 1000'

DIAMOND DRILL CORE LOG

DRILL HOLE NO: 63	LOCATION: L92E; 32+50N
PROPERTY: KUTCHO	CLAIM: JEFF 106
AZIMUTH: 200°	RECORD NO: 70501
INCLINATION: -64°	CONTRACTOR: ARCTIC DIAMOND DRILLING LTD.
ELEVATION: 5590'	CORE STORAGE: IMPERIAL OIL CAMP
CORE SIZE: BQ	

DESCRIPTION

FROM	TO	
0.0	18.0	Overburden
18.0	169.2	Metagabbro and minor basic schist
169.2	181.5	Hornblende plagioclase porphyry dike, possibly trachytic, non-foliated, bounded by narrow zones of fault breccia
181.5	196.0	Chlorite-sericite schist derived from a crystal tuff with 1-3 mm quartz and feldspar phenocrysts
196.0	201.0	Chlorite-sericite schist derived from a crystal tuff with 2-7 mm quartz phenocrysts
201.0	206.0	As at 181.5-196.0
206.0	264.2	Crystal tuff with 1-9 mm blueish quartz phenocrysts
264.2	265.6	Black argillaceous siltstone
265.6	268.8	Crystal tuff
268.8	274.0	Graphitic argillite and argillaceous siltstone
274.0	283.2	Crystal tuff
283.2	287.3	Graphitic argillite
287.3	315.0	Chlorite schist derived from a crystal tuff with 1-2 mm quartz phenocrysts
315.0	353.8	Metagabbro
353.8	375.8	Chlorite schist derived from a crystal tuff with rare quartz phenocrysts
375.8	378.5	Rhyolite tuff
378.5	390.2	Metagabbro with minor rhyolite tuff
390.2	409.5	Rhyolite tuff
409.5	432.0	Metagabbro

James R. Bridg

DIAMOND DRILL CORE LOG

DRILL HOLE NO: 64

LOCATION: L4W; 5+30N

PROPERTY: KUTCHO

CLAIM: JEFF 2

AZIMUTH: --

RECORD NO: 70302

INCLINATION: -90°

CONTRACTOR: ARCTIC DIAMOND DRILLING I

ELEVATION: 5140'

CORE STORAGE: IMPERIAL OIL CAMP

CORE SIZE: BQ

DESCRIPTION

FROM	TO	
0.0	26.5	Overburden
26.5	136.5	Moderately well foliated metagabbro with bleached and weakly pyritic zones around quartz veins
136.5	141.5	Biotite trachite dike
141.5	518.0	Weakly foliated, hornblende and epidote rich metagabbro

James A. Bridges

DRILL HOLE NO:	65	LOCATION:	1160E; 3060N
PROPERTY:	KUTCHO	CLAIM:	JEFF 92
AZIMUTH:	180°	RECORD NO:	70387
INCLINATION:	-87.5°	CONTRACTOR:	ARCTIC DIAMOND DRILLING
ELEVATION:	4,845'	CORE STORAGE:	IMPERIAL OIL CAMP
CORE SIZE:	BQ		

DESCRIPTION

FROM	TO	
0.0	11.0	Overburden
11.0	65.5	Metagabbro
65.5	86.7	Aphanitic to fine-grained water-lain tuff with minor pyrite
86.7	113.2	Metagabbro
113.2	130.0	Fine-grained crystal tuff
130.0	408.6	Metagabbro
408.6	616.8	Siltstone
616.8	638.5	Metagabbro
638.5	639.7	Siltstone
639.7	643.2	Metagabbro
643.2	646.5	Siltstone
646.5	701.6	Metagabbro
701.6	702.8	Green tuff
702.8	802.6	Metagabbro
802.6	816.6	Siltstone
816.6	933.4	Metagabbro
933.4	940.0	Green tuff
940.0	969.1	Siltstone or ash tuff
969.1	1011.3	Metagabbro
1011.3	1012.6	Lapilli tuff
1012.6	1148.0	Metagabbro
1148.0	1164.7	Green water-lain tuff
1164.7	1270.4	Argillite with minor arenite and lithic wacke
1270.4	1285.7	Ash tuff and crystal tuff interbedded with argillaceous tuff
1285.7	1302.3	Green ash tuff
1302.3	1325.8	Ash tuffs and argillaceous tuffs

DRILL HOLE NO:	65	LOCATION:	1160E; 3060N
PROPERTY:	KUTCHO	CLAIM:	JEFF 92
AZIMUTH:	180°	RECORD NO:	70387
INCLINATION:	-87.5	CONTRACTOR:	ARCTIC DIAMOND DRILLING I
ELEVATION:	4,845'	CORE STORAGE:	IMPERIAL OIL CAMP
CORE SIZE:	BQ		

DESCRIPTION

FROM	TO	
1325.8	1376.0	Arenites, wacke and minor tuff
1376.0	1418.3	Argillaceous siltstone
1418.3	1419.1	Ash tuff
1419.1	1445.5	Quartz, feldspar porphyry
1445.5	1563.2	Rhyolite lapilli tuff
1563.2	1614.5	Dacite lapilli tuff
1614.5	1686.7	Chlorite-sericite-quartz schist
1686.7	1699.0	Dolomite
1699.0	1716.7	Chlorite - sericite - quartz schist
1716.7	1724.0	Sericite - quartz schist and dolomite
1724.0	1746.0	Sericite - chlorite - quartz schist
1746.0	1853.5	Sericite - quartz schist with disseminated sphalerite, chalcopyrite and pyrite at 1843.8 - 1844.8
1853.5	2028.5	Chlorite - sericite - quartz schist with abundant 1 - 3 mm quartz phenocrysts
2028.5	2048.0	As above with coarse rhyolite fragments

James A. Bridg

DIAMOND DRILL CORE LOG

DRILL HOLE NO: 66

LOCATION: 920E; 3210N

PROPERTY: KUTCHO

CLAIM: JEFF 92

AZIMUTH: 180°

RECORD NO: 70387

INCLINATION: -88°

CONTRACTOR: ARCTIC DIAMOND DRILLING L

ELEVATION: 4935'

CORE STORAGE: IMPERIAL OIL CAMP

CORE SIZE: BQ

DESCRIPTION

FROM	TO	
0.0	10.0	Overburden
10.0	44.6	Conglomerate
44.6	322.5	Foliated metagabbro
322.5	349.0	Fine-grained crystal tuff and ash tuff
349.0	473.0	Foliated metagabbro
		Hole abandoned at 473.0 because of severe flattening in the hole

James A. Bivins

DRILL HOLE NO: 67	LOCATION: L36W; 3N
PROPERTY: KUTCHO	CLAIM: JEFF 6
AZIMUTH: 180°	RECORD NO: 70306
INCLINATION: -60°	CONTRACTOR: ARCTIC DIAMOND DRILLING
ELEVATION: 5400'	CORE STORAGE: IMPERIAL OIL CAMP
CORE SIZE: BQ	

DESCRIPTION

FROM	TO	DESCRIPTION
0.0	32.0	Overburden
32.0	84.0	Sericite - quartz schist
84.0	88.4	Dolomite and sericite - quartz schist with bornite, pyrite and chalcopyrite in quartz veins and schist
88.4	94.8	Massive pyrite with bornite and chalcopyrite
94.8	288.0	Sericite - quartz schist with minor disseminated pyrite
288.0	355.7	Sericite - chlorite - quartz schist
355.7	437.5	Sericite - quartz schist
437.5	495.7	Chlorite schist with minor rhyolite fragments, quartz veins, and disseminated pyrite
495.7	508.0	Sericite - chlorite schist
508.0	514.2	Rhyolite breccia with a sericite - chlorite schist and sphalerite with minor pyrite and chalcopyrite matrix
514.2	538.0	Sericite - quartz schist

James A. Briggs

DRILL HOLE NO:	71	LOCATION:	920E; 3210N
PROPERTY:	KUTCHO	CLAIM:	JEFF 92
AZIMUTH:		RECORD NO:	70387
INCLINATION:	-90°	CONTRACTOR:	ARCTIC DIAMOND DRILLING LT
ELEVATION:	4935'	CORE STORAGE:	IMPERIAL OIL CAMP
CORE SIZE:	BQ		

DESCRIPTION

FROM	TO	DESCRIPTION
0.0	11.0	Overburden
11.0	46.2	Conglomerate
46.2	192.5	Metagabbro
192.5	195.0	Ash tuff
195.0	312.5	Metagabbro
312.5	314.3	Ash tuff or siltstone
314.3	325.0	Metagabbro
325.0	336.3	Ash tuff
336.3	398.0	Metagabbro
398.0	417.6	Ash tuff with minor lapilli tuff
417.6	583.2	Metagabbro
583.2	635.0	Water-lain, locally graded, ash and fine-grained crystal tuffs
635.0	755.2	Crystal tuff
755.2	799.3	Felsic metagabbro
799.3	801.5	Ash tuff
801.5	820.3	Felsic metagabbro
820.3	821.3	Ash tuff
821.3	845.7	Felsic metagabbro
845.7	869.9	Ash tuff
869.9	905.0	Felsic metagabbro
905.0	912.3	Ash tuff
912.3	940.9	Metagabbro
940.9	945.2	Ash tuff

DRILL HOLE NO: 71	LOCATION: 920E; 3210N
PROPERTY: KUTCHO	CLAIM: JEFF 92
AZIMUTH:	RECORD NO: 70387
INCLINATION: -90°	CONTRACTOR: ARCTIC DIAMOND DRILLING LT
ELEVATION: 4935'	CORE STORAGE: IMPERIAL OIL CAMP
CORE SIZE: BQ	

DESCRIPTION

FROM	TO	DESCRIPTION
945.2	995.0	Felsic metagabbro
995.0	1014.8	Ash tuff
1014.8	1052.0	Argillite
1052.0	1080.4	Feldspar crystal tuff
1080.4	1128.5	Argillite
1128.5	1136.2	Ash tuff
1136.2	1154.4	Metagabbro
1154.4	1159.1	Quartz-calcite vein
1159.1	1279.0	Metagabbro
1279.0	1280.2	Ash tuff
1280.2	1296.1	Metagabbro
1296.1	1352.0	Aphanitic green tuffs, local coarse-grained, graded sections
1352.0	1362.1	Lapilli tuff or epiclastics and tuff
1362.1	1372.7	Ash tuff
1372.7	1416.2	Interbedded arenaceous tuff and argillite
1416.2	1441.5	Argillite
1441.5	1446.8	Ash tuff with abundant 1 mm quartz phenocrysts at base
1446.8	1627.0	Quartz feldspar porphyry unit: A pyroclastic rock with abundant 1 - 10 mm quartz phenocrysts

Gene A. Birdy

COST STATEMENT DDH 63 GROUP XI

Dates Drilled: July 27-30, 1977

Direct Drilling Costs:

432 ft. at \$11.30 / ft. \$4,881.50

Labour

64 man hours at \$14.50 / hr. 928.00

Fuel:

60 gal. at \$2.00 / gal. 120.00

Helicopter Support:

7.1 hr. at \$250.00 / hr. 1,775.00

Helicopter Fuel:

156 gal. at \$2.00 / gal. 312.00

Drill Supervisor: D. Bridge

5 days at \$70.00 / day 350.00

Camp Costs:

25 man days at \$20.00 / ea. 500.00

Office and Secretarial Costs:

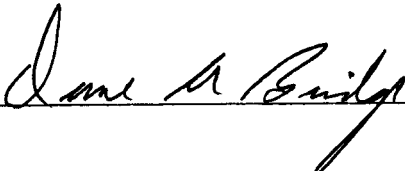
100.00

Total Cost

8,966.50

Cost per foot:

20.76



COST STATEMENT DDH 64 GROUP XI

Dates Drilled: July 30 - August 2, 1977.

Direct Drilling Costs:

500 ft. at \$11.30 / ft.	\$5,650.00
18 ft. at \$11.80 / ft.	212.40

Labour:

72 man hours at \$14.50 / hr.	1,044.00
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Fuel:

75 gal. at \$2.00 / gal.	150.00
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Helicopter Support:

4.2 hr. at \$250.00 / hr.	1,050.00
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Helicopter Fuel:

93 gal. at \$2.00 / gal.	186.00
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Drill Supervisor: D. Bridge

4 days at \$70.00 / day	280.00
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Camp Costs:

20 man days at \$20.00 /ea.	400.00
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Office and Secretarial Costs:

100.00

Total Cost:

9,072.40

Cost per foot:

17.51

D. A. Bridge

COST STATEMENT DDH 65, 66, 70, 71 GROUP XIII

Dates Drilled: August 2-26, 1977

Total Footage: 5806'

Direct Drilling Costs:

473' at 11.30	\$ 5,344.90
1500' at 12.55	18,825.00
1500' at 13.05	19,575.00
2333' at 13.55	31,612.15

Labour:

241 man hours at \$14.50 / hr.	3,494.50
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Fuel:

600 gal. at \$2.00 / gal.	1,200.00
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Mobilization of Drill Rod:

1,188.00

Core Boxes:

234 at \$5.00 / ea.	1,170.00
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Helicopter Support:

35.5 hr. at \$250.00 / hr.	8,875.00
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Helicopter Fuel:

780 gal. at \$2.00 / gal.	1,560.00
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Drill Supervisor:

25 man days at \$70.00 / day	1,750.00
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First Aid Attendant:

25 man days at \$50.00 / day	1,250.00
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Camp Costs:

190 man days at \$20.00 / day	3,800.00
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Total Costs:

99,644.55

Cost per Foot:

17.16

James A. Buidy

COST STATEMENT DDH 67, 68, 69 GROUP I

Dates Drilled: August 4 - 11

Total Footage: 1,413

Direct Drilling Costs:

1,257 ft. at \$11.30 / ft.	\$14,204.10
156 ft. at \$11.80 / ft.	1,840.80

Equipment Left in Hole:

90' casing, 3 shoes	540.00
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Labour

132 man hours at \$14.50 / hr.	1,914.00
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Fuel:

165 gal. at \$2.00 / gal.	330.00
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Helicopter Support:

14.6 hrs. at \$250.00 / hr.	3,650.00
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Helicopter Fuel:

325 gal. at \$2.00 / gal.	650.00
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Drill Supervisor:

12 man days at \$70.00 / day	840.00
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First Aid Attendant:

4 man days at \$50.00 / day	200.00
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Camp Costs:

48 man days at \$20.00 / day	960.00
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Office and Secretarial Costs:

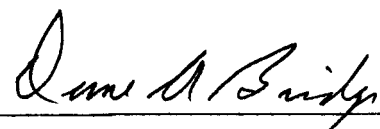
250.00

Total Costs:

\$25,378.90

Cost per Foot:

17.96


James A. Buidy

SCHEDULE A

BID SHEET AND JOB SPECIFICATIONS

1. DESCRIPTION OF WORK:

The work is to consist of a series of drill holes, drilled at locations specified by Imperial. A total minimum footage of 7,000 feet shall be drilled, but total footage may be extended by mutual consent. Maximum depth of any hole shall not exceed 1,500 feet and minimum depth shall be 150 feet. The Contractor will not be called upon to drill any hole at a flatter angle than - 45 degrees. Measurement of all holes shall be taken from the top of the casing pipe. If holes of a greater depth than 1,500 feet are desired, such drilling shall be performed only upon such conditions and at such rates as may be agreed upon before commencement of such drilling.

2. SCHEDULE OF RATES:

Imperial agrees to pay the Contractor for footage drilled and other services performed as follows:

(a) Coring at Bedrock

Depth Intervals	Size	Size
0 - 500 Ft.	\$ <u>11.30</u> /Ft.	\$ _____ /Ft.
500 - 1000 Ft.	\$ <u>11.80</u> /Ft.	\$ _____ /Ft.
1000 - 1500 Ft.	\$ <u>12.30</u> /Ft.	\$ _____ /Ft.
_____ - _____ Ft.	\$ _____ /Ft.	\$ _____ /Ft.

(b) Casing of Overburden

Depth Interval	
0 - 50 Ft.	\$ <u>11.30</u> /Ft.
50 - 100 Ft.	\$ _____ /Ft.
_____ - _____ Ft.	\$ _____ /Ft.

(c) The following services will be provided on an operating Field Cost basis:

1. Casing of overburden over 50 ft.
2. Reaming and setting casing for borehold reduction, borehole stabilization, and control of return water.
3. Drilling caved or broken ground.
4. All cementing operations, excluding setting time but including drilling of set cement.
5. Supplying water to the drill when water supply over 2,500 ft. lateral and/or 250 ft. vertical lift

Non-Operating Field Costs

Labour (including supervision)	<u>\$14.50</u>	per man hour.
Drill, pumps and service vehicle	<u>--</u>	per drill hour.
Tractor - operating	<u>--</u>	per hour.
Tractor - non-operating	<u>--</u>	per hour.

(e) Travelling Time

Imperial agrees to pay for travelling time from camp site
to drill site and return per shift on the
following basis:

Labour \$12.75 per ~~day~~ man-hour, after the first 1/2 hour.
Vehicle per day.

(f) Mobilization and Between Hole Moves

Labour - \$14.50 per man hour

(g) Room and board for Contractor's personnel will be provided by
Company.

Contractor will provide meals and accommodation for up to
N/A of Imperial's representatives at a price of N/A
per day.

Room and board will be provided by Imperial to Contractor at
-- per man day.

(h) Core boxes, including lids, will be provided by Company
--. Contractor's rates for core boxes on site shall
be \$ --.

(i) Core splitter to be supplied by Company.
Contractor to supply core splitter at per .

(j) Standby Rental

It is agreed that, at the completion of the present active
drilling program, Imperial may retain the Contractor's drilling
equipment at the drill area for a rental rate of
per per drilling unit. The standby rental charge will
cease to apply upon commencement of continuous drilling program,
or on the giving of a written notice to the Contractor by
Imperial that the drilling equipment is no longer required.



IMPERIAL OIL LIMITED

MINERALS SECTION
VANCOUVER, B. C.

MV-3458

August 16, 1977

File: 6053

TO: D.B. Bridge, Kutcho Creek
FROM: C. A. Aird, Vancouver
SUBJECT: Diamond Drilling

Murray Smith and I had a discussion yesterday on the extra cost involved in the current controlled drilling program.

It was proposed by Murray, and tentatively agreed to verbally by me, that the following additional charges would be paid by Imperial:

1. The difference in diamond cost plus 10%.
2. The cost of pulling rods for bit charges.

Estimated time for pulling rods on a 2000 foot hole is 30 - 40 hours. At \$37.00 per hour field cost this adds about 75¢ per foot to the drilling cost. Estimated extra bit cost is around 50¢ per foot.

All drill reports for controlled drill holes will have to be designated as "controlled drilling" and the foreman will have to itemize the rod pulling time (for bit changes only).

If this proves unwieldy it may be simpler to just add \$1.00 to \$1.25 per foot and settle for that. However, Murray seems to want to try it this way.

C. A. Aird

CAA:JW

c.c. T. Samoil



Location of Jeff, Jinn, Moe claims

Groups I, II, III, IV, V, VI

1:250,000

CRY LAKE 1040

S P C A T

S I Z F

P L A T E A U

BLAIR

Techs River

55° 15'

128° 15'



7347

6580

6732

6960

6817

5000

4500

5000

4000

5000

5000

3500

4000

3500

3500

4000

5000

5000

5500

5000

5000

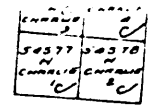
3500

3500

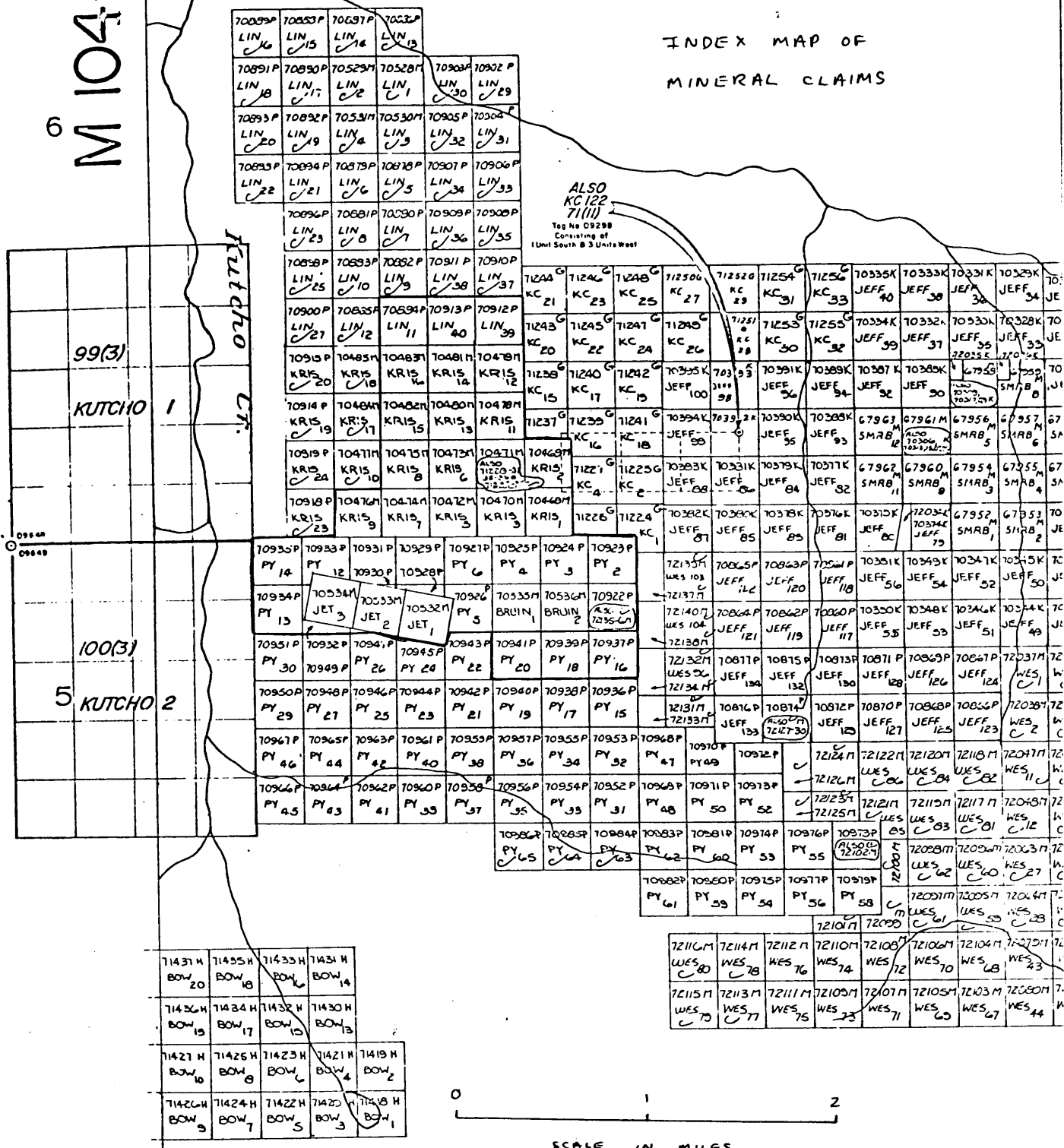
58° 15'

M 104 I/W

128° 30'



INDEX MAP OF MINERAL CLAIMS



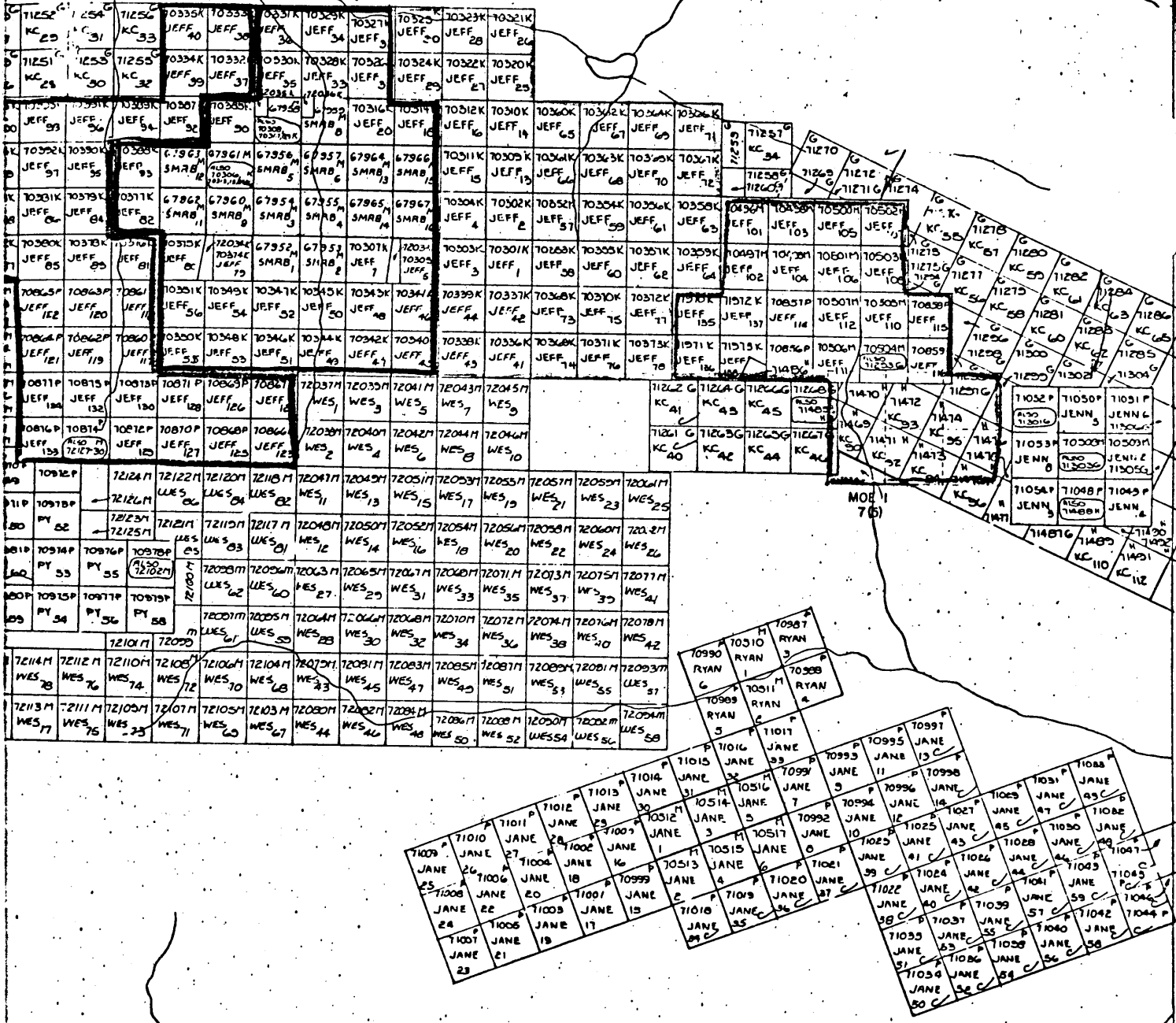
ALSO
KC 122
71(11)
Tad No 09298
Consisting of
1 Unit South of 3 Units West

0 1 2
SCALE IN MILES

PLAN OF LIN, KRIS, JET, BRUIN, PY CLAIMS
LAIRD M.D., B.C. 104 I/W

4

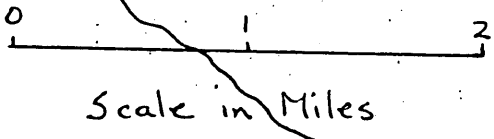
MAP 104 I/2 E

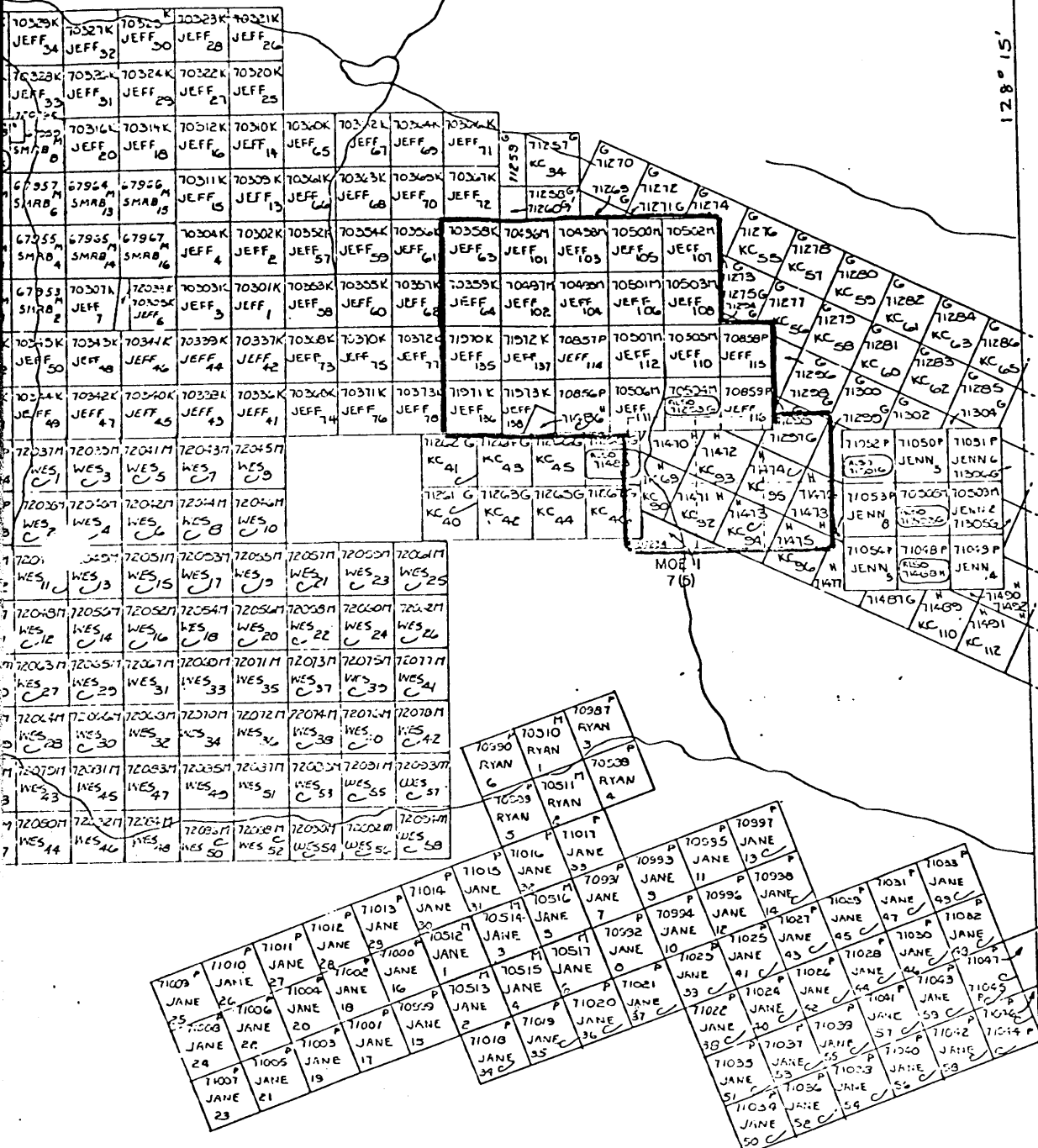


Claim Index Map

- Jenn, Jeff, Moe claims

104 I/IW





INDEX MAP OF
MINERAL CLAIMS

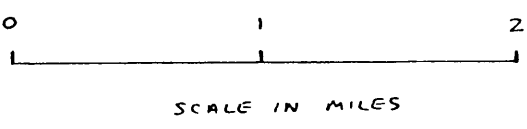
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PLAN OF MOE 1,
JEFF 63, 64, 101-116
135-138 Mineral
claims

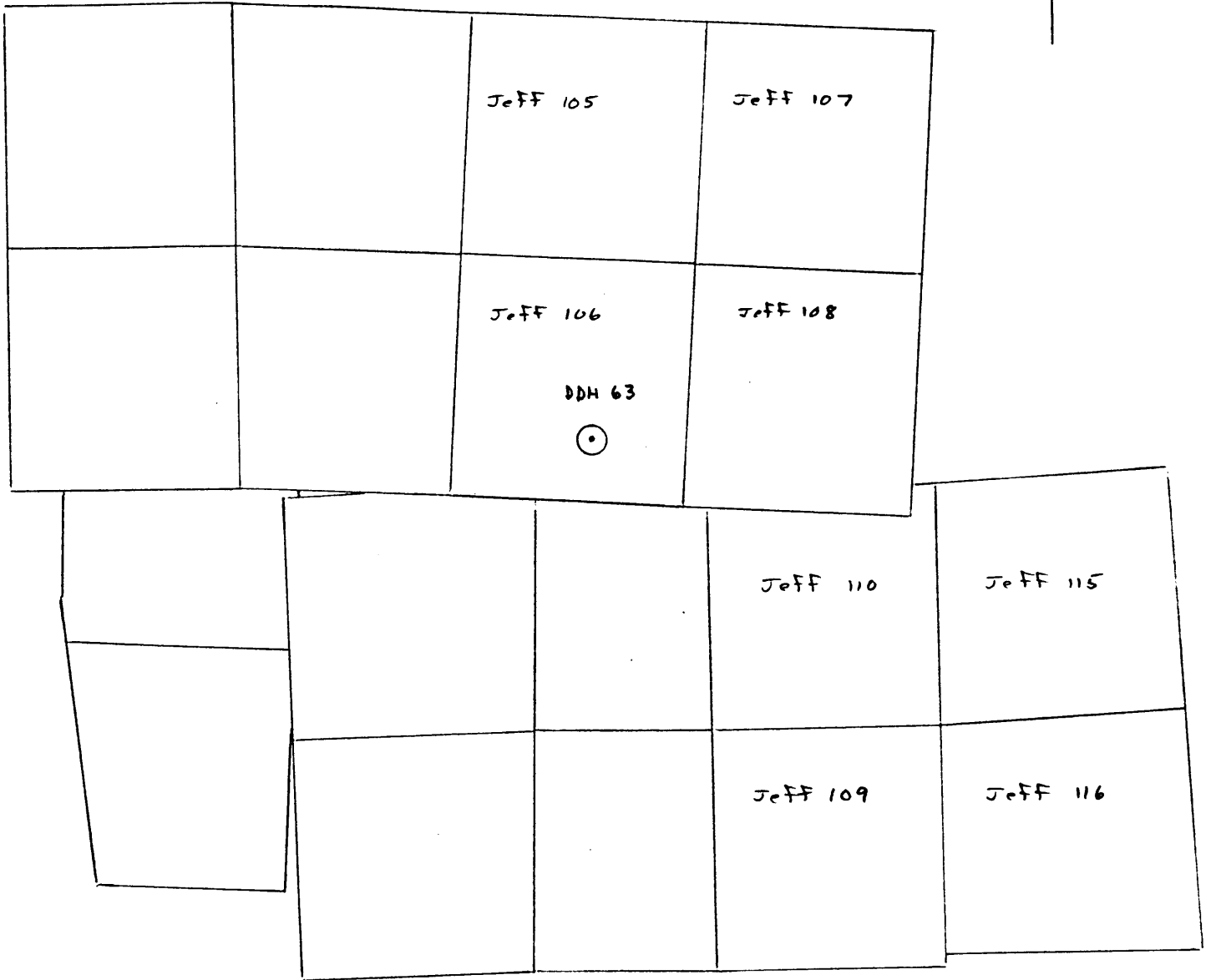
Land M.D., B.C

104 I 1/W

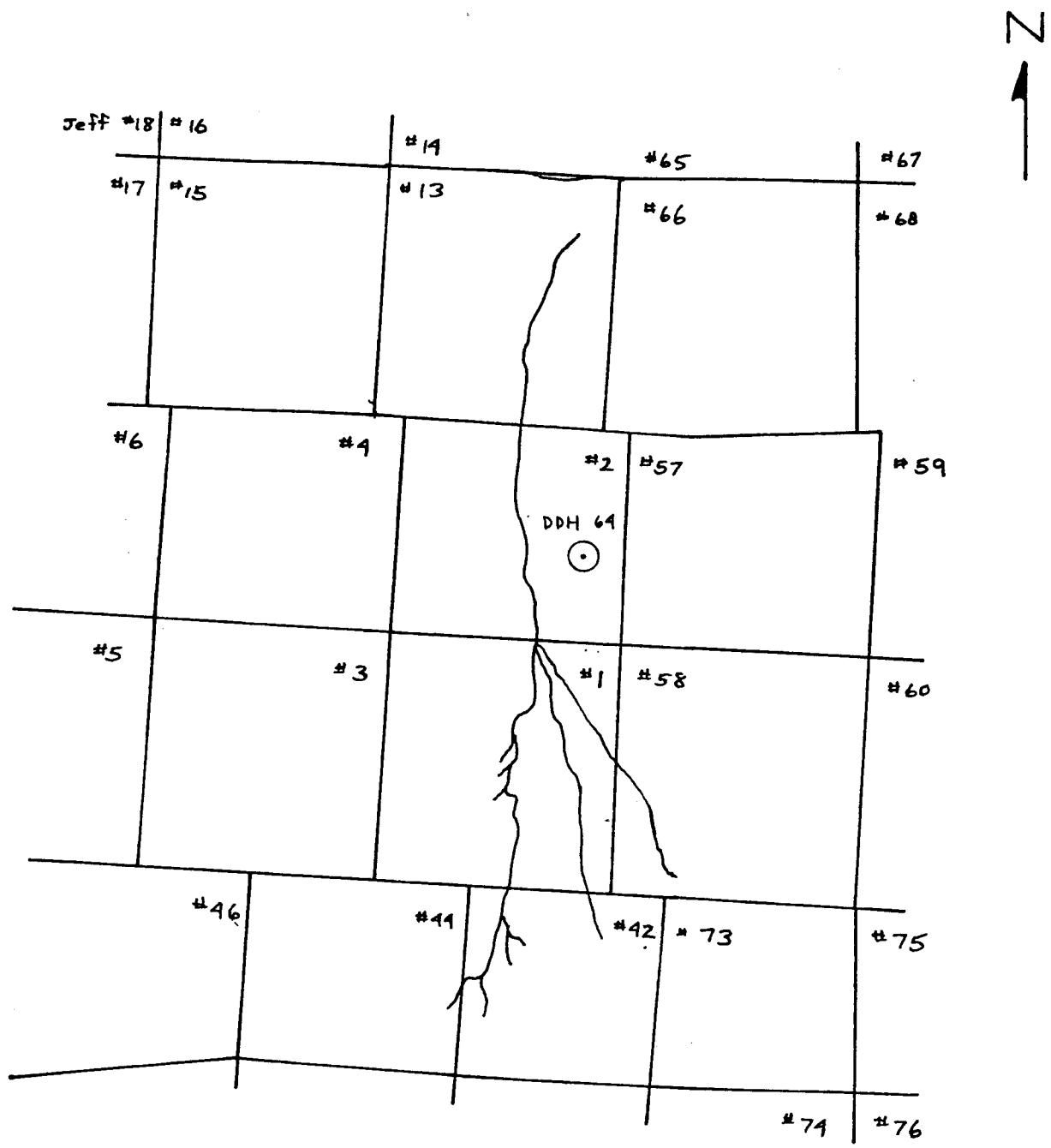
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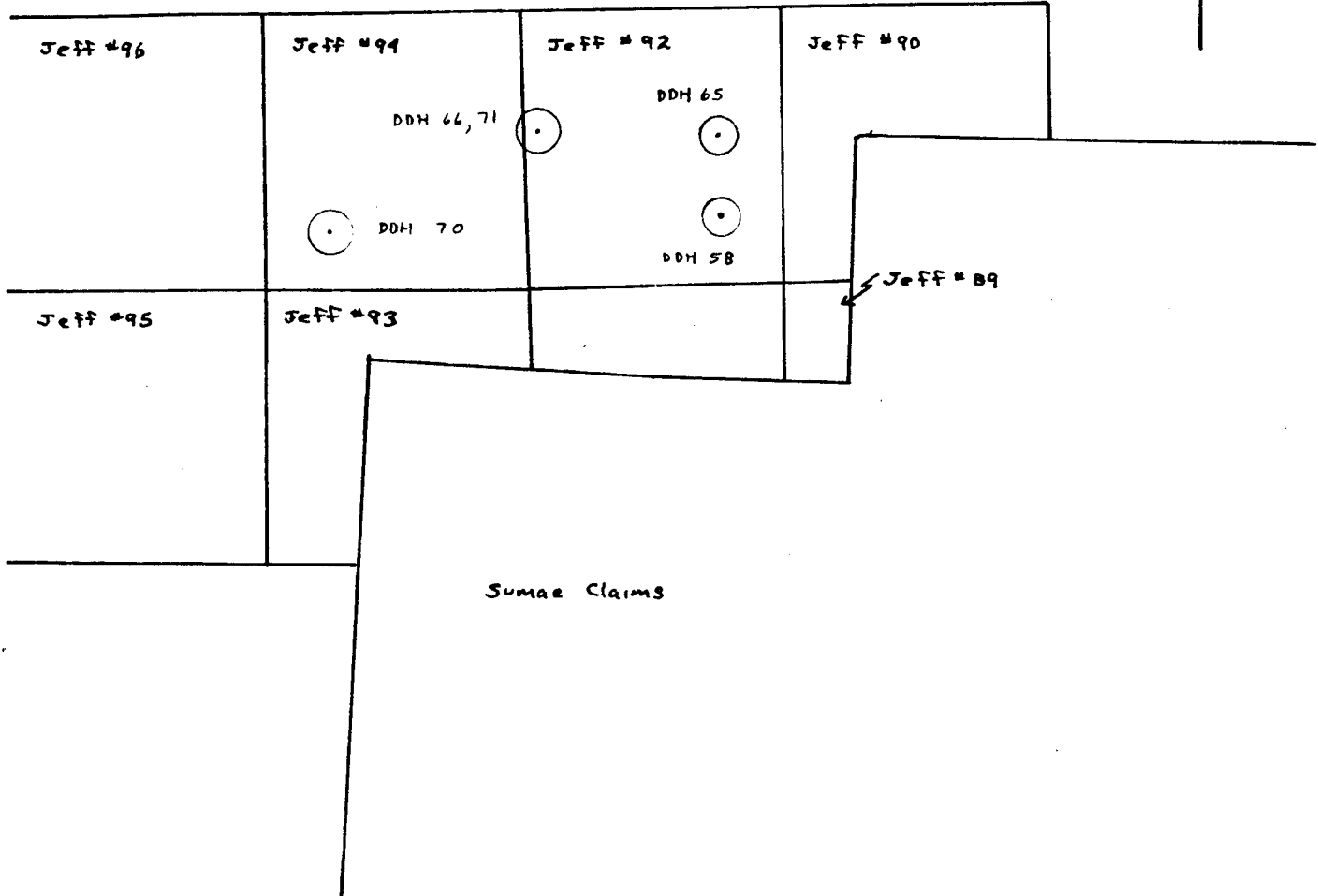
ST SEE MAP 104I/1E



Location Map DDH 63
1" = 1000'



Location Map DDH 64
 1" = 1000'



Location Map DDH 65, 66, 70, 71
1" = 1000'



Jeff #17

Jeff #15

Group II ←

→ Group I

Jeff #6

• 10

SMRB #15

• 50 • 51 • 53

• 44, • 46 • 38 • 47 • 39

Jeff #4

• 40

SMRB #16

• 37 • 36 • 35 • 34 • 8

• 32

• 1

• 31

• 6 • 54 • 4 • 2

• 5

• 3

• 14 • 7

• 48

• 49

• 67, 68

• 61 • 60 • 57

• 69 • 55 • 43 • 56

Jeff #5

Jeff #3

• 42

Diamond Drill Hole Locations
Jeff Claims, Groups I and II

1" = 400'