LHN 85-2

Str. Alter.	Rock Type	Rock Descriptions	Description of Mineralization, Alteration, Structures	Recovery	Sample Interval	ALL VALUES IN PPM Au	Ag
		Granite as above			2616	<.01	<.2
					2617	<.01	<.2
Si c Fien		90-95 lt grn gray granite	90-95 Lt grn gray to lt gray translucent si c fied granite some lt brown CO_3 in matrix		2618	<.01	<.2
		90-115 lt brown & lt grn gray granite	95-115 lt brown & pink brecciated granite. Pink color due to vfgn hematite in CO_3 matrix Some hem/py pseudos		2619	<.01	<.2
					2620	.03	<.2
			115-120 Abundant lt pink hematitic clay, white qtz & lt grn gray sericite		2621	<.01	<.2
					2622	<.01	<.2
					2623	<.01	<.2
		120-color change to dull lt brown	120-145 Brown CO_3 in matrix and veinlets, Abundant vfgn pink hematite in matrix, some as hem/py pseudos, Sl vfgn qtz. Trace of [illegible] qtz veinlets		2624	.01	<.2
					2625	.02	.2
					2626	.03	<.2
					2627	.02	<.2
		145 lt grn gray granite	145 - water table, cut [illegible] Abundant [illegible] brown [illegible] in matrix Some CO_3, lt grn gray sericite abundant. Local abundant [illegible] pseudos		2628	.01	<.2
					[illegible]	.01	<.2
					[illegible]	<.01	<.2
					[illegible]	<.01	<.2
					2632	<.01	<.2
					[illegible]	<.01	<.2
					[illegible]	.01	.6
					[illegible]	<.01	<.2

Sericite Carbonate [illegible]

LHN-85-2

Str. Alters	Rock Type	Rock Descriptions	Description of Mineralization, Alteration, Structures	Recovery	Sample Interval	Au	Ag
Sericite, Carbonate, Hematite		Granite as above			2636	<.01	<.2
					2637	.01	<.2
					2638	.01	<.2
		Sheared? or vfgr Intrusive, red brown to yellow brown	Argillized matrix, Abundant elongat. Feldspars. Cut by numerous CO_3-limonite veinlets		2639	.01	.3
					2640	<.01	<.2
					2641	.01	<.2
		Granite - appears Fine grained Ltgrn gry + lt brown	Ltgrn gry sericite in matrix. Weak CO_3 reaction, Abundant limonite in Fractures. Locally abundant hem-lim/py pseudos some pfgr pink hematite in matrix		2642	.01	<.2
					2643	.04	<.2
					2644	.04	<.2
					2645	.01	<.2
					2646	<.01	<.2
					2647	<.01	<.2
					2648	<.01	.2
					2649	<.01	<
					2650	<.01	.3
					2651	<.01	.6
					2652	.17	.4
					2653	<.01	.2
					2654	<.01	.2
					2655	<.01	<.2

ALL VALUES IN PPM

Str. Alter.	Rock Type	LHN 85-2 Rock Descriptions	Description of Mineralization, Alteration, Structures	Recovery	Sample Interval	ALL VALUES IN PPM Au	Ag
		Granite - as above			2656	<.01	<.2
			285-295 High percentage of clay in cuttings		2657	<.01	<.2
					2658	<.01	<.2
					2659	<.01	<.2
					2660	<.01	<.2
		305 - alteration appears to be [illegible] out	305 - Less sericite, More chlorite less FeOx in fractures		2661	<.01	<.2
					2662	<.01	<.2
			315-325 High percentage of clay		2663	<.01	<.2
					2664	<.01	<.2
					2665	<.01	<.2
					2666	<.01	<.2
					2667	<.01	<.2
					2668	<.01	<.2
					2669	<.01	<.2
					2670	<.01	<.2
					2671	<.01	<.2
		365-375 Granite High content of yellow brown clay	365-375 Abundant yellowbrown limonite clay + hematite coating grains + [illegible] some hem/py [illegible]		2672	.04	<.2
					2673	.06	<.2
					2674	.02	<.2
		375 - less clay, Red + lt gr gray colored granite	Abundant hematite on grain surfaces, Abundant sericite in matrix		2675	<	<.2

LHN-85-2

Depth	Rock Descriptions	Description of Mineralization, Alteration, Structures	Recovery	Sample Inte	Au	Ag
	Granite as above			2676	<.01	<.2
390				2677	<.01	<.2
				2678	<.01	<.2
400				2679	<.01	<.2
				2680	<.01	<.2
410				2681	<.01	<.2
	415-420 Overall color change to lt grn gray due to abundant lt grn gray clay	415- Abundant lt grn gray sericite & chlorite rich clay		2682	<.01	<.2
420				2683	<.01	<.2
				2684	<.01	2.6
430				2685	.03	.2
				2686	<.01	<.2
440				2687	<.01	<.2
				2688	<.01	<.2
	445-455 Green gray Andesite dike	Chlorite andesite contacts upper & lower contact of limonite clay		2689	<.01	1.1
450				2690	<.01	<.2
	455 Granite - lt grn gray & yellow brown	Abundant hem/lim/pyp sericite Abundant lim in matrix. Abun sericite. Some CO_3		2691	<.01	<.2
460				2692	<.01	<.2
				2693	<.01	<.2
470				2694	.02	<.2
				2695	<.01	<.2
480						

ALL VALUES IN PPM

LHN-85-2

Str. Alters.	Rock Type	Rock Descriptions	Description of Mineralization, Alteration, Structures	Recovery	Sample Interval	Au	Ag
		[illegible] as above			2696	<.01	<.2
					2697	.03	<.2
					2698	<.01	<.2
					2699	<.01	<.2
					2700	.01	.3
silic fine		505-510 Fine grained granite	505-510 White aplitic intrusive. Intrusive. Silicified.		2701	.02	.3
		505 510 granite [illegible] brown & [illegible]	510 - Abundant hem/py pseudos [illegible]		2702	.08	.2
					2703	.07	.4
					2704	.02	.2
		505 [illegible] highly sheared [illegible]	505 Abundant hematite & monite along shears. Shears [illegible] Numerous hem/py pseudos		2705	<.01	<.2
		530 Highly sheared granite [illegible]	530 Abundant limonite along shears. Some fine [illegible] hematite & monite granite.		2706	<.01	<.2
					2707	<.01	<.2
					2708	<.01	<.2
		[illegible]	Abundant hem/py pseudos		2709	<.01	<.2
		[illegible]	[illegible]		2710	<.01	<.2
					2711	.09	<.2
					2712	<.01	<.2
					2713	<.01	<.2
					2714	.01	<.2
		[illegible]	Abundant (50%) limonite [illegible] Numerous hem/py pseudos.		2715	<.01	.7

ALL VALUES IN PPM

ALL VALUES IN PPM

Depth	Structure	Alteration	Rock Type	Rock Descriptions	Description of Mineralization, Alteration, Structures	Recovery	Sample Interval	Assays Au	Assays Ag			
				[illegible]			3716	<.01	3.2			
							3717	.03	<.01			
500							3718	<.01	.3			
							3719	<.01	.2			
600							3720	<.01	.5			
605				605 T.D.								

