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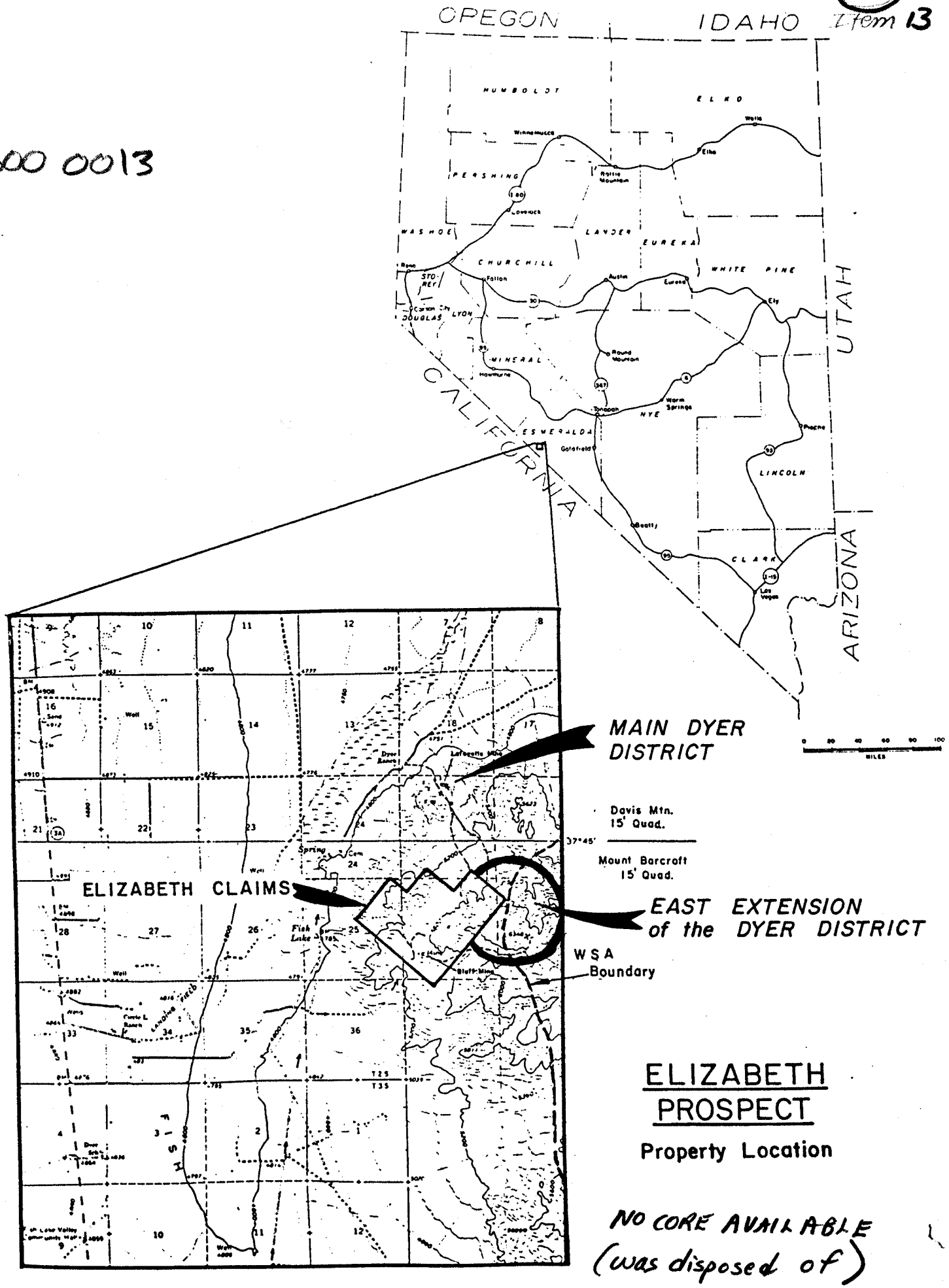
Item 13

1600 0013



ELIZABETH PROSPECT

Property Location

NO CORE AVAILABLE (was disposed of)

LONG LAC MINERALS EXPL. (TEXAS) INC.

DRILL LOG SUMMARY SHEET

PROJECT **Elizabeth**

HOLE NUMBER E-1 TOTAL DEPTH 450' LOGGED BY R.E. Bennett

Date started 7/15/86

Date completed 7/15/86

Initial bearing S 50° E

Initial inclination -50°

Elevation ± 5,490'

Collar coordinates:

N

E

Contractor Lang Exploratory Drilling

Drill Type Reverse Circulation Rotary

Hole Size 0'-10' 6" rotary; 10'-405' 5.5" hammer; 405'-450' 5 1/8" tricone

Comments

DOWN HOLE SURVEY INFORMATION

FROM	TO	SURVEY POINT	INCLI-NATION	BEARING	X (Easting)	Y (Northing)	Z (Elevation)

Item 13

88

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-1 COORD: N

TOTAL DEPTH 450' E

SIZE 5.5" -hammer COLLAR ELEV. ±5,490' START 7/15 FINISH 7/15/86

BEARING S50°E INCLINATION -50°

Page 1 of 9

Geologist RE Bonne IV

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au ppb	ANALYSES Ag ppm
9:15 AM RE 0–1101		fair	Ø	weathered	tan-brn	dry	Overburden = Predom. Paleozoic (Cambrian) sediments float (siltstone/ls.); minor Tert. rhyolite xl.-lithic tuff float/subcrop./Common qtz. vein fragments, some calcite vein fragments.		
1101–1102		fair	Ø	← talus	tan-brn	dry	Bedrock = argillized, poorly welded, crystal-lithic, rhyolite tuff encountered in this interval. Colluvium same as above. 5'-10' cut w/ 6" tricone bit; 10" casing.		
1102–1103		fair	Ø	weathered argillic/silica	white-buff	dry	argillized xl.-lithic, rhyolite tuff. Common qtz. vein chips; minor Pz. sed. chips (prob. contamination from above) Common silicified lithic frag. chip from Twt (= Tertiary welded tuff).		
1103–1104		fair	Ø		white-buff	dry	Same, w/o Pz. contamination		
1104–1105		fair	Ø		green-buff	dry	Same as above		
1105–1106		fair	Ø		white-buff	dry	Same as above		
1106–1107		fair	Ø		green buff	dry	Same as above		
1107–1108		fair	Ø		green buff	dry	Same as above		
✓ 1108–1109		fair	Ø		green buff	dry	Same as above Hg = 0.650 ppm	<5	<.2
1109–1110		fair	Ø		green buff	dry	Same as above		
10:30 AM 1110–50		fair	Ø		(green) buff	dry	Same as above		

