

COMINCO LTD.

EXPLORATION

NTS: 116A/12

WESTERN DISTRICT



ASSESSMENT REPORT

GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE BOYLE GROUP OF MINERAL CLAIMS

SITUATED AT 137°40' Long., 64°37' Lat.

MAYO M.D., YUKON TERRITORY

WORK PERFORMED: Aug. 20 - Aug. 30, 1981

JUNE 1982

E.G. OLFERT

091040

This report has been examined by
the Geological Evaluation Unit
under Section 53 (4) Yukon Quartz
Mining Act and is allowed as
representative work in the amount
of \$ 4,000

Rubison

for

Regional Manager, Exploration and
Geological Services for Commissioner
of Yukon Territory.

WORK PERFORMED: Aug. 20 - Aug. 30, 1981
MAYO M.D., YUKON TERRITORY
SITUATED AT 123rd ST., WHITEHORSE, Y.T.
ON THE BOYLE GROUP OF MINERAL CLAIMS
GEOLOGICAL AND GEOCHEMICAL REPORT

E.G. OFFICE

091040

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STATEMENT OF QUALIFICATIONS

1. Location Map
2. Claim Map
3. Geological Map
4. Geochem Map Pb/Zn/Ba

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WESTERN DISTRICT
4 June 1982

ASSESSMENT REPORT

GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE BOYLE GROUP OF MINERAL CLAIMS

SITUATED AT 137°40' Long., 64°37' Lat.

MAYO M.D., YUKON TERRITORY

INTRODUCTION

The BOYLE CLAIMS were staked in August 1981 to cover an area containing laminated stratiform barite mineralization in outcrop and talus float. The host rocks consist of black silty mudstones, shales and volcanics of the Ord./Sil. Road River Formation which trend east-west across the property.

This report is based on field work done between August 20-30, 1982 on the property and regional work done at the same time outside of the claim group. The aim of this field study was to investigate the nature of the barite mineralization and location of associated base-metal Pb/Zn sulphides. 1981?

Personnel involved in field work on the property include:

Bill Kiesman	6 days
Dan Brodsky	1 day
Bruno Wiskeł	1 day
Jerry Blackwell	½ day
E. Olfert	½ day plus 1 day report writing

LOCATION AND ACCESS

The BOYLE claims are located on the West Hart River, 21 miles east of the Dempster Highway and approximately 150 miles NW of Mayo.

The claims lie within the Mayo Mining District and are located at 137°40' Long. and 64°37' Lat. Access is by helicopter from Dawson City. The old winter road to Hart River mines runs along the West Hart River within a mile of the claim group.

SUMMARY

Significant beds of stratiform barite mineralization up to 12 m thick were discovered on this property within graptolitic shales and mudstones

of the Road River Formation. The best mineralized occurrence was sampled and returned 32% BaSO₄ across 7 meters. No Pb/Zn sulphides were found associated with the barite; pyrite mineralization was found in this stratigraphic section in the creek bed approximately 500 meters west of the above sampled barite occurrence.

FIELD PROCEDURES

Mapping was conducted on a scale of 1:10,000 using pace and compass and altimeter for control. Soil sampling was done on 25 meter intervals along 4 north-south lines across the favourable stratigraphy in unit 5. All streams and tributaries were silt sampled. Rock sampling was conducted where mineralization was suspected. The best mineralized outcrop occurrence was chip sampled across a width of 12.5 meters.

GEOLOGY

The claims are underlain by a thick sequence 500-1000 meters of graptolitic shale, silty mudstones and basic volcanics of the Road River Fm. structurally bounded by two sections of massive grey Cambro-Ordovician carbonates. Because of the structural complexity on the claim group, being near the Dawson thrust, the stratigraphic relationships between the various units are unclear; however, from a regional interpretation the stratigraphic relationships are as follows:

Unit 1 and 2 Carbonates are a shelf assemblage of Cambro-Ord. age.

Unit 3 to 8 are a basinal assemblage of Cambrian to Silurian age which have been thrust and folded into the shelf assemblage units 1 and 2.

The basin assemblage consists of the following: the lowest stratigraphic unit (Unit 8) consists of several hundred meters of intermediate to basic volcanic flows containing amygdules and pillow-structures. The volcanics are overlain by black calcareous shales and mudstones containing biserial graptolites (Units 3,4,7). This is further overlain by a thick sequence of silty siliceous cherty grey weathering mudstones 300-500? meters thick which hosts the barite mineralization (Unit 5). The top of the sequence (Unit 6) consists of green, brown to orange weathering flaggy mudstone, minor sandstone and basalt. Units 3-7 belong to the Road River Formation.

The regional DAWSON THRUST forms the contact between the shelf carbonates and basinal shales and volcanics along the northern edge of the property. Enechelon thrusts and associated drag-folds occur further south on the property and explain the repeated section of volcanics and carbonates.

MINERALIZATION

Laminated stratiform barite occurs intermittently within a cherty, silty, grey mudstone 300-500 meters thick. (Unit 5). The most significant barite horizon was chip sampled and returned 32% BaSO₄ across 7 m. Barite mineralization was found along strike in this stratigraphic horizon at

many locations along the whole length of the claim group but usually as float occurrences. One outcrop occurrence about one kilometer west of the above Main showing was sampled and returned 33% Ba or 53% BaSO₄ across 0.5 meters. No Pb/Zn sulphides were found associated with the barite mineralization. Hydrozincite staining was found without sulphides in black graptolitic shales of Unit 7. Pyrite was found in shears and fractures in the creek bed about ½ km west of the Main Showing.

GEOCHEMISTRY

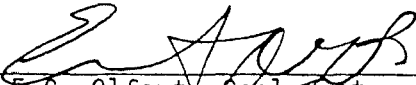
A total of 125 soil, rock, and silt samples were collected and analyzed for Pb, Zn, Ba; about half of the samples were analyzed for Cu and Ag as well. Results of some of the sampling outside the claim group have also been plotted for sake of completeness.

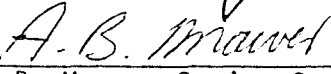
Soil-lines 1 and 2 indicate a barite soil anomaly approximately 400-500 meters wide on line 1 narrowing to about 200 meters wide on line 2. Anomalous Ba values range from 3000 ppm to over 1%. This anomaly is open to the east and partly open to the west, north of line 3. Smaller Ba anomalies occur near the south end of line 2, line 3 and along line 4.


Pb and Zn soil anomalies are much more erratic than Ba anomalies and usually restricted to one or two sample anomalies except along line 2, where several larger Zn anomalies are located. No coincident anomalous Pb values occur with the Zn anomalies on line 2. Anomalous values for Pb and Zn in soils and silts are estimated to be 50 and 1000 ppm respectively. The highest Pb value in soils occurs near the north end of line 1 near the Main Showing; the highest Zn values occur in the middle of line 2.

CONCLUSIONS AND INTERPRETATION OF RESULTS

A large Ba geochem anomaly overlies the main showing area and extends at least 500 meters west. This anomaly reflects stratiform barite mineralization in bedrock and is open at both ends. Prospecting and mapping indicate that the stratiform barite at the main showing extends along the full length of the property, a distance of 3-4 kilometers. Higher grade economic sections may occur along strike from the main showing. Prospecting and mapping did not locate any visible Pb/Zn sulphides associated with the barite. Minor Pb and Zn geochem anomalies appear to be erratically associated with the barite but no significant target areas have been located.

Report by: 
E.G. Olfert, Geologist

Endorsed by: 
A.B. Mawer, Senior Geologist

Approved for
Release by: 
G. Harden, Manager
Exploration, Western District

Distribution
Mining Recorder (2)
Western District (1)
EGO

EGO/skm

for

COMINCO LTD.

STATEMENT OF EXPENDITURES

BOYLE PROPERTY, MAYO M.D., Y.T.

AUGUST 1, 1981 TO MAY 31, 1982

GEOLOGY:

Salaries Permanent	\$ 295	
Salaries Temporary	<u>830</u>	\$ 1,125

GEOCHEMISTRY:

Assays & Analysis		730
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TRANSPORTATION:

Helicopter	1,758	
Fuel	261	
Expense Accounts	<u>352</u>	2,371

CAMP COSTS:

Supplies		270
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TENURE:

Salaries Permanent	112	
Salaries Temporary	178	
Supplies	96	
Helicopter	1,275	
Rental & Taxes	<u>320</u>	1,981

SUPERVISION:

475

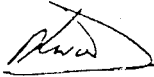
ADMINISTRATION:

384

\$ 7,336

Cominco Ltd.
Vancouver Office
June 10th, 1982

Copies: S. S. Selke, Senior Technician
E. G. Olfert, Geologist III
File


R. L. Woods
Supervisor,
Exploration Accounting

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

19 May 1982

STATEMENT OF QUALIFICATIONS

I, Ernest Olfert with business address at 409 Granville Street, Vancouver, British Columbia, do hereby certify that I have supervised the field work and have assessed and interpreted the data resulting from this geological and geochemical survey on the Clip mineral claims.

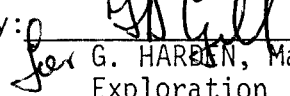
I also certify that:

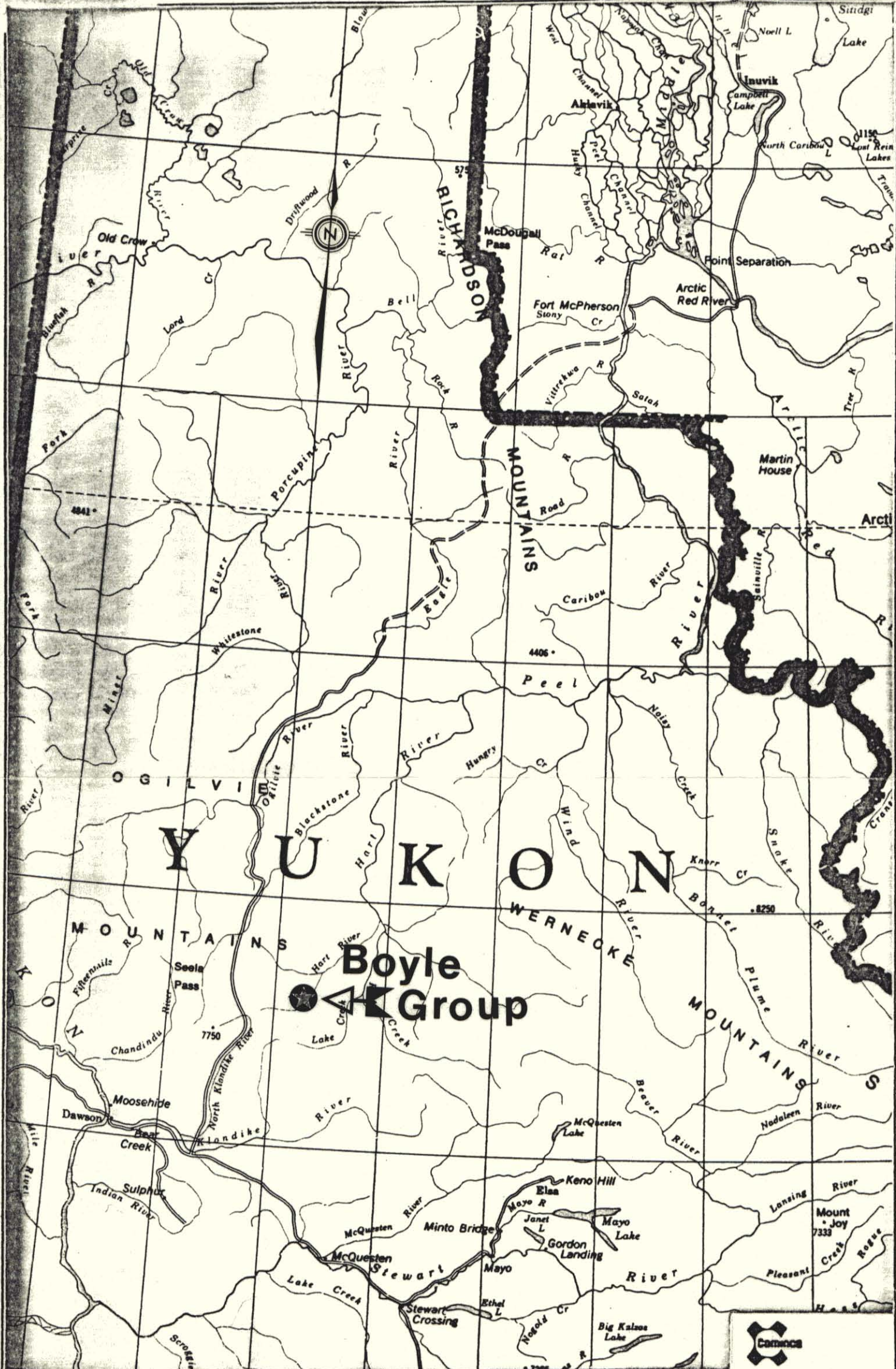
1. I am a graduate of University of Calgary, Alberta, B.Sc. Honours Geology;
2. I have engaged in mineral exploration since graduation.

Respectfully submitted:


ERNEST G. OLFEET

Ernest Olfert was responsible for supervising the geological and geochemical survey described herein. Mr. Olfert received his B.Sc. degree in Honours Geology from the University of Calgary in 1970. He has worked for Cominco Ltd. for 12 summer field seasons and has been a permanent employee since December 1, 1971. I consider him a competent geologist.

Signed by: 
G. HARBIN, Manager
Exploration
Western District



Drawn by:		Traced by:	
Revised by	Date	Revised by	Date

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LOCATION MAP

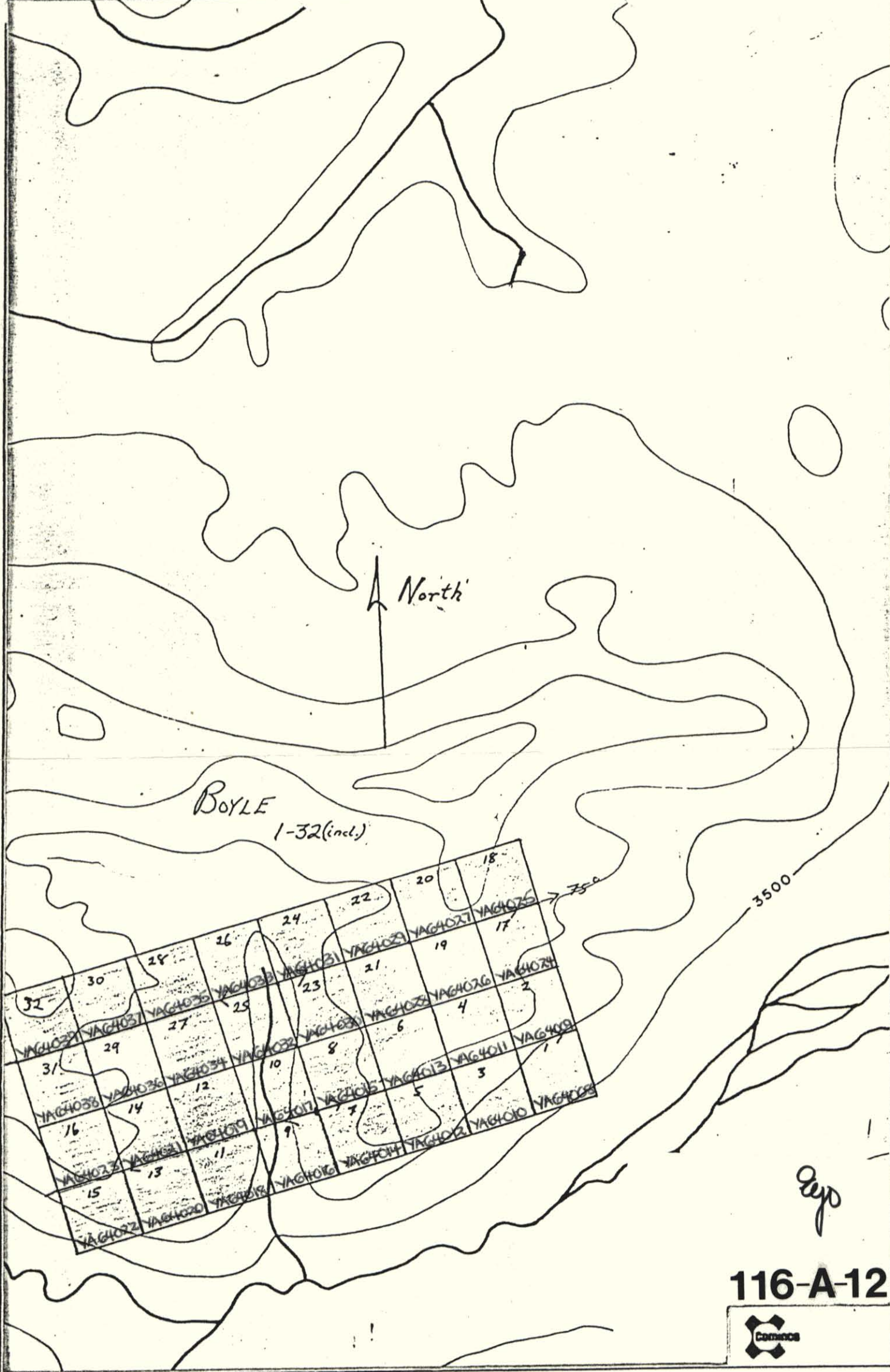
Scale: 1" = 32 mi

Date:


Plate:



Jgo-



Drawn by:		Traced by:	
Revised by	Date	Revised by	Date

116-A-12

BOYLE 091040
CLAIM MAP
 Scale: _____ Date: _____ Plate: _____

SOIL-LINE
GEOCHEMISTRY

091040

	Cu	Pb	Zn	Ag	Ba
HL0385	80	7	317	0.5	18222
HL0386	206	6	1320	1.4	55995
HL0387	104	140	870	1.8	18612
HL0388	65	80	450	x(2.0)	6410
HL0389	71	8	1290	1.4	3028
HL0390	60	7	116	0.6	14307
HL0391	120	11	262	1.6	11005
HL0392	174	20	820	1.9	4226
HL0393	170	20	760	1.9	4201
HL0394	174	21	790	1.9	5603
HL0395	154	25	640	2.0	8304
HL0396	207	515	626	3.0	9075
HL0397	26	14	136	1.4	17041
HL0398	28	22	128	1.4	5035
HL0399	20	24	105	1.4	2933
HL0400	65	x(2.0)	240	x(2.0)	9211
HL0401	27	6	91	1.4	12894
HL0402	28	7	92	1.4	7854
HL0403	40	6	95	1.4	18334
HL0404	25	7	65	0.5	11290
HL0405	26	7	77	1.4	13574
HL0406	22	6	69	1.4	5438
HL0407	25	5	57	1.4	3799
HL0408	67	9	560	0.5	12528
HL0409	33	8	148	1.4	9173
HL0410	23	5	490	0.9	3416
HL0411	13	4	123	0.6	1832

Line # 1

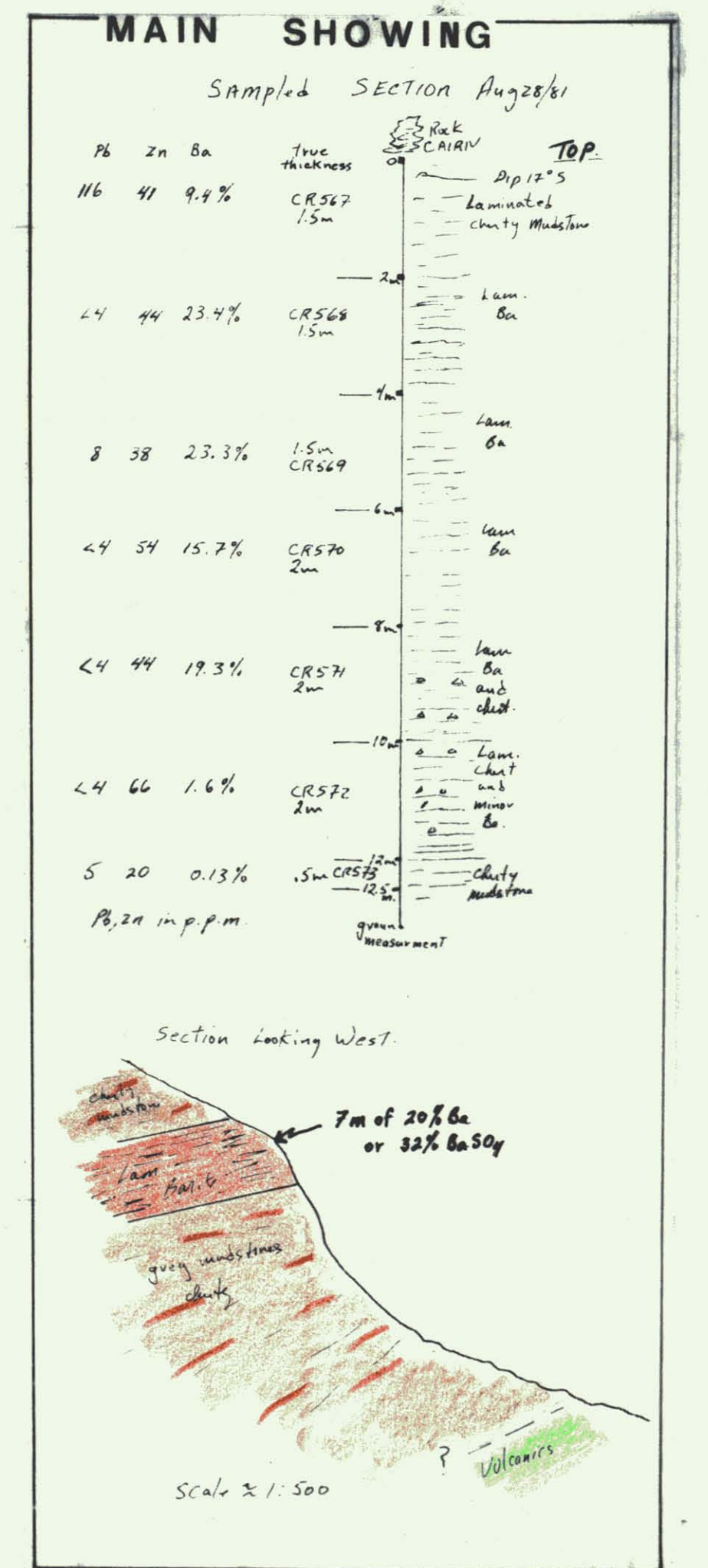
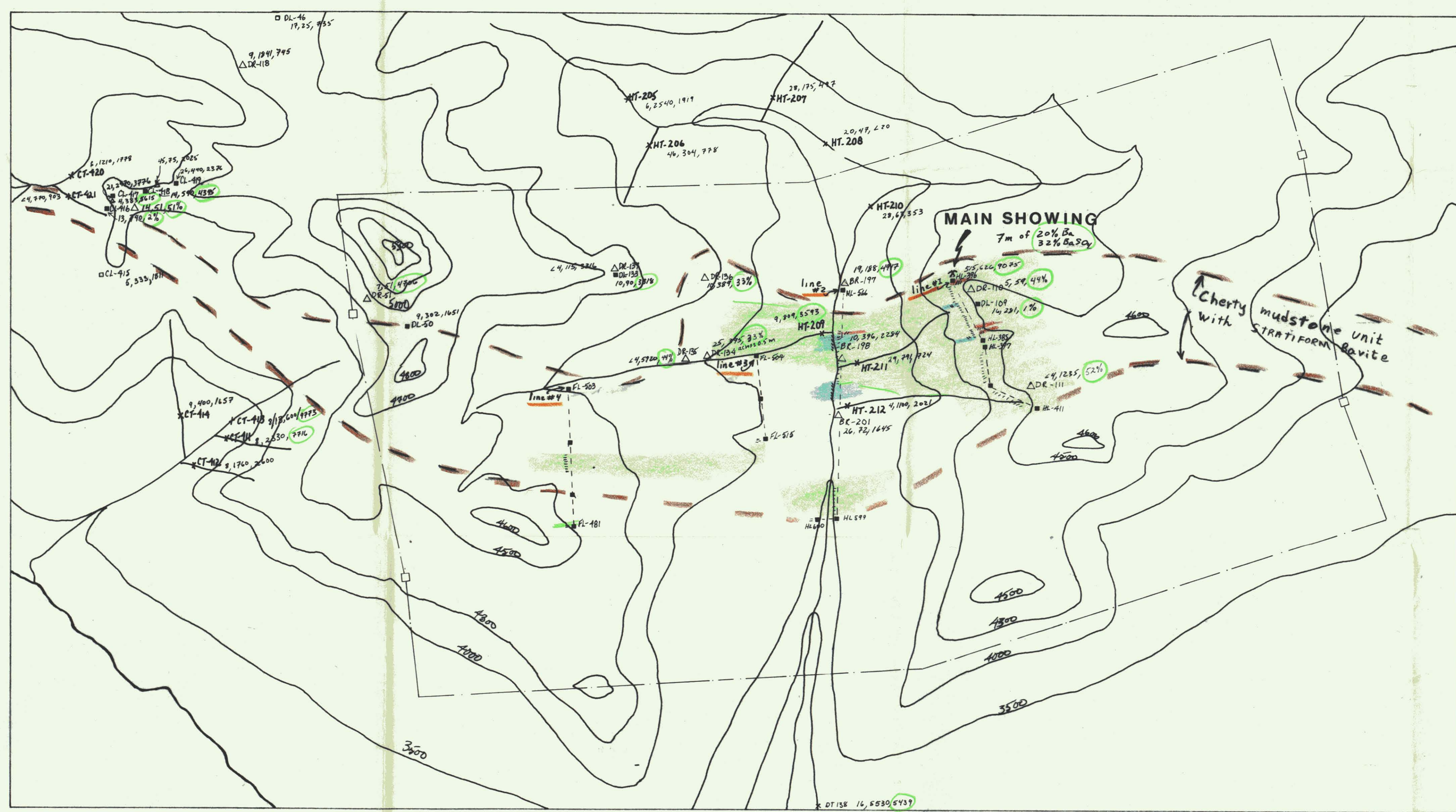
FL0481	37	15	181	1.4	2826
FL0482	39	8	257	1.4	3192
FL0483	21	9	384	1.4	1444
FL0484	22	9	372	1.4	871
FL0485	19	4	285	1.0	893
FL0486	43	8	1005	1.4	1557
FL0487	98	10	3240	2.2	1290
FL0488	9	6	83	1.4	948
FL0489	48	8	843	1.8	1144
FL0490	64	9	1170	1.4	1898
FL0491	96	9	1037	1.8	8643
FL0492	77	8	971	1.7	13000
FL0493	83	6	915	1.3	11000
FL0494	87	8	298	1.6	5271
FL0495	14	4	368	1.4	4283
FL0496	17	4	189	0.6	1891
FL0497	17	4	125	1.6	1611
FL0498	12	4	59	1.0	1362
FL0499	13	7	192	0.6	1353
FL0500	41	8	391	1.2	1789
FL0501	24	4	801	1.2	1590
FL0502	32	6	312	0.7	1519
FL0503	32	4	351	0.8	1506
FL0504	18	10	165	1.4	1617
FL0505	19	7	114	1.4	1695
FL0506	15	7	105	1.4	1793
FL0507	11	9	89	1.4	1620
FL0508	7	4	94	1.4	1568
FL0509	20	4	147	1.4	1724
FL0510	15	10	142	1.4	1842
FL0511	13	11	131	1.4	2452
FL0512	4	13	162	1.4	2593
FL0513	24	7	302	1.4	2538
FL0514	24	6	341	1.4	2275
FL0515	25	10	208	1.5	4191

Line # 4

Line # 3

	Pb	Zn	Ba
HL0566	25	520	782
HL0567	21	592	1338
HL0568	22	596	1699
HL0569	25	440	1838
HL0570	22	453	1175
HL0571	18	1294	1825
HL0572	20	1245	1347
HL0573	4	1720	2995
HL0574	42	820	4040
HL0575	43	2330	11000
HL0576	15	442	13000
HL0577	12	549	9204
HL0578	9	530	6426
HL0579	16	790	6780
HL0580	10	1230	41036
HL0581	20	2075	4621
HL0582	12	6840	1825
HL0583	8	3940	2245
HL0584	8	432	1882
HL0585	20	165	620
HL0586	4	109	1982
HL0587	4	103	936
HL0588	6	444	2678
HL0589	8	150	4177
HL0590	8	98	2824
HL0591	20	120	1413
HL0592	20	85	7243
HL0593	8	16	1266
HL0594	8	46	2151
HL0595	4	57	4082
HL0596	4	79	4879
HL0597	4	84	4303
HL0598	4	93	4233
HL0599	4	63	5399
HL0600	11	357	3078

Line # 2



Soils and Silt

- results plotted in ppm Pb, ppm Zn, and ppm % Ba
- 750 ppm Pb } Anomalous values
- > 1000 ppm Zn } Anomalous values
- > 3000 ppm Ba } Anomalous values

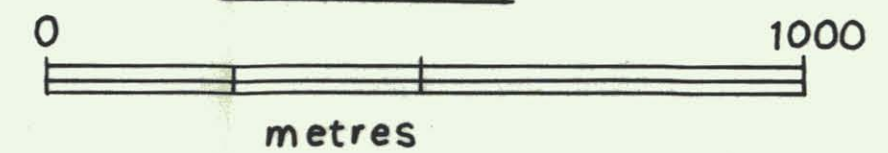
Rocks

- > 50 ppm Pb } Anomalous
- > 2000 ppm Zn } Anomalous
- > 1% Ba } Anomalous

SYMBOLS

- Δ DR134 rock sample
- X HT202 silt sample
- HL566 soil sample; soil lines
- claim post; boundary limits

SCALE



BOYLE PROPERTY
GEOCHEMISTRY

Drawn by: _____ Traced by: _____
 Revised by: _____ Revised by: _____

Scale: 1:10,000 Date: _____ Plate: _____

I16-A-12