Texasgulf, Inc.
Project: Little Harquahala North
Drill Hole: LHN 85-3
Grid Location:
Collar Elevation:

_____ core from _____ to _____
_____ core from _____ to _____
_____ core from _____ to _____

Drill Log Forms
Drillers: Drilling Services Co.
Logged By: C. Lane
Start: 3/22
Finish:
Survey:

Depth	Bearing	Dip
Collar		90°

Scale	Structure Alteration	Rock Type		Rock Descriptions	Description of Mineralization, Alteration, Structures	Recovery	Sample Interval	Assays ALL VALUES IN PPM
0				Alluvium				
0								
20								
30				Red brown dacite tuff	Weak argillization of groundmass Flsrs Fresh some lt grn gry Sericite, Some CO_3 veinlets		12001	
							12002	
40							12003	
							12004	
50							12005	
							12006	
							12007	
							12008	
70							12009	
							12010	
80				Dark red brown to Dk grn gry andesite				

LHN 85-3

ALL VALUES IN PPM

Scale	Struc Alterat	Rock Type	Rock Descriptions	Description of Mineralization, Alteration, Structures	Recovery	Sample Interval	Au	Ag
80			Andesite as above			12011		
						12012	<.01	1.0
90	Silicified		Lt yellow gray granite 95 Increasing red hem imparts red color to rock	Mostly lt yellow gray clay. Abundant lt grn gray sericite silicified. Intensely crushed		12013	<.01	.2
						12014	<.01	<.2
100			100-105 red brown clay + granite May contain some sltsn or very finely crushed granite	Abundant hematite + limonite in clay. Numerous frags of granite. Reacts for CO_3. Some hem/py pseudos		12015	.09	<.2
						12016	.01	<.2
110						12017	.03	.3
						12018	.03	.5
120						12019	.01	.6
						12020	.01	.2
130			Granite. Abundant clay. Grn gray fred brown	Red hematite + limonite in fractures. Abundant chlorite weakly silicified. Secondary qtz veinlets w/ limonite Hem/py pseudos.		12021	<.01	.4
						12022	<.01	.2
140						12023	<.01	.2
						12024	<.01	<.2
150						12025	<.01	.2
			155-160 Red brown hematitic gouge in granite			12026	.01	.4
160			160- granite - dk green + red brown as above	Intensely crushed - as above		12027	.01	.5
						12028	.03	.3
170						12029	.01	.2
						12030	.01	.4
180								

Scale	Struc. Alteration	Rock Type	Rock Descriptions	Description of Mineralization, Alteration, Structures	Recovery	Sample Inte	Au	Ag		
180			Granite as above							
						12031	<.01	.4		
						12032	<.01	.7		
190										
						12033	<.01	.2		
						12034	<.01	.2		
200										
						12035	.01	1.5		
						12036	.02	<.2		
210				210-215 - Green shear zone w/ abundant chlorite						
						12037	.01	<.2		
			215 - Unit becomes mixture of lt grn gray, white (qtz) + yellow brown	215 Sericite in matrix + red acing Flsrs Abundant yellow limonite in Fractures						
						12038	.04	.2		
220				220 - Appears to be slight increase in # of hem/pyrite dos + in limonite						
						12039	.02	<.2		
						12040	.09	<.2	✓.05	
230										
						12041	.01	<.2		
						12042	.02	<.2		
240										
						12043	.04	<.2		
						12044	.12	<.2	✓.11	
250										
						12045	.04	<.2		
						12046	.17	<.2	✓.14	
260										
						12047	.03	<.2		
						12048	.01	<.2		
270										
						12049	<.01	.6		
						12050	.04	.2		
280										

ALL VALUES IN PPM

Scale	Struc. Alterat.	Rock Type	Rock Descriptions	Description of Mineralization, Alteration, Structures	Recovery	Sample Interval	Au	Ag
200	SERICITE, HEMATITE, CARBONATE		granite as above					
						12051	.03	.2
						12052	.01	.2
200						12053	.01	<.2
						12054	.02	<.2
300						12055	.02	<.2
				305- Increase in amt of yellow brown liponite. Most from corrosion of hematite		12056	.01	<.2
310						12057	.03	<.2
						12058	.01	<.2
320						12059	<.01	<.2
						12060	.01	<.2
330						12061	<.01	<.2
						12062	<.01	<.2
340						12063	<.01	<.2
						12064	<.01	<.2
350						12065	<.01	<.2
						12066	.02	<.2
360						12067	.04	<.2
			365- Abundant clay in granite	365- Highly fractured. Fractures filled w/ white clay + Hgm gray sericite. Abundant hematite		12068	.02	<.2
370				370-375 Abundant red Fine grained gouge.		12069	.01	<.2
						12070	.01	.2
380								

ALL VALUES IN PPM

ALL VALUES IN PPM

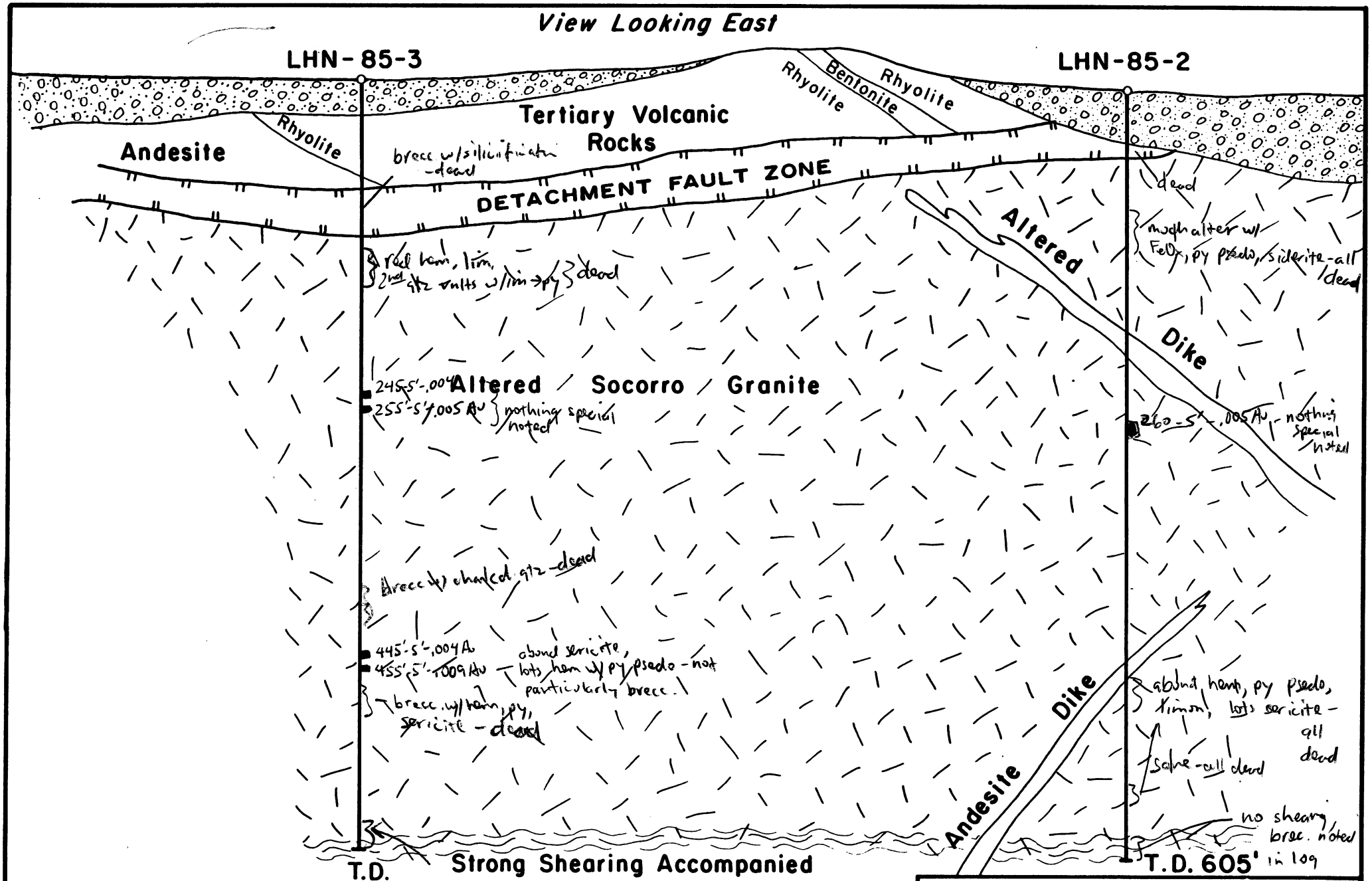
Scale	Struc. Alteration	Rock Type	Rock Descriptions	Description of Mineralization, Alteration, Structures	Recovery	Sample Interval	Au	Ag
380						12071	.02	<.2
			385 More intense brecciation in granite			12072	<.01	<.2
390						12073	<.01	<.2
						12074	<.01	<.2
400						12075	.02	<.2
				405- Glue gray chalcedonic qtz increasing. More yellow brown limonite in matrix + in veinlets. Locally abundant limonite + hem/py pseudos.		12076	.02	<.2
41						12077	<.01	<.2
						12078	<.01	.2
42						12079	.03	<.2
						12080	.04	<.2
43						12081	.05	<.2
						12082	.05	<.2
440						12083	.07	<.2
						12084	.13	.4
450			450-465 50% white + lt grngray sericite. Abundant chlorite.	450-465 Trace of fresh pyrite. Abundant hem/py pseudos		12085	.09	.2
						12086	.31	.6
4						12087	.01	<.2
			465- Red brown + lt grngray brecciated granite	Abundant limonite + hematite/py pseudos. Hem imparts red color to rock. Abn sericite.		12088	.01	<.2
4						12089		<.2
480						12090	.02	<.2

Scale	Struct. Alterat.	Rock Type	Rock Descriptions	Description of Mineralization, Alteration, Structures	Recovery	Sample Interval	Au	Ag
			Granite as above					
						12091	.01	<.2
						12092	.01	<.2
						12093	.04	<.2
						12094	<.01	<.2
						12095	<.01	<.2
						12096	<.01	<.2
						12097	<.01	<.2
						12098	<.01	<.2
						12099	<.01	<.2
						12100	<.01	<.2
			5-	530-535 Increase in lt gn gray sericite		12101	<.01	.2
						12102	<.01	<.2
						12103	<.01	.3
	Weak silicification		545- overall color becomes white to lt gn gray	545- Increase in wht qtz & lt gn gray sericite. Trace fresh pyrite. Abundant hem/py pseudos.		12104	<.01	.3
						12105	.01	.2
						12106	<.01	.3
						12107	.01	.3
						12108	<.01	.2
						12109	.02	.3
				575-580 Some fresh pink bot cloud: Flsrs. Abn sericite. Traces of fresh py & hem/py pseudos		12110	<.01	.3

ALL VALUES IN PPM

Assays

Scale	Struc. Alterat.	Rock Typ	Rock Descriptions	Description of Mineralization, Alteration, Structures	Recovery	Sample Interval	Au	Ag
580			Granite as above	as above		12111	<.01	.2
			585 - Unit becomes red brown + yellow brown	Much clay in cuttings. Abundant limonite imparting color to rock. Less qtz + sericite. Abun hem/py pseudos. Unit appears more strongly sheared.		12112	.01	.4
5[illegible]						12113	<.01	<.2
				595 - Trace fresh py		12114	<.01	.5
6[illegible]						12115	<.01	.2
6[illegible]			T.D.					



Texasgulf Minerals and Metals, Inc.

FIG.9

LITTLE HARQUAHALA NORTH CROSS SECTION LHN-85-2 AND LHN-85-3

Scale: 1 inch equals 100 feet		Data by: C. LANE
Drafted by: Asplund	Oct.21,1985	

Texasgulf, Inc.
Project: Little Hoquahala North
Drill Hole: LHN 85-4
Grid Location:
Collar Elevation:

_____ core from _____ to _____
_____ core from _____ to _____
_____ core from _____ to _____

Drill Log Forms
Drillers: Drilling Services Co
Logged By: C. Lane
Start: 3/23
Finish:
Survey:

Depth	Bearing	Dip
Collar		90°

Scale	Structure Alteration	Rock Type	Rock Descriptions	Description of Mineralization, Alteration, Structures	Recovery Sample Interval	Assays
			Alluvium			ALL VALUES IN PPM
10						
20						
30			Rhyolite welded tuff	2" white bentonite layer at top of rhyolite.	12116	
					12117	
40					12118	
					12119	
50			Andesite	50% chloritized matrix. Red brown stains enclose mafics(?).	12120	
					12121	
60					12122	
					12123	
70	Unaltered				12124	
					12125	
80						

LHW 85 4

Rock Descriptions	Description of Mineralization, Alteration, Structures	Recovery	Sample Interva	Au	Ag
80- Black Basalt	Dike?		12126		
Dk greenish black andesite	chloritic Matrix. Reddish brown euhedral feldspar phenos		12127		
			12128		
			12129		
			12130		
			12131		
Red brown rhyolite tuff	Trace qtz phenos + some lt grn gry sericite		12132		
			12133		
			12134		
			12135		
Fault - White & lt grn gray granite gouge	Crushed & brecciated granite. Mostly white to yellow clay		12136	<.01	.5
	135-140 Trace fresh pyrite		12137	<.01	.4
			12138	.02	.4
			12139	<.01	<.2
			12140	<.01	<.2
			12141	<.01	<.2
160- Bottom of Fault? granite lt brown & lt grn gray	ass clay. Lt grn gry sericite Abun hem/pyp seudos + hematite in matrix & fractures		12142	<.01	<.2
			12143	<.01	<.2
			12144	<.01	<.2
			12145	<.01	<.2

ALL VALUES IN PPM

LHN 85-4

Rock Descriptions	Description of Mineralization, Alteration, Structures	Recovery	Sample Interval	Assays ALL VALUES IN PPM Au	Ag			
Granite - as above			12146	<.01	<.2			
			12147	<.01	<.2			
			12148	.01	<.2			
			12149	<.01	<.2			
			12150	.03	<.2			
	205-215 limonitic F grandesite incuttings - Small dikes?		12151	<.01	.7			
			12152	<.01	<.2			
	215-220 weak silicification. some secondary qtz veinlets. Abundant red brown clay		12153	<.01	.3			
			12154	<.01	<.2			
			12155	<.01	.3			
			12156	<.01	<.2			
			12157	<.01	<.2			
			12158	<.01	<.2			
	245- less clay. More green chlorite + hematite. Some hem/py pseudos. Intense brecciation + recementing of granite by sericite.		12159	<.01	<.2			
			12160	.01	.3			
			12161	.06	.5			✓Au .08
			12162	.05	.5			
			12163	.40	.8			.38
			12164	.22	.7			.25
			12165	.21	.4			.29

LHN-85-4

Sample Interval	Au	Ag			
12166	.23	.4		√Au	.24
12167	.40	.7			.39
12168	.31	.6			.27
12169	.04	.6			
12170	.02	.2			
12171	.01	<.2			
12172	<.01	<.2			
12173	<.01	.4			
12174	<.01	.3			
12175	.06	.2			
12176	.01	.3			
12177	.03	.5			
12178	.01	.5			
12179	<.01	.3			
12180	<.01	<.2			
12181	<.01	<.2			
12182	<.01	<.2			
12183	<.01	<.2			
12184	<.01	<.2			
12185	<.01	<.2			

Rock Descriptions

Description of Mineralization, Alteration, Structures

Recovery

Alter. | Rock Type

Granite as above

285-300 Much clay in granite

300-overall color is mixture of red, yellow brown & light gray

300-310 Increasing limonite & hematite content in matrix

350- Qtz more abundant & Tchirgan blue gray chalcedonic color w/ some secondary veining.

240

300

310

320

330

240

350

360

370

380

LHN·854

St. Alter.	Rock Type	Rock Descriptions	Description of Mineralization, Alteration, Structures	Recovery	Sample Interval	Au	Ag
		Granite - as above			2186	<.01	<.2
					2187	<.01	<.2
390					12188	<.01	<.2
					12189	.01	<.2
400					12190	<.01	<.2
					12191	<.01	<.2
410			410-430 considerable brown gray clay		12192	<.01	<.2
					12193	.01	<.2
420					12194	.01	.2
					12195	<.01	<.2
430		425-435- Change to red brown color	425-435- Increase in limonite content		12196	<.01	<.2
		435- Dk grn red brown granite resumes.	435- Abundant red brown hematite + green chlorite. Hem/pl pseudos Abundant clay.		12197	.07	.3
440					12198	.89	1.5
					12199	.20	1.0
450					12200	.07	.4
					12201	.02	.2
460					12202	.01	.2
					12203	.02	[illegible]
470					12204	<.01	<.2
					12205	.01	<.2
480							

ALL VALUES IN P

LHN 85-4

Depth	Rock Descriptions	Description of Mineralization, Alteration, Structures	Recovery	Sample Interval	Au	Ag	
	Granite as above	as above		12206	<.01	<.2	
				12207	.29	.5	✓.27 Au
490				12208	.02	.2	
				12209	.02	<.2	
500				12210	.01	<.2	
				12211	<.01	<.2	
510		510~ Increase in amt of lt blue gray chalcedonic qtz		12212	<.01	<.2	
				12213	<.01	<.2	
520				12214	<.01	<.2	
				12215	<.01	<.2	
530				12216	<.01	<.2	
				12217	.08	.6	
540	540 Granite - overall color change to green + lt green gray	540 - abundant chlorite, sericite white qtz (some ischalcedonic) Traces of fresh pyrite. Highly brecciated. Numerous rem/py pseudos		12218	.03	<.2	
				12219	.01	<.2	
550				12220	<.01	<.2	
				12221	.04	.3	
560				12222	<.01	<.2	
				12223	<.01	<.2	
570				12224	<.01	<.2	
				12225	.01	.4	
580							

Alte	Rock T.	Rock Descriptions	Mineralization, Alteration, Structures	Recovery	Sample Inter	Au	Ag
		[illegible] as above			12225	.01	.4
							2.00
500					12226	.07	
					12227	<.01	.4
		color change to yellow brown	Abundant yellowbrown limonite. Some hematite + abundant chlorite		12228	<.01	.2
600							
605					12229	<.01	<.2
		T.D.			12230	<.01	<.2

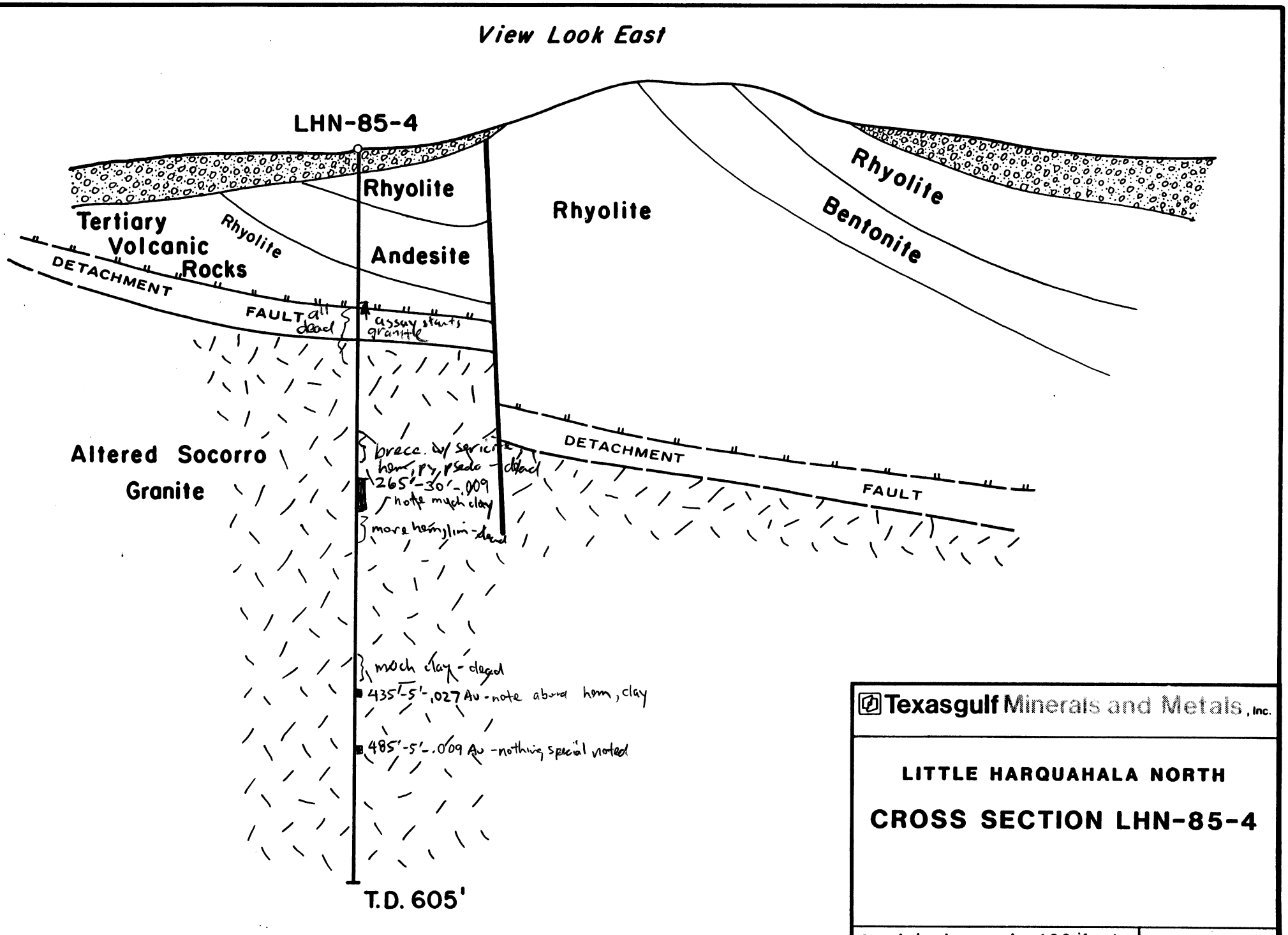

View Look East
LHN-85-4
Tertiary Volcanic Rocks
Rhyolite
Rhyolite
Andesite
Rhyolite
Rhyolite
Bentonite
DETACHMENT
FAULT
all dead
assay starts granite
Altered Socorro Granite
brecc. w/ sericite hem, py, pseudo - dead
265'-30'-.009 note much clay
more hemylim - dead
DETACHMENT
FAULT
much clay - dead
435'-5'-.027 Au - note above hem, clay
485'-5'-.009 Au - nothing special noted
T.D. 605'
Texasgulf Minerals and Metals, Inc.
LITTLE HARQUAHALA NORTH
CROSS SECTION LHN-85-4
Scale: 1 inch equals 100 feet
Data by: C. LANE
Drafted by: Asplund
Oct.21,1985

FIG. 10

42 7x

Feb. Jan 1984

~~H~~ Yuma claims - T4N R14W - Secs. 25
LHS T4N R13W - Secs. 28, 29, 30, 31, 32, 33
- all BLM ground Approx

HV claims ~~FA~~
LHN T5N R12W - Secs. 27, 33, 34, 35
T4N R12W - Secs. 3, 4, 5

13,200' E-W X 10,500' N-S.

7x5.5

600 | 13,200
22
6 | 132
12
12

22 claims E-W
7
154
21
175 claims - Yuma

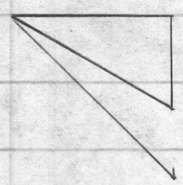
12000' E-W = 8
6000' N-S 10
10

85 claims - HV

.063 2/32 .087 2/1.74 16/14 .103 ↑.3 <.2 .10 ×.3 .3 ↑.3

Little Hang. North

- assume for 84 here in opt., w/ <.005 ~~noted~~ as cutoff for Au and Ag to ND or Trace, start at ~~[illegible]~~ .5oz/T ??



Area of potential here is limited
- steep dip of upper detachment to E (~30°) and faulting bury target deeply

Dip of lower detachment is from 25 to ≥45°

Hole	Depth	Mineraliz. (Au) opt.	Host	Comments
~~LHN-84-1~~	~~T.D.~~			
LHN 84-1	600'	165'-10'-.015	qtzite	brecc. w/ hem qtz vnlts
LHN 84-2	505'			

LHS. — Area —

Concentrate on mineralized zones —
85-5, 84-4 ~~[illegible]~~ 85-5 — zone is mostly below the Soc. gran. in a sliver of metamorphic rocks at high point
- not in groove but along ridge
— from surface mapping see little to predict local erratic behavior of the detachment in subsurface

Area bounded to S. by large fault, downdropping area to the S to uneconomic depths? — by gravity studies

Harquahala S

.021
23
13
2505
4)820
8.0
20

.4 .03
×.41
.012

.041
.010
.009

.041
.010
.009
15' 60

Sergs (A.T. F.A. w/ AA finish
- different detection limits used
84 drill <.003 opt
85 <.01 ppm
- also silver values in 85 drilling much less than in 84 - by order of magnitude

Assaying - all assays in opt for drilling
- how done, by whom
- has lower cut off of <.007 opt Au
- probably conventional fire assay??
- Skyline reports by FA to <.005 opt
AMSELCO & Jacobs report by FA to <.001 opt
- often seen to have high Ag values for some reason?! commonly w/ no Au anomaly!

Not consistent w/ significant figures!

.041 >
.01

~~the~~ via drill logs, mineralized zones do not appear to relate to brecciated zones, ~~or~~ silicified zones, hematite zones or anything diagnostic?

No correlation ~~bet~~ between Au - Ag values generally

Gravity data suggest large fault magnetics inconclusive, not oriented correctly

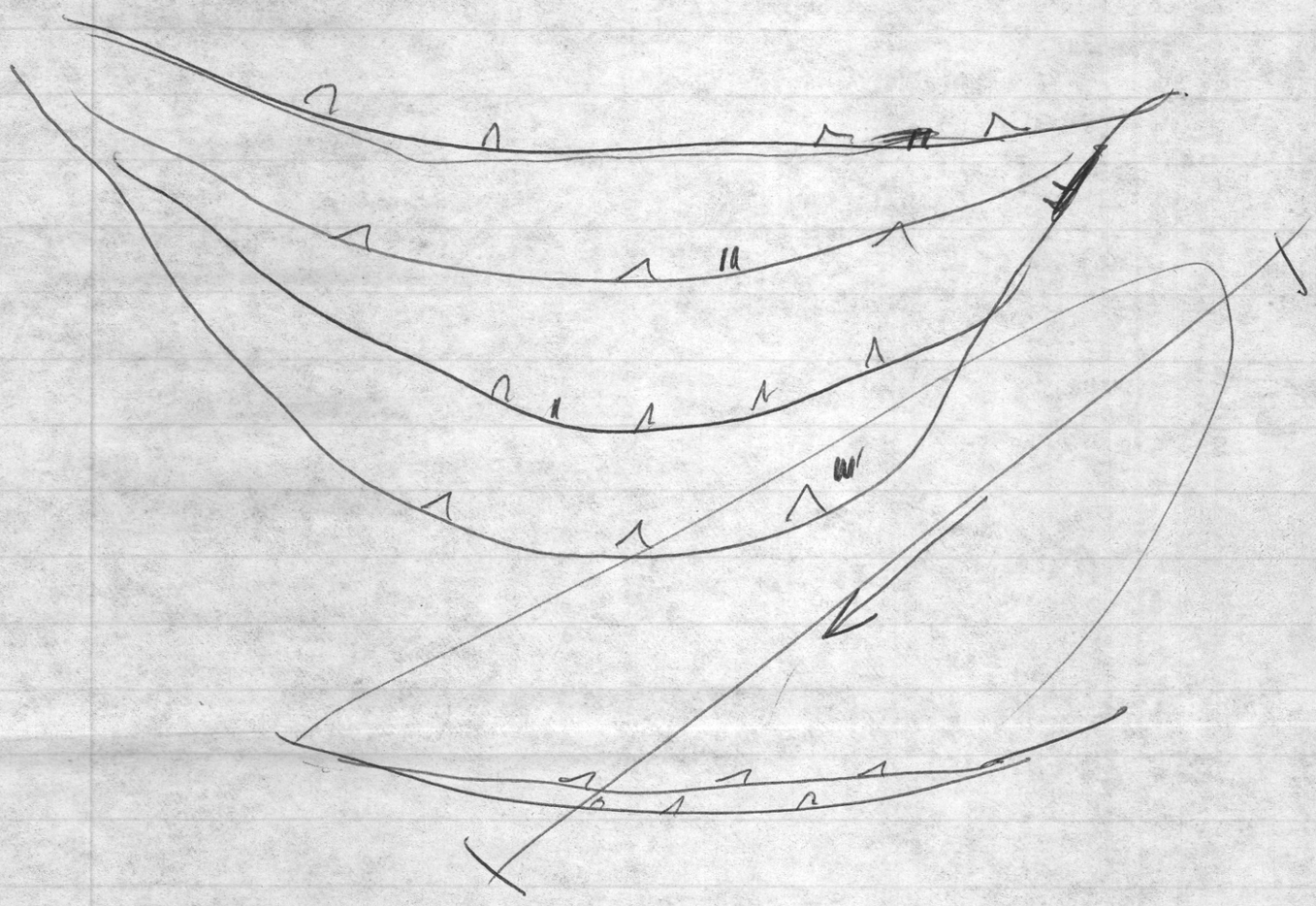
Mineralized holes

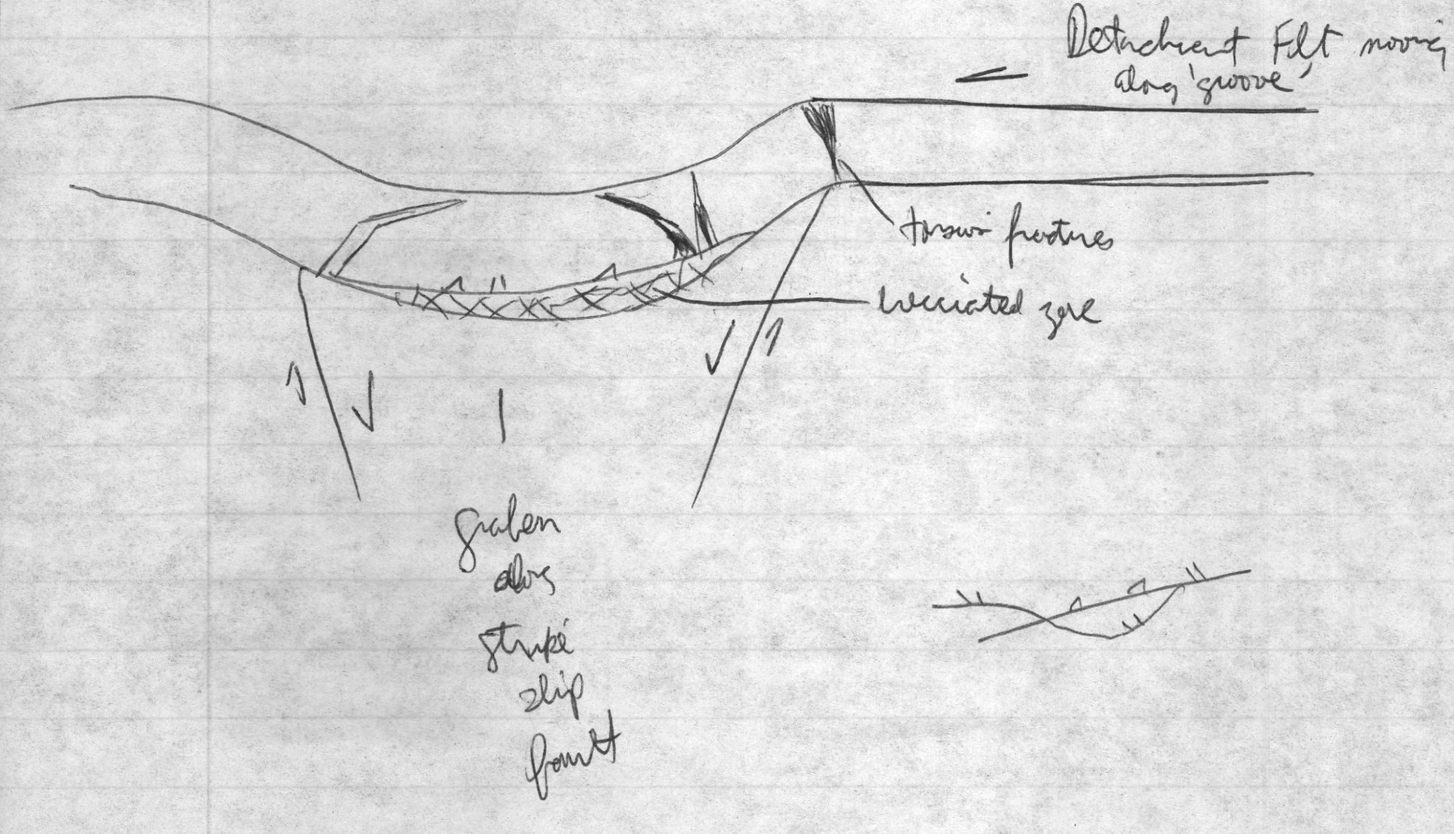
LHS 84-4 15' - .020 opt } granite
20' - .020 opt

LHS 85-5 40' - .030 opt. - metamorphics

Metamorphics are better host than granite?
- metamorphic zone in LHS 85-5 does not outcrop near drill hole - difficult to predict where are, also no real evidence for groove in surface exposures close to where LHS 84-4, 85-5 are, again difficult to predict in map basis.

No info about surface geochem!




Detachment Fault moving along 'groove'
tension fractures
brecciated zone
graben along strike slip fault

Do headings
Work in figures
Do index for all
Testing Procedures

between Socorro Mine on E and to west of Harquahala Mine.

Bill Yanter - 2/11/86 - Area in West Harquahala Mtns.
developed model for ~~the~~ explaining
RR mineralization; hematite w/ pyrite and gold
involves ~~oxidation~~ orig. oxidized, get reduced to
mobilize gold, then oxidize again to fix gold, etc.

Grooves along detachments, grooves seem to localize
better grades of gold - relation to Cu?? -
as per Hedrick & Wilkins

detachments have been localized along earlier thrust
faults
Socorro granite better host because contains biotite, chlorite
which needed for gold dep. model, has anom. gold values,
also, ~~has~~ is brittle, brecciate when push the detachment
plate over a graben - "so-called Mesquite model"

Yuma - 75% by expending to development
class stage - about 50 drill holes
HV claims

best is 25' of .057 Au in Yuma claim area
hole 85-7, I think - speculative ~~results~~ reserves
of 2MM tons of .02 Au

Perry Willard - Tri-Con May, 1985
will arrange to go out and visit props w/ him
(602) 749-2101

Hangmahala Dist

Overshot prop. - NW of Hangmahala Mine -
in upper plate of Hercules Thrust - 2 short holes

Gold Hill West prop. - thrust plate over Pt granite -
- targets are brecc. Bolsa Qtzite in upper plate.
- target along sole of thrust fault - see
- values in thin veins

Sec. 1, T4N, R13W

2 Gold Hill East prop. - shear zone for ~3000' in Pt granite,
see values, needs to be drill tested next,
although nothing really to go on.

Need to get other props. Hangmahala Dist

Blue Ribbon - east of San Marcos, S½ Sec. 1, Sec. 12,
T5N R 12W - similar to San Marcos Mine? -
also see similarities to Gold Hill East.

1 Mollie D - NW end of Big Horn Mtns.
Mn mineralization in NW faults and ~~ict~~ in the listric faults
and in Tert volcs.

Bighorn Dist.

Au is pre-rotation and only in Pt rocks, not associated
w/ Mn.
Hematite stained areas rune around Mollie Davenport Mine -
has good stream sed gold. - Knobe Mine -
Sec. 33, T5N, R9W.

Perry Willard - Tri-Con May, 1985
will arrange to go out and visit props w/ him
(602) 749-2101

Hangmahala Dist

Overshot prop. - NW of Hangmahala Mine -
in upper plate of Hercules Thrust - 2 short holes

Gold Hill West prop. - thrust plate over Pt granite -
- targets are brecc. Bolsa Qtzite in upper plate.
- target along sole of thrust fault - see
- values in thin veins

Sec. 1, T4N, R13W
2 Gold Hill East prop. - shear zone for ~3000' in Pt granite,
some values, needs to be drill tested next,
although nothing really to go on.

Need to get other props Hangmahala Dist

Blue Ribbon - east of San Marcos, S½ Sec. 1, Sec. 12,
T5N R 12W - similar to San Marcos Mine? -
also some similarities to Gold Hill East.

1 Mollie D - NW end of Big Horn Mtns.
Mn minerals in NW faults and ~~ice~~ in the listric faults
and in Tert volcs.

Bighorn Dist.

Au is pre-rotation and only in Pt rocks, not associated
w/ Mn.
Hematite stained areas rune around Mollie Davenport mine -
has good stream sed gold. - Knobe Mine -
Sec. 33, T5N, R9W.

1/7/86 San Marcos - owned by Ted & Anne Hillbrands
12401 S. 130th St., Chandler, AL 85224
- property ~~[illegible]~~ ~~[illegible]~~ leased by ND Resources,
Robison prop. leased by TG and Silver King
for a while.
- nothing else

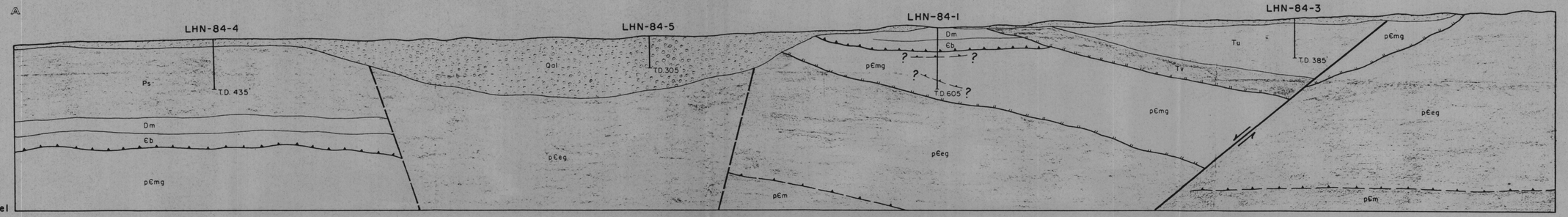
GEOLOGIC MAP OF THE LITTLE HARQUAHALA MOUNTAINS, WEST-CENTRAL ARIZONA

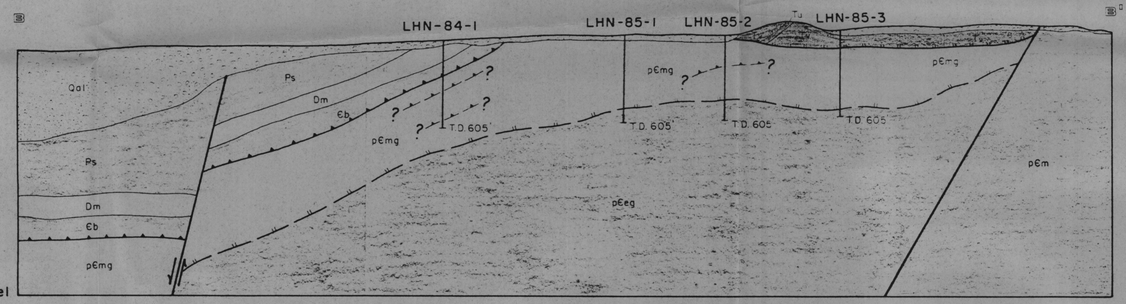
by Jon E. Spencer, Stephen M. Richard, Stephen J. Reynolds

SCALE 1:24,000

SHEET 2 OF 3

ARIZONA BUREAU OF GEOLOGY
AND MINERAL TECHNOLOGY
OPEN-FILE REPORT 85-9





EXPLANATION

QUATERNARY	Qal	Alluvium
TERTIARY		Welded Rhyolite Tuffs
	Tu	Undifferentiated Tuffaceous Sedimentary Rocks
JURASSIC	Jv	Undifferentiated Volcanic Rocks
PERMIAN	Ps	Supai Quartzite
DEVONIAN	Dm	Martin Limestone
CAMBRIAN	Єb	Bolsa Quartzite
PRE-CAMBRAIN	pЄmg	Socorro Megacrystic Granite (usually altered)
	pЄeg	Equigranular Granite (weakly altered to unaltered)
	pЄm	Undifferentiated Metamorphic Rocks

Thrust Fault

Thrust Fault (projected)

Detachment Fault

Detachment Fault (projected)

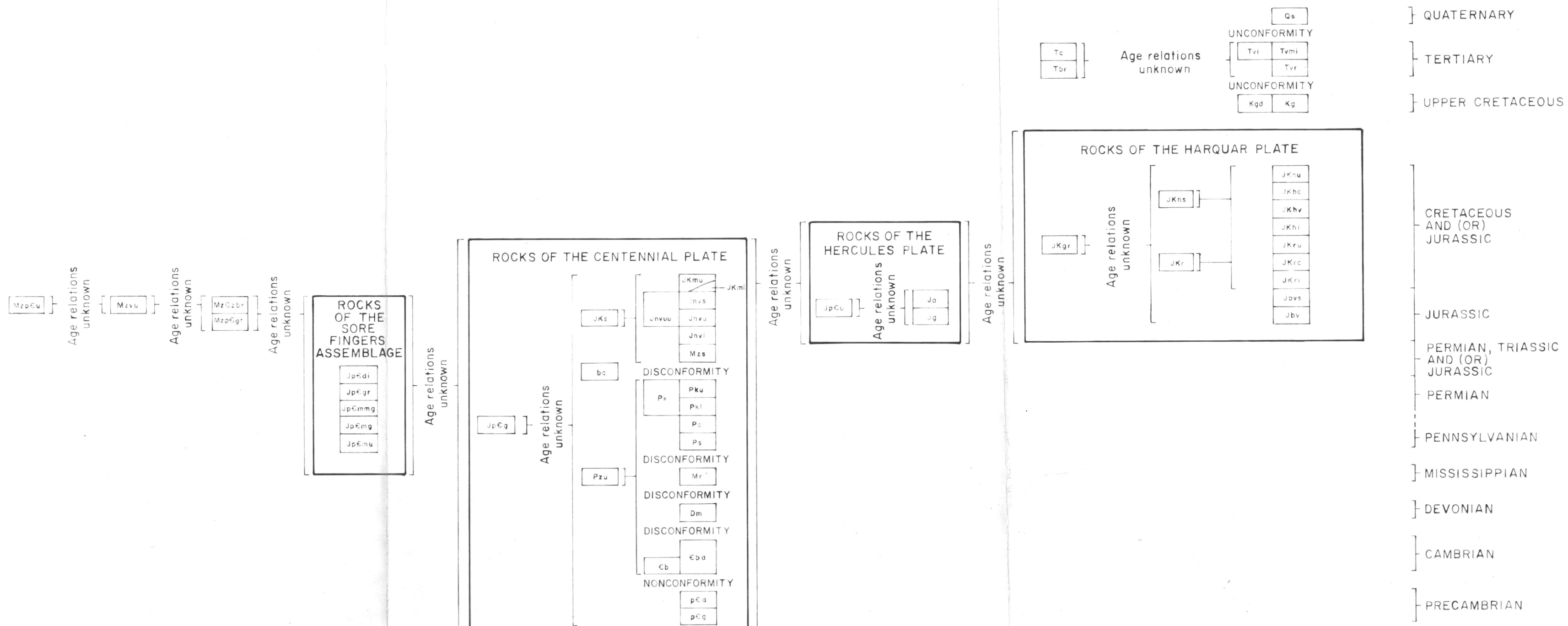
Plate II

Texasgulf
A Division of Texasgulf Inc

LITTLE HARQUAHALA NORTH PROJECT
CROSS SECTIONS

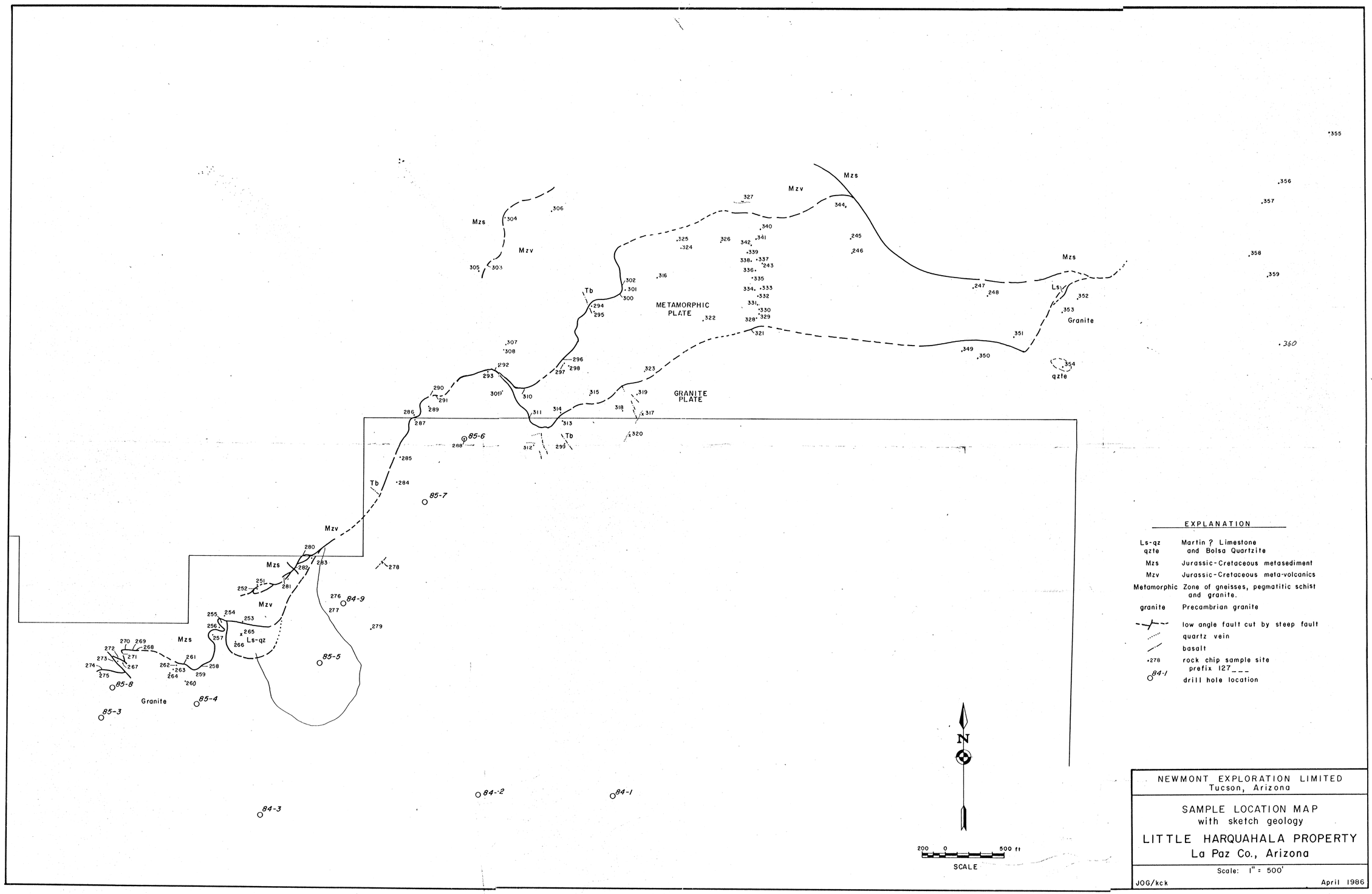
Scale 1 inch equals 500 feet	Data by C. LANE
Drafted by Asplund	Date Oct. 21, 1985

STRATIGRAPHIC CORRELATION DIAGRAM



ARIZONA BUREAU OF GEOLOGY
AND MINERAL TECHNOLOGY
OPEN-FILE REPORT 85-9

SHEET 3 OF 3



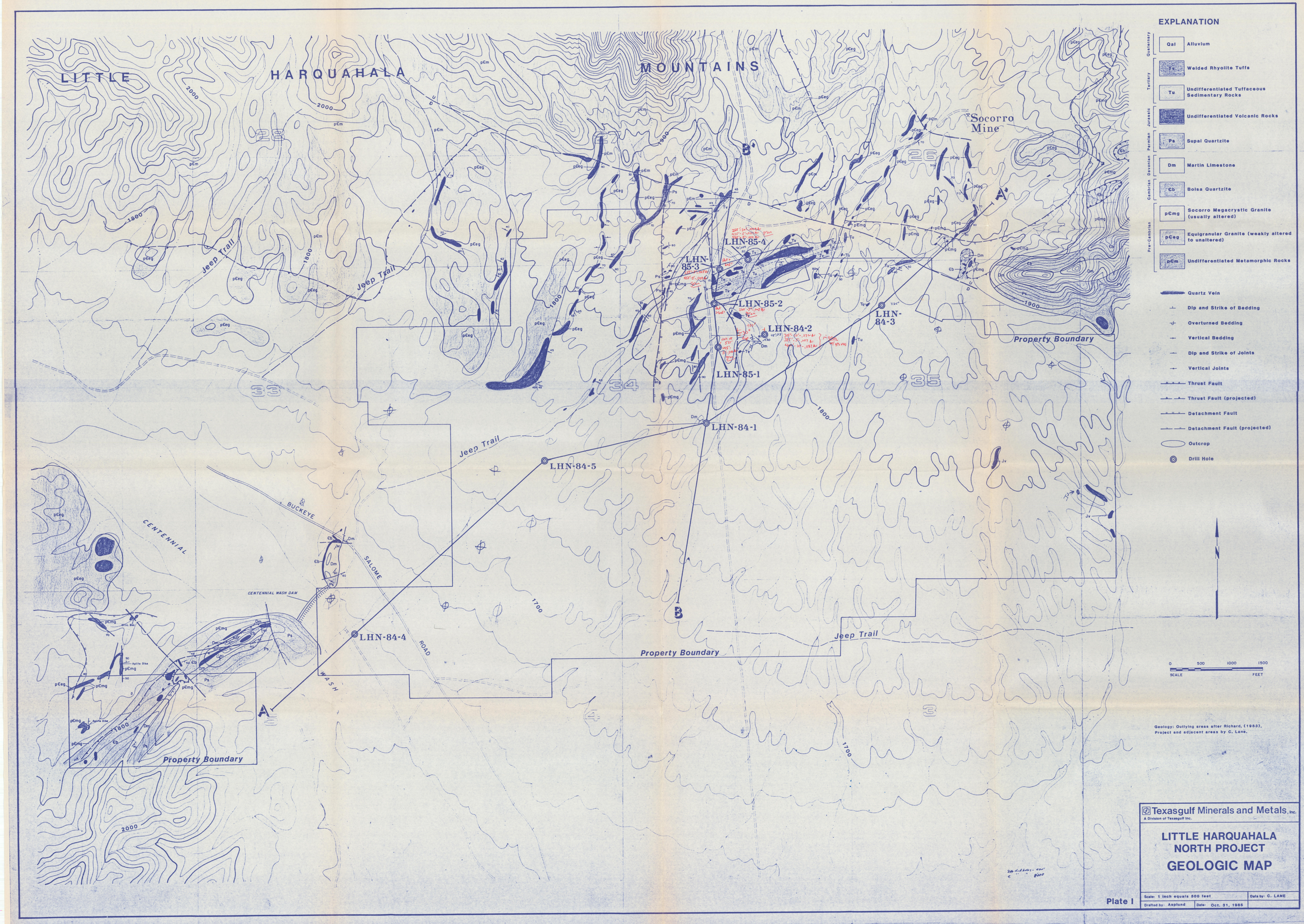
NEWMONT EXPLORATION LIMITED
Tucson, Arizona

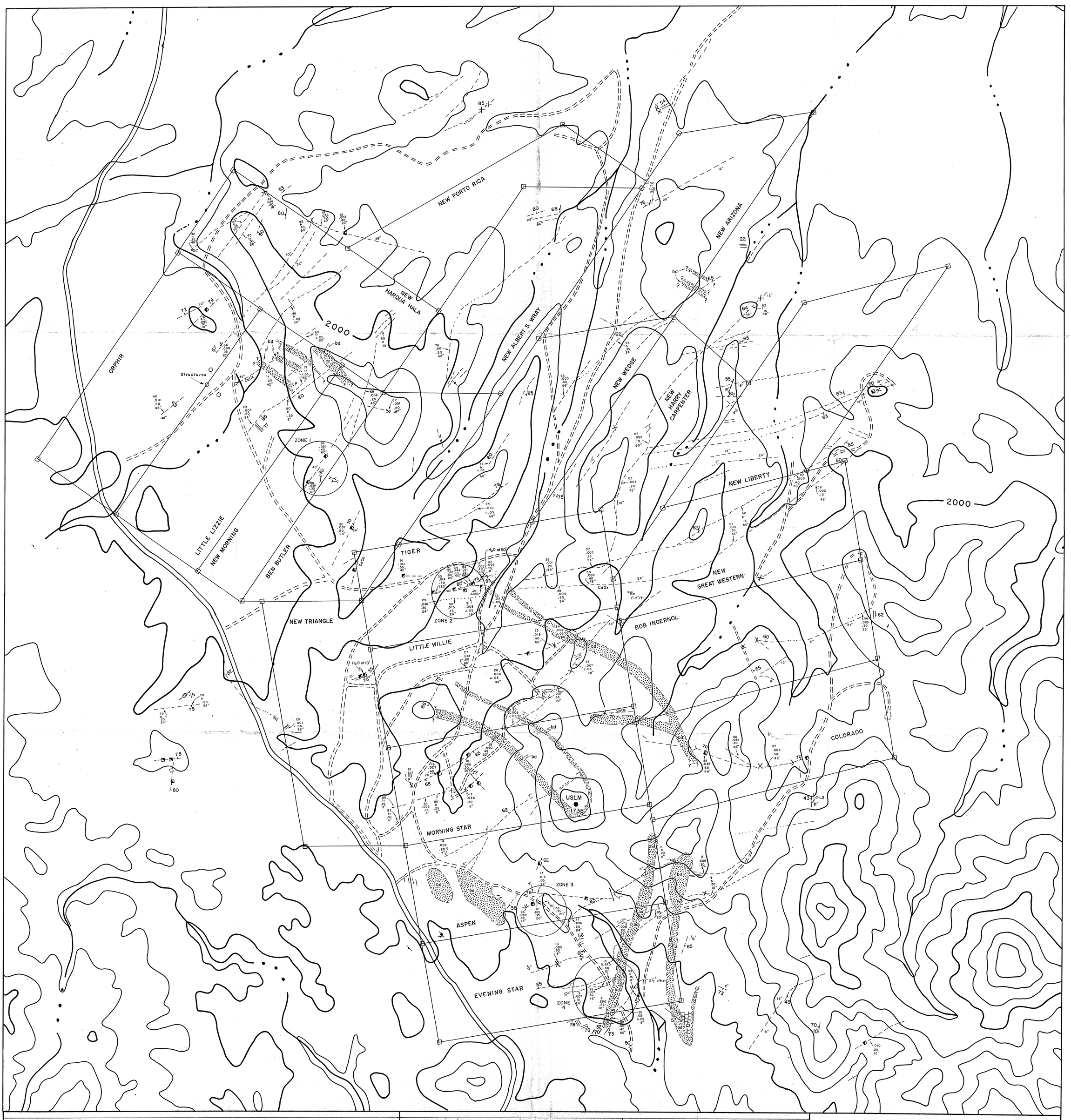
SAMPLE LOCATION MAP
with sketch geology

LITTLE HARQUAHALA PROPERTY
La Paz Co., Arizona

Scale: 1" = 500'

JOG/kck April 1986


LITTLE HARQUAHALA MOUNTAINS
Socorro Mine
Jeep Trail
Property Boundary
LHN-85-4
LHN-85-3
LHN-85-2
LHN-85-1
LHN-84-2
LHN-84-3
LHN-84-1
LHN-84-5
LHN-84-4
BUCKEYE
CENTENNIAL
SALOME
ROAD
WASH
CENTENNIAL WASH DAM
A
A'
B
B'
EXPLANATION
Quaternary
Qal Alluvium
Tertiary
Tv Welded Rhyolite Tuffs
Tu Undifferentiated Tuffaceous Sedimentary Rocks
Jurassic
Jv Undifferentiated Volcanic Rocks
Permian
Ps Supai Quartzite
Devonian
Dm Martin Limestone
Cambrian
Cb Bolsa Quartzite
Pre-Cambrian
pCmg Socorro Megacrystic Granite (usually altered)
pCeg Equigranular Granite (weakly altered to unaltered)
pCm Undifferentiated Metamorphic Rocks
Quartz Vein
Dip and Strike of Bedding
Overturned Bedding
Vertical Bedding
Dip and Strike of Joints
Vertical Joints
Thrust Fault
Thrust Fault (projected)
Detachment Fault
Detachment Fault (projected)
Outcrop
Drill Hole
N
0 500 1000 1500
SCALE FEET
Geology: Outlying areas after Richard, (1983), Project and adjacent areas by C. Lane.
Texasgulf Minerals and Metals, Inc.
A Division of Texasgulf Inc.
LITTLE HARQUAHALA NORTH PROJECT
GEOLOGIC MAP
Scale: 1 inch equals 500 feet
Data by: C. LANE
Drafted by: Asplund
Date: Oct. 31, 1985
Plate I



LEGEND

ROCK TYPES

- pf gn — mixed precambrian gneisses
- bd — basic dike
- LS — calcareous unit

MINERALOGY

- CuOx — copper oxide present

8 — sample number
.570 — oz/ton Au
1.40 — oz/ton Ag
12" — vein width in inches

STRUCTURE

- 85 — quartz vein
- fault
- contact
- road
- basic dike
- shaft
- prospect pit
- 70 — foliation
- 62 — joint
- 70 / 10 — strike, dip, and trend of slickensides
- zone of potential interest

TRUE NORTH — MAGNETIC NORTH 14½°

SCALE: 1"=200'	DATE: APRIL 1982	COMPILED BY: MARK JOHNSON	APPROVED BY: TED H. EYDE	DRAFTING: SUSAN BEEBE

REVISIONS

NO.	DATE	BY	REMARKS

GEOLOGIC AND SAMPLE LOCATION MAP
OF THE
RIO DEL MONTE CLAIM GROUP
YUMA COUNTY, ARIZONA
PREPARED FOR JAMES JACK
BY
GSA RESOURCES, INCORPORATED
BOX 1127 CORTARO ARIZONA 85230