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-1 COORD: N

TOTAL DEPTH 450' E

SIZE 5.5" COLLAR ELEV. ±5,490' START 7/15 FINISH 7/15

hammer BEARING S 50°E INCLINATION -50°

Geologist RSB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET	Description	Au oz/t	Ag oz/t
50									
1111		fair	Ø	weathered argillic-silica	white-buff	dry	argillized xl-lithic tuff w/ silicified lithic fragments.		
55									
1112		fair	Ø		white-buff	dry	Same as above.		
60									
1113		fair	Ø		green-white-buff	dry	Predom. small silicified lithic frags.; common clay; common, but subordinate Tuf chips prob. because vy. soft + hammer bit not making chips. Hg = 2.330 ppm.	<5 ppb	<.2 ppm
65									
1114		fair	Ø		white buff	dry	argillized Tuf; common silicified lithic frags.		
70									
1115		fair	Ø		white buff	dry	Same as above.		
75									
1116		fair	Ø		white buff	dry	Same as above.		
80									
1117		fair	Ø		green-white buff	dry	Same as above w/ notable green alteration mineral? (chlorite? epidote? celadonite?) Hg = 0.020 ppm	<5	<.2
85									
1118		fair	Ø		lt. brn	dry	Same w/ hematitic-red fragments	<.0025	<.05
90									
1119		fair	<1%		lt. red brn	dry	Same w/ increase hematitic fragments; some clay w/ locally abund. fresh pyrite. Prob. beginning of Tert./Quaternary post-mineral (gold-base metals) shear zone.	<.0025	0.05
95									
1120		fair	Ø		red brn	dry	Prob. mixed volcanics + clay gouge fr. Pz. seds -- prob. ~~hard~~ fragments from tuff -- hematitic-red Fe-stain. Prob. in Tertiary/Quaternary shear zone between Volcanics + Pz. seds.	<.0025	<.05
100									

Assays ← 11:00 AM

Start Orig.

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-1 COORD: N

TOTAL DEPTH 450' E

SIZE 5.5" hammer COLLAR ELEV. 5,490' START 7/15 FINISH 7/15

BEARING S50°E INCLINATION -50°

Geologist R.E. Bennett

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au %	ANALYSES Ag %
10 0	RC-1121	fair		weathered	red-tan-buff	dry	Common buff white clay + gouge + mainly volcanic component + silicified lithic frags. from tuff -- In shear zone, but not into Pz. seds. Minor hematitic-red Fe-stain	<.0025	0.06
10 5	1122	fair	?		orange tan	dry	Prob. main shear contact between Tert. vol. + Pz. sediments. Common hematitic-red Fe-stain, some limonite, common clay + gouge	<.0025	<.05
11 0	1123	fair	?		red-brown	dry	Predom. weathered +/or altered ~~syenite?~~ / diabase? dike -- fine grd. bleached no qtz. recognized, dk. olive green Fermag.? Common hematitic Fe-stain Sheared cts. between Pz. seds + dike	<.0025	<.05
11 5	1124	fair	?		brown	dry	Dike con't. w/ common milky white trans leucent qtz. vein fragments. Common hematitic-red Fe-stain Prob. same dike as seen in Trench #1 and related to porphyritic basalt flows.	<.0025	<.05
12 0	1125	fair			brown	dry	Same as above. Minor epidote	<.0025	<.05
11:35 AM 12 5	1126	fair			red-brown	dry	dike rx., clay + gouge, possible minor Pz. seds.; Common hematitic-red Fe-stain. Sheared cts. between dike + phyllite	<.0025	<.05
13 0	1127	fair			red-brown	dry	Predom. clay + gouge, some qtz + calcite vein fragments, some weathered phyllitic shale/siltstone fragments. Common hematitic-red Fe-stain.	<.0025	<.05
13 5	1128	fair	?		red-brown	dry	hematitic-red Fe-stained phyllitic shale/siltstone, minor qtz. vein frags. + limonite/goethite Fe-oxides on fractures	<.0025	<.05
14 0	1129	fair			red-brown	dry	Some hematitic-red phyllitic shale/siltstone / Some gouge + clay / Some calcite vein / some qtz. frags. Sheared cts. between phyllite + calcite vein	<.0025	<.05
12:05 AM 14 5	1130	fair			red-brown	dry	Continued main shear cts. between phyllitic shale siltstone + calcite vein Less hematite stain some clay--abun. gouge.	<.0025	<.05
15 0									

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-1 COORD: N

TOTAL DEPTH 450' E

SIZE 5.5" COLLAR ELEV. ±5,490' START 7/15 FINISH 7/15

BEARING S50E INCLINATION -50°

Page 4 of 9

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET	DESCRIPTION	Au oz/t	Ag oz/t	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
15 0							Some gouge, qtz. vein fragments; Common clean, fine-to medium grained crystalline calcite vein -- shear ctc. w/ calcite vein in this interval.	<.0025	<.05	60	1	1	1	1	1
15 5		Fair	?	Weathered	tan-buff	dry									
1132		Fair	?	tr. fresh rx.	white	dry	Calcite vein -- tr. hematite Fe-stain calcite locally pinkish, white, or nearly transparent, + fine to medium crystalline. Note vy. fine rusty specks possibly after Fe-oxide? or Fe sulfide?	<.0025	<.05	40	<.2	8	4	26	4
16 0															
1133		Fair			white	dry	Same as above	<.0025	<.05	<5	1	1	1	1	1
12:50 PM 16 5															
1134		Very Poor			white	dry	Same vein more coarsely xln. + translucent	<.0025	<.05	<5	1	1	1	1	1
17 0															
1135		Very Poor	1-2 %?	tr. oxidized	white	dry	Minor calcite vein, Mostly fresh to locally weakly oxidized, weakly calcareous siltstone, locally micaceous, pyritic + possible sphalerite?	0.0026	<.05	100	0.4	180	14	270	8
17 5															
1136		Poor	≤1%?	partly oxidized	lt. gray	dry	±50% partly oxidized ±50% fresh micaceous meta-siltstone -- Note common greenish color of fresh sulfidic chips; Common white qtz. vein chips; Minor calcite vein; Common pyrite, minor limonite (where oxidized), pos. sphalerite	0.0036	<.05	110	0.7	189	16	565	12
18 0															
1137		Poor	<1%	partly oxidized	lt. gray	dry	increase oxidation of same rx., some pyrite clots or grain masses but overall pos. less sulfide content.	0.0029	<.05	100	0.6	286	9	980	41
18 5															
1138		Poor	±3-5%	tr. oxidized	gray	dry	Mainly white pyritic qtz. vein frags. Minor greenish meta-siltstone, prob. Fe-rich sphalerite?	0.0034	<.05	140	0.9	240	13	5,200	37
19 0															
1139		Poor	±3-5%	tr. oxidized	gray	dry	Predom. greenish metasiltstone. Common qtz. vein fragments; Common pyrite, prob. sphalerite, possible chalcopyrite.	0.0070	<.05	300	1.4	720	10	4,400	24
19 5															
1140		Poor	±3-5%	partly oxidized	gray buff	dry	Same as above								
20 0							GD Resources 2nd split 2ATFA 0.010 oz/t Au	0.0087	<.05	220	1.1	352	15	4110	31

GSI Bondar-Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-1 COORD: N

TOTAL DEPTH 450' E

SIZE 5.5" COLLAR ELEV. ± 5,490 START 7/15 FINISH 7/15

BEARING S50°E INCLINATION -50°

Geologist RE Bennett

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		Au oz/t	Ag oz/t	Au ppb	As ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
20 0															
1141		Poor	3-5%?	mostly oxidized	gray buff	dry	Same as above	<.0025	<.05	340	0.6	595	8	3,150	46
20 5															
1142		Poor	3-5%	mostly oxidiz.	gray	dry	Same as above	<.0025	<.05	95	0.6	480	12	770	20
21 0															
1143		Poor	± 1%?	mostly fresh	gray	dry	Prob. 50% or more qtz. vein fragments w/ green gray meta-siltstone. Pyrite, chalcopyrite, sphalerite?, silver-blue metallic? (specularite? molybdenite?)	<.0025	<.05	10	0.3	260	8	2,400	42
21 5															
1144		Poor	<1%	mostly fresh	lt. gray	dry	Predom. green-gray metasiltstone; some qtz. vein material; prob. same sulfide species as above, in same proportions as above, but much decrease quantities.	<.0025	<.05	10	0.2	240	9	270	13
220															
1145		Poor	1-3%	mostly fresh	gray	dry	Common qtz. vein chips, green gray siltstone; prob. chalcopyrite + sphalerite, + oblend. pyrite, silver-blue metallic present; tr. green Cu-stain on oxidized sulfide grains.	<.0025	<.05	55	0.7	570	8	500	61
225															
1146		Poor	≤1%	mostly fresh	lt. gray	dry	Mostly green-gray meta-siltstone	<.0025	<.05	25	<.2	136	10	148	9
230															
1147		Poor	1-2%?	partly oxidiz.	lt. gray buff	dry	Same as above (slightly more oxidized + qtz. vein content.	0.0030	<.05	120	0.2	146	8	148	25
235															
1148		Poor	1-2%	partly oxid.	lt. gray buff	dry	Same as above.	<.0025	<.05	95	0.4	123	10	295	26
240															
1149		Poor	± 1%	mostly fresh	gray	dry	Same but metasiltstone is darker due to biotite? content less sulfides	<.0025	<.05	60	0.3	200	7	140	12
245															
1150		Poor	2-4%?	mostly fresh	gray	dry	30-50%? white qtz. vein fragments, green-gray siltstone w/ common pyrite w/ prob. minor sphalerite + chalcopyrite	0.0055	0.09	190	0.8	370	290	420	85
250															

GSI Bondar-Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-1 COORD: N

TOTAL DEPTH 450' E

SIZE 5.5" COLLAR ELEV. ±5,490 START 7/15 FINISH 7/15

BEARING 550°E INCLINATION -50°

Geologist RSB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au %	Ag %	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
25 0															
✓ RC-1151		Fair	±1%?	mostly fresh	gray	dry	Predom. gray-green meta-siltstone w/ common disseml. pyrite, etc.; Some qtz. vein frags.	0.0026	<.05	75	0.4	200	14	103	25
25 5															
✓ 1152		Fair	±1%?	mostly fresh	gray	dry	Predom. qtz. vein chips w/ subordinate gray-green meta-siltstone, Common pyrite.	0.0029	<.05	95	0.7	200	9	310	38
26 0															
✓ 1153		Fair	±1%?	mostly fresh	gray	dry	gray-white + green metasiltstone + some phyllitic shale some qtz. veining + calcite veining	<.0025	<.05	85	0.6	260	12	750	205
26 5															
✓ 1154		Fair	≤1%	partly oxidiz.	gray	dry	Predom. gray-green to brown (oxidized) metasiltstone	0.0030	<.05	140	0.7	160	10	308	64
27 0															
✓ 1155		Fair	<1%	partly oxid.	lt. gray	dry	Predom. oxidiz. metasiltstone common calcite vein frags. Beginning of upper, eastern structural zone	0.0025	<.05	110	0.4	115	9	560	34
27 5															
✓ 1156		Fair	<1%	partly oxid.	buff white	dry	Mostly calcite vein fragments + oxidized siltstone chips.	<.0025	<.05	100	0.2	64	8	148	17
28 0															
✓ 1157		Fair	<1%	partly oxid.	buff	dry	Predom. qtz(?) calcite vein chips w/ some oxidized siltstone fragments, Some fresh pyritic vein chips. Prob. sphalerite? (reddish-dk. Fe-rich variety)	<.0025	<.05	80	0.2	81	7	250	24
28 5															
✓ 1158		Fair	<1%	partly oxid.	lt. gray buff	dry	Predom. altered + oxidized siltstone frags. Common calcite vein frags. Common sulfidic vein and (?) siltstone chips (pyrite + pos. some sphalerite.)	0.0065	<.05	240	0.5	302	20	548	67
29 0															
✓ 1159		Fair	<1%	partly oxid.	lt. gray	dry	Abundant qtz. vein frags. Common calcite vein frags, Some meta-siltstone frags. Some sulfidic vein chips generally oxidized (pyrite >> pos. sphalerite)	0.0037	<.05	110	0.6	177	15	1,060	71
29 5															
1160		Fair	±1%	partly oxid.	buff	dry	Predom. wkly. Fe-stained meta-siltstone, minor limonite after sulfides. Minor qtz/calcite vein chips	<.0025	<.05	35	0.2	205	14	700	51
30 0															

GSI Bondar-Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-1 COORD: N

TOTAL DEPTH 450' E

SIZE 5.5" hammer COLLAR ELEV. ±5,490' START 7/15 FINISH 7/15

BEARING S50°E INCLINATION -50°

Page 7 of 9

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET	DESCRIPTION	Au oz/t	Ag oz/t	Pb ppm	As ppm	Cu ppm	Sb ppm	Zn ppm	Mo ppm
300–305		fair	<1%	partly oxidiz.	Buff	dry	Predom. metasiltstone, common calcite vein chips. Siltstone chips partly oxidized but not particularly altered or mineralized. Minor pyrite + tr. pos. sphalerite?	<.0025	<.05	25	0.2	97	12	304	35
305–310		fair	<1%	fresh	white (gray)	dry	Calcite marble -- med. grained crystalline gray-white calcite w/ minor Fe-stain + some fresh pyrite + chalcopyrite (w/ green Cu-stain where oxidized). Could be a calcite vein??	<.0025	<.05	—	<.2	22	13	520	12
310–315		fair	tr.	fresh	gray-white	dry	Same as above	<.0025	<.05	—	<.2	9	9	156	17
315–320		fair	<1%	wkly. oxidiz.	lt. gray buff	dry	Predom. dk. gray to lt. gray-white recrystallized marble w/ minor siltstone frags. (pos. interbeds?) Pos. significant?? sphalerite, some pyrite	<.0025	<.05	20	<.2	66	7	115	24
320–325		fair	<1%	partly oxidiz.	lt. gray buff	dry	Same as above	<.0025	<.05	35	<.2	103	17	550	39
325–330		fair	<1%	wkly. oxidiz.	(gray) buff	dry	Predom. meta-siltstone + white qtz. vein fragments. One clay ball?? Some white siliceous grains w/ fresh biotite flakes? dike rock? Some pyrite, some pos. sphal., some silver-blue metallic.	<.0025	<.05	55	0.3	92	11	840	34
330–335		fair	≤1%	partly oxidiz.	gray brwn	dry	Predom. siltstone, common qtz. vein frags. sulfidic w/ pyrite, chalcopyrite, prob. sphalerite, + tr. silver-blue metallic.	<.0025	<.05	25	0.2	220	14	450	65
335–340		fair	≤1%	fresh	lt. gray	dry	Abun. qtz. vein frags. + fresh metasiltstone frags. Some pyrite, sphalerite, chalcopyrite, + silver-blue sulfide.	<.0025	<.05	10	0.3	148	12	1,810	124
340–345		fair	≤1%?	tr. oxidized	gray	dry	Predom. gray-brwn, greenish micaceous meta-siltstone, some qtz. vein frags + calcite frags., some sulfides obs.	<.0025	<.05	15	0.3	210	12	870	80
345–350		fair	<1%	tr. oxidiz.	gray	dry	Same as above	<.0025	0.06	10	0.9	240	29	740	69

GSI — Bondar-Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-1 COORD: N

TOTAL DEPTH 450' E

SIZE 5.5" COLLAR ELEV. ±5490 START 7/15 FINISH 7/15

BEARING S50°E INCLINATION -50°

Page 8 of 9

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au o/t	Ag o/t	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
350	3061	fair	≤1%	tr. oxidized	gray	dry	Predom. rel. fresh micaceous gray-green metasiltstone, Some qtz. veining + calcite veining. Common fine-grnd pyrite + pos. sphal.	<.0025	<.05	<5	<.2	280	7	150	18
355	3062	fair	≤1%	partly oxid.	gray	dry	Same as above; more vein fragments, pyrite + chalcopyrite + green Cu-stain where oxidized; pos. sphal.	<.0025	<.05	5	0.2	340	8	245	49
360	3063	fair	≤1%	partly oxidized	lt. gray	dry	Abundant qtz. vein chips, some metasiltstone chips	<.0025	<.05	-	-	131	9	960	100
3:30 PM 365	3064	fair	≤1%	partly oxidiz.	lt. gray	dry	Predom. siltstone + abundant qtz. vein frags.; pyrite + pos. sphal.	<.0025	<.05	-	-	121	21	560	7
370	3065	fair	≤1% tr.	wkly. oxid.	lt. gray	dry	Predom. siltstone w/ abund. carbonate chips which may be recrystallized bedded ls. +/or pos. calcite veining. Minor qtz. vein chips. Vy. minor pyrite + sphal?	<.0025	<.05	-	-	99	14	108	35
375	3066	fair	≤1%	tr. oxidiz.	gray	dry	Predom. wkly pyritic, micaceous gray-white-green metasiltstone, minor qtz. + carbonate chips.	<.0025	<.05	-	-	209	11	112	37
380	3067	fair	<1%	partly oxid.	buff-gray	dry	Predom. partly oxidized metasiltstone, Some qtz. veinlets.	<.0025	<.05	-	-	186	7	240	86
3:50 PM 385	3068	Vy. Poor	<1%	partly oxid.	buff?	dry	Lost circulation Mixed bag vy. fine chips, Siltstone >> qtz. + calcite vein chips. Possible structural zone?	<.0025	<.05	-	-	152	18	214	52
390	No sample (3069)	No	?	?	?	dry		No Sample	No Sample						
395	RC-3070	Vy. Poor	tr. <1%	Partly oxid.	buff	dry	Predom. partly oxidized siltstone, Some qtz + calcite vein frags.	<.0025	<.05	<5	<.2	121	20	222	44
400															

GSI Bondar-Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-1 COORD: N

TOTAL DEPTH E

SIZE 5/8 COLLAR ELEV. ±5490' START 7/15 FINISH 7/15

tricone BEARING S50°E INCLINATION -50°

Page 9 of 9

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au o/t	Ag o/t	As ppb	Hg ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
40		? No	?	?	?	dry	400'-405' Void or very broken rocks, "last 2-3' felt like nothing there." Decision to trip rods + go to tricone bit to cut out interchange above hammer; attempt to recover sample. Last circulation No Sample	No Sample	No Sample						
40.5	3072	fair	tr.	mostly oxidiz.	tan	dry	(Sample prob. contaminated while tripping rods Not blown clean since part of last 5' may still be in hole). Rx. similar to 395'-400' ≈ siltstone (oxidized), qtz. + calcite vein frags. minor sulfides. Some gypsum	<.0025	<.05						
41	3073	good	tr.	partly oxid.	dk. gray	dry	Same as above; (less oxidized). silver-blue metallic (specularite?, moly?)	<.0025	<.05	<5	<.2	154	7	164	45
41.5	3074	good	tr.-1%	partly oxid.	buff white	dry	Common qtz. vein frags., metasiltstone wk. pyrite	<.0025	0.06						
42	3075	good	tr.	partly oxid.	gray buff	dry	Same as above.	<.0025	<.05						
42.5	3076	good	tr.	partly oxid.	gray buff	dry	Mixed siltstone + xln. calcite beds? and/or veins.?	<.0025	<.05						
43	3077	good	?	partly oxid.	buff white	dry	Predom. calcite vein (+/or ls.?? frags.) Note fn.-gnd. black opaque mineral of unknown ident. second split GD Resources 2ATFA = 0.004 o/t	0.0125	0.07	22	<.2	34	17	171	13
43.5	3078	good	Ø	tr. oxid.	(gray) white	dry	the last 15' of E-1 was thought to be massive recrystallized ls. obs. in qtz above vein at south end of structure, but in detailed examination the calcite appears similar to massive vein material	<.0025	0.11						
44	3079	good	Ø	wkly. oxid.	(gray) white	dry	Positive Id. uncertain - prob. should have deepened hole! to test for a footwall contact?	<.0025	<.05						
44.5	3080	good	Ø	wkly. oxid.	(gray) white	dry	fine blk. specks look like dissem. biotite (in calcite?) or limonite after pyrite (one cubic x'l. observed)	<.0025	<.05						
45															

GSI Bondar-Clegg

196

LONG LAC MINERALS EXPL. (TEXAS) INC.

DRILL LOG SUMMARY SHEET

PROJECT *Elizabeth*

HOLE NUMBER E-2 TOTAL DEPTH 460' LOGGED BY REB

Date started 7/16/86

Date completed 7/16/86

Initial bearing 550°E

Initial inclination -55°

Elevation ±5,541 ft.

Collar coordinates:

N

E

Contractor Lang Exploritory Drilling

Drill Type Reverse Circ. Rotary

Hole Size 5 1/4" Hammer/Tricone

Comments

DOWN HOLE SURVEY INFORMATION

FROM	TO	SURVEY POINT	INCLI-NATION	BEARING	X (Easting)	Y (Northing)	Z (Elevation)

Item 13

(88)

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-2 COORD: N

TOTAL DEPTH 460' E

SIZE 5¼ COLLAR ELEV. START 7/16 FINISH 7/16/86

tricone BEARING S50°E INCLINATION -55°

Page 1 of 10

Geologist RE Bennett

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET	Description	ANALYSES Au oz/t	Ag oz/t
0							0' to ±7-8': Overburden		
RC 1161		Fair	Ø	Sil, prop, trg.	red-brn	dry	Mixed Paleozoic sediment and Tertiary volcanic (Rhyolite crystal lithic tuff) fragments. Some qtz. vein fragments. Rx. show weak alteration -- silicification, tr. epidote (propylitic? alteration) in tuff fragments, and moderate hematitic-red Fe-staining.		
7:10 AM									
1162		Fair	Ø	Sil.	buff (red-brn)	dry			
							6" Casing set to 10'		
10							8' to : Twt, Tertiary, poorly welded, crystal lithic tuff, weak argillic/propylitic? alteration, Some translucent to white opaline and/or qtz. veinlet fragments. Some silicified Paleozoic(?) sediment lithic fragments in tuff. Minor hematitic-red Fe-staining. Minor Paleozoic sediments fragments probably from colluvial overburden zone.		
1163		Fair	Ø	wkarg./prop.	buff	dry			
15									
1164		Fair	Ø		buff	dry			
20									
1165		Fair	Ø		pink-buff	dry	Common fine gnd., disseminated hematite specks in tuff frags. (oxidized to red earthy? hematite?) - prob. from orig. fine gnd., disseminated specularite?		
25									
1166		Fair	Ø		buff	dry	10'-35' 5½" hammer bit.		
30									
1167		Fair	Ø		buff-pink	dry			
35							— Pulled rods switched to tricone bit. (5¼")		
1168		good	Ø		buff	dry	Possible increase in white clay content		
40									
1169		good	Ø		green buff	dry			
45									
1170		good	Ø		buff	dry			
50									

Strongly weathered

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-2 COORD: N

TOTAL DEPTH 460 E

SIZE 5 1/4 COLLAR ELEV. START 7/16 FINISH 7/16

BEARING S50°E INCLINATION -55°

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au ppb	ANALYSES Ag ppm
50							Tuf, -(continued) less hematite		
RC-1171		Good	Ø	wk arg, prop? 5%	white buff	dry			
55							Abundant silicified lithic frags.		
1172		good	Ø		white buff	dry			
60									
1173		good	Ø		white buff	dry			
65									
1174		good	Ø		pink-buff	dry	Hg = 2.400 ppm	<5	1.2
70									
1175		good	Ø		green-buff	dry			
75									
1176		good	Ø		buff pink	dry			
8:40 AM 80									
1177		good	Ø		buff	dry	Hg = 0.230 ppm	5	1.2
85									
1178		good	Ø		buff	dry			
90									
1179		good	Ø		green buff	dry	Abundant siliceous lithic fragments. Common white clay. Hg = 0.130 ppm	<5	1.2
95									
RC-1180		good	Ø		green buff	dry			
100									

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-2 COORD: N ____ E ____

TOTAL DEPTH 460

SIZE 5 1/4 COLLAR ELEV. ____ START 7/16 FINISH 7/16/86

BEARING S 50° E INCLINATION -55°

Page 3 of 10

Geologist RE B

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET	Twt: (continued)	Au %	Ag %
100									
RC-1181		good	Ø	Wk. arg./prop. sil.?	buff	dry	Common clay		
105									
1182		good	Ø		buff-tan	dry	Common grass-green clay mineral? occurs as greenish discolored areas in Twt chips (celadonite?)		
110									
1183		good	Ø		tan-buff	dry	Hg = 0.255 ppm	<5 ppb	<.2 ppm
115									
1184		good	Ø		buff-tan	dry	Common clay		
9:00 AM 120									
1185		good	Ø?		green-buff-tan	dry	Minor green clay mineral, some rusty specks - possible weathered + oxidized sulfide?? (and/or Fe-rich biotite??) Hg = 0.260 ppm	<5	<.2
125									
1186		good	Ø		green-buff	dry	Twt		
130									
1187		good	Ø		tan-buff	dry	Abundant white clay, increase hematitic-red Fe-stain, beginning of post-min. shear influence.	<.0025	<.05
135									
1188		good	Ø	hematite	red.brwn-buff	dry	Twt: Abundant oxidized specularite? Abundant hematitic-red Fe-stain	<.0025	<.05
9:25 AM 140									
1189		good	Ø	hematite	tan-buff	dry	Altered Twt: Abund. lithic frags.? Abundant hematitic red Fe-stain + possible partly oxidized specularite?	<.0025	<.05
Strongly weathered 145									
RC-1190??		good	Ø		tan-buff	dry		<.0025	<.05
150									

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-2 COORD: N

TOTAL DEPTH 460 E

SIZE 5 1/4" COLLAR ELEV. START 7/16 FINISH 7/16

BEARING S50°E INCLINATION -55°

Page 4 of 10

Geologist R.E. Bennett

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t	Ag oz/t	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
150															
RC-1190 ??		good	Ø		tan-buff	dry	Note sample inconsistancy here -- finished a rod (ie to 160') but sample interval in bags + vials shows only to 155' -- Probably drilled through two intervals here (ie 10') instead of 5' on this rod? or before?? Note no	<.0025	<.05						
155															
1191		good	Ø		brwn-red	dry	sample 1200 because of mix up! Sample 1191 through 1199 advanced 5' -- Problem corrected from 200'-205'. Mixup probably between 140'+160'.	<.0025	<.05						
160							150+ Phyllitic shale -- hematitic-red Fe-stained, + common clay -- sheared etc.								
1192		good	Ø		brwn-red	dry	between Tuff and Paleozoic seds at ± 150'. Minor white bull qtz. vein fragments minor specularite(?).	<.0025	<.05						
165															
1193		good	Ø		brwn-red	dry	As above	<.0025	<.05						
170															
1194		good	Ø		red-brwn	dry	Common red-brwn clay, phyllitic shale + siltstone rx. maybe more sheared in this interval.	<.0025	<.05						
175															
1195		good	Ø		red-brwn	dry	As above, minor calcite veining	<.0025	<.05						
180															
1196		good	Ø		brwn-red & brwn	dry	Mostly phyllite, vy. minor vol. frags. which prob. are contamination from above. Common hematitic-red Fe-stain, minor qtz. veining + some prob. specularite.	<.0025	<.05						
185															
1197		good	Ø		brwn-red	dry	Some phyllite + siltstone, abundant clay, some calcite veins, some gypsum	<.0025	<.05						
190															
1198		good	Ø		brwn-red-brwn	dry		<.0025	<.05						
195															
RC-1199		good	Ø		tan-buff	dry	Broken phyllite + siltstone, some limonite possibly after pyrite. Common white calcite veining + main vein prob. hit in last 1-2' of this interval. Prob. noted w/ rod + sample inconsistency! All samples moved ahead 5' from 145' -- Prob. 10' section drilled in the interval 140'-160'; 5' sample missed, but included in a 10' run.	0.0032	<.05	90	0.2	59	11	131	7
200															

Weathered

Weakly weathered

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-2 COORD: N

TOTAL DEPTH 460' E

SIZE 5 1/4 COLLAR ELEV. START 7/16 FINISH 7/16

BEARING S50°E INCLINATION -55°SE

Geologist K.E. Bennett

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		Au oz/t	Ag oz/t	Pb ppm	As ppm	Cu ppm	Sb ppm	Zn ppm	Mo ppm
200 RC 1201		good	Ø	calcite vein	white	dry	Primarily white to pinkish-white calcite vein -- mainly fine-grd. crystalline + "opaque" white w/ minor transparent sh. calcite. Some hangingwall fragments (prob. contamination this).	<.0025	0.07	5	0.5	5	3	10	2
205 1202		good	Ø		white	dry	Calcite vein, increased percentage of clear (transparent) calcite. Common pinkish coloration. Clear calcite w/ well-developed cleavage + white is fine-grnd. granular.	<.0025	<.05						
210 1203		good	Ø		white	dry	Same, pos. tr. specularite +/or pyrite?	<.0025	<.05						
215 1204		good	Ø		white	dry	Primarily calcite as above tr. discolored breccia frags. (mainly calcite) maybe approach of footwall or contam. from above or structure w/in vein.	<.0025	<.05						
220 1205		good	? Ø ?		buff-gray	dry	Interfault recrystallized Paleozoic sediments locally calcareous + generally soft, fine-grnd. + foliated prob. minor specularite, + pos. tr. oxidized pyrite? Common white bull qtz. frags.	<.0025	<.05						
225 1206		good	tr.		buff-gray	dry	As above; one frag. obs. w/ common fresh pyrite.	<.0025	0.07						
230 1207		good	? Ø ?		buff	dry	Same as above	<.0025	0.06						
235 1208		good	tr.		buff	dry	Same as above increase fresh sulfide (prob. all pyrite) some limonite prob. after pyrite. prob. still less than 1% total orig. sulfides. Some calcite veinlets. Some pink calcite vein frags. (lg. veins)	0.0030	<.05	85	0.4	93	11	94	22
240 1209		good	tr.		buff-gray	dry	Same as above, prob. increase in sulfide again -- gray fresh chips have abund. fine-grnd pyrite (?) but overall sulfide content <1%	<.0025	<.05	120	0.4	55	13	143	28
245 RC-1210		good	2-3%?		gray-buff	dry	Only locally oxidized presumably on fractures. Numerous fragments w/ abundant sulfides perhaps 2% to 3% overall. Note blue-green coloration in chips -- alteration?	0.0031	<.05	90	0.2	197	10	273	14
250															

partly oxidized

partly oxidized

more strongly oxidized

partly oxidized

ANALYSES

GSI Bondar-Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-2 COORD: N

TOTAL DEPTH 460' E

SIZE 5 1/4 COLLAR ELEV. START 7/16 FINISH 7/16

BEARING S50°E INCLINATION -55°

Geologist RE Bennett

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t	Ag oz/t	Au ppb	As ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm	
250 (RC: 1211)		good	2-3%?		gray	dry	Same as above.	187 0.0053	0.13	160	0.4	274	10	332	13	171
255 (1212)		good	? 1%		buff gray	dry	increase in white bull qtz. vein frags. slightly more oxidized. Prob. reduced sulfides.	134 0.0038	<.05	130	0.9	700	10	200	100	132
260 (10:45 AM)		good	±2%		buff gray	dry	increase again in milky white bull qtz. frags. Prob. more sulfides than grey interval. (prob. pyrite) Note presence of soft silver-blue metallic, may be either specularite or molybdenite.	133 0.0068	<.05	220	0.5	298	16	617	187	227
265 (1213)		good	±1		gray buff	dry	Abundant milky white bull qtz. vein fragments. Some calcite veining. Common pyrite in sediment frags. minor sulfides + limonite in qtz. vein frags. White qtz. maybe 50% of sample	<.0025	0.05	50	0.2	100	9	665	97	502
270 (1214)		good	±1%		gray buff	dry	Less bull qtz. pyrite + minor specularite?	100 0.0059	<.05	200	0.6	216	21	223	44	201
275 (1215)		good	1-2%?		gray	dry	Minor bull qtz. minor calcite veining, (otherwise same as above)	51 0.0149	0.10	50	0.4	162	12	140	17	187
280 (11:00 AM) (1216)		good	±≤1%		gray	dry	2nd split GD Resources 2ATFA = 0.005 o/t Au [71]									
285 (1217)		good	±≤1%		gray	dry	Same as above tr. oxidized on fractures	<.0025	0.07	60	0.4	155	14	105	18	602
290 (1218)		good	±≤1%		gray	dry	Same as above	<.0025	0.09	30	0.3	125	9	113	23	302
295 (1219)		good	±≤1%		gray	dry	Same as above	<.0025	<.05							
300 (11:25 AM) (1220)		good	±≤1%		gray	dry	Some bull qtz. vein frags.	<.0025	<.05							

Slightly more oxidized

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-2 COORD: N

TOTAL DEPTH 460' E

SIZE 5 1/4" COLLAR ELEV. START 7/16 FINISH 7/16/86

BEARING S50°E INCLINATION -55°

Geologist R.E. Bennett

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		Au oz/t	Ag oz/t	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
300		good	≤1%		buff-gray	dry	Apparent increase in more strongly foliated rx. Prob. more strongly oxidized than previous interval. Sulfides in fracts. as well as disseminated (no change). Calcite vein frags-(some).	<.0025	<.05						
305 RC-3301		good	≤1%		buff-gray	dry	Increase in carbonate here!? decrease in sulfides.	<.0025	<.05						
310 3302		good	≤1%		gray buff	dry	Recrystallized ls. (marble) Note tabular dk. green silicate? possibly chlorite?	<.0025	0.14	<5	<.2	85	8	87	23
315 3303		good	≤1%		gray	dry	Same as above	<.0025	<.05						
320 3304		good	≤1%		gray	dry	Same as above	<.0025	<.05						
325 3305		good	≤1%		gray	dry	Same as above	<.0025	0.05						
330 3306		good	≤1%		gray	dry	Same as above (Sulfides since at least 310' appear more like pyrrhotite in color than pyrite?!). green silicate still present.	<.0025	<.05						
2:05 PM 3307		good	≤1%		gray	dry	Same as above	<.0025	<.05						
335 3308		good	≤1%		gray	dry	Same as above	<.0025	<.05						
340 3309		good	≤1%		gray	dry	Same as above but possible co-existence of pyrite + pyrrhotite?!	<.0025	<.05						
345 RC-3310		good	≤1%		gray	dry		<.0025	0.06						
350															

Slightly more oxidized

Vy. widely oxidized

Heavy sulf. frags. rx.

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-2 COORD: N

TOTAL DEPTH 460' E

SIZE 5 1/4" COLLAR ELEV. START 7/16 FINISH 7/16/86

BEARING 550° E INCLINATION -55°

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t	Ag oz/t	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mn ppm
350 RC-3311		Good	≤1%		gray	dry	Mixed recrystallized ls. + meta-siltstone? w/ chlorite (?) Common fine disseminated + fracture controlled pyrite(?)	<.0025	<.05						
355 3312		Good	≤1%		gray	dry	Same as above	<.0025	<.05						
1:00 PM 360 3313		Good	≤1%		gray	dry	Same Note: occurrence of silver-blue metallic (minor) (Specularite? molybdenite?)	<.0025	<.05	<5	<.2	125	8	102	44
365 3314		Good	<1%		gray	dry	± ½ siltstone + ½ light gray recrystallized ls. Common fn.-gnd. dissem. + fracture controlled pyrite in the siltstone member Some pyrite in the ls. unit.	<.0025	<.05						
tr. oxidized 370 3315		Good	<1%		buff gray	dry	Minor siltstone -- mainly light gray to tan buff recrystallized ls. w/ some dissem. pyrite (often euhedral cubes).	<.0025	<.05	-	-	50	14	72	24
375 3316		Good	3-5%		gray	dry	Prob. ± 60% milky white qtz. vein, minor altered ls. + Common [illegible], + banded fn.-gnd. pyrite fragments. Note occurrence of silver-blue metallic (specularite?-molybdenite?).	<.0025	<.05	4	0.4	446	7	316	43
Slightly more oxidized 380 3317		Good	1-3%?		dk. gray	dry	±10% bull qtz. vein + the remainder wkly. to moderately calcareous siltstone. Some to locally abund. pyrite	<.0025	<.05	4	0.7	700	6	517	84
tr. oxidized 385 3318		Good	≤1%?		gray	dry	Primarily meta-siltstone; Common bull qtz. fragments, tr. green Cu-stain on a yellowish oxidized qtz. vein frag. Note silver-blue metallic present.	<.0025	<.05	-	-	321	7	214	106
More oxidized 1:40 PM 390 3319		Good	≤1%?		gray	dry	Primarily meta-siltstone; Common bull qtz vein frags.	<.0025	<.05						
Slightly 395 RC-3320		Good	≤1%		dk. gray	dry	Same as above	<.0025	<.05						
ess. fresh rx. 400															

GSI Bondar-Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-2 COORD: N

TOTAL DEPTH 460' E

SIZE 5 1/4" COLLAR ELEV. START 7/16 FINISH 7/16/86

BEARING S50°E INCLINATION -55°

Page 9 of 10

Geologist RER

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t	Ag oz/t	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
400 RC-3321		Good	≤1%		dk. gray	dry	Same as above	<.0025	<.05						
405 csen. fresh rk. 3322		Good	≤1%		dk. gray	dry	Same as above. Most of sulfide (pyrite) assoc. w/ qtz. vein frags.	<.0025	<.05						
410 3323		Good	≤1%-2%		gray-brwn	dry	± 40% white bull qtz. vein Common pyrite mostly assoc. w/ qtz. vein frags. but some dissem. pyrite in siltstone frags.	<.0025	<.05	4	0.2	251	8	124	37
415 3324		Good	<1%		dk. gray	dry	calc.-meta-siltstone w/ common bull qtz. vein frags. Some pyrite.	<.0025	<.05						
420 3325		Good	<1%		gray	dry	Same as above	<.0025	<.05						
425 3326		Good	≤1%		gray	dry	calc-siltstone w/ tr chalcopyrite + silver-blue metallic (specularite? moly?) Note FeSulfide looks more like pyrrhotite(?) here again than pyrite(?)	<.0025	<.05	1	0.3	197	9	156	38
430 3327		Good	<1%		gray	dry	Silty carbonate? recrystallized ls. Minor pyrrhotite?/pyrite?	<.0025	<.05						
435 3328		Good	<1%		gray	dry	Same as above (Sulfide prob. pyrite)	<.0025	<.05						
440 3329		Good	≤1%		gray	dry	Mixed silty carbonate + metasiltstone pos. tr. chalcopyrite, some pyrite +/or pyrrhotite.	<.0025	<.05						
445 RC-3330		Good	≤1%		gray	dry	Same w/o chalcopyrite obs.	<.0025	<.05						
450															

GSI Bondar-Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-2 COORD: N

TOTAL DEPTH 460' E

SIZE 5¼" COLLAR ELEV. START 7/16 FINISH 7/16/80

BEARING S50°E INCLINATION -55°

Page 10 of 10

Geologist RER

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au ppb	ANALYSES Ag ppb
450		good	<1%		gray	dry	meta-siltstone minor bull qtz. vein, pos. trace Fe-sphalerite w/ pyrite? + trace chalcopyrite.	<.0025	<.05
RC-3331									
455		good	<1%		gray	dry	Locally calcareous meta-siltstone w/ minor dissem. pyrite + tr. chalcopyrite.	<.0025	<.05
RC-3332									
460							T.D. E-2 460'		
5							Note rx. referred to as meta-siltstone is prob. more accurately termed a qtz.-chlorite-mica schist and is generally well foliated, fine-grd. + variably calcareous + sulfidic.		
0							Silty carbonate is probably locally silty + chloritic, but predom. recrystallized ls. in form of mosaic crystal growths of calcite.		
5							Note also that the logging here described is fairly cursory in terms of time spent -- in view of assay results received!		
0									
5									
0									
5									
0									

LONG LAC MINERALS EXPL. (TEXAS) INC.

DRILL LOG SUMMARY SHEET

PROJECT **Elizabeth**

HOLE NUMBER E-3 TOTAL DEPTH 400' LOGGED BY RE Bennett

Date started 7/16/86

Date completed 7/17/86

Initial bearing 550°E

Initial inclination -50°

Elevation ± 5,522'

Collar coordinates:

N

E

Contractor Lang Exploratory Drilling

Drill Type Reverse Circulation Rotary

Hole Size 5 1/8" tricone

Comments Drill Pad #9

DOWN HOLE SURVEY INFORMATION

FROM	TO	SURVEY POINT	INCLI-NATION	BEARING	X (Easting)	Y (Northing)	Z (Elevation)

Item 13

(88)

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-3 COORD: N

TOTAL DEPTH 400' Pad #9 E

SIZE 5 1/8" COLLAR ELEV. ±5,522' START 7/16 FINISH 7/16

tricone BEARING S50°E INCLINATION -50°

Geologist R.E. Bennett

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au	Ag
0							Overburden -- Paleozoic sediments + qtz + calcite vein float + tan soil		
RC 1221		fair			tan	dry			
5							Overburden		
1222		fair			tan	dry			
10							0-10' 6" casing, 10'-70' 5 1/4" tricone 70'-400' 5 1/8" tricone.		
1223		fair			tan	dry	Overburden		
15							Overburden		
1224		fair			tan	dry			
20									
1225		fair			tan	dry			
25									
1226		fair			tan	dry			
30									
1227		fair			tan	dry			
35									
1228		fair			tan	dry			
40									
1229		fair			buff	dry			
45									
RC 1230		fair			buff	dry			
50									

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-3 COORD: N

TOTAL DEPTH 400' E

SIZE 5 1/2" COLLAR ELEV. ±5,522 START 7/16 FINISH 7/17

Tricone BEARING S50°E INCLINATION -50°

Page 2 of 8

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au	Ag
50 RC-1231		fair			tan-buff	dry	Overburden		
55 1232		fair			tan-buff	dry			
60 1233		fair			tan-buff	dry			
65 1234		fair			tan-buff	dry			
7/16 6:00 PM 70 1235		fair			tan-buff	dry			
6:00 AM 7/17 75 1236		fair			tan-buff	dry			
80 1237		fair			tan-buff	dry			
85 1238		fair			tan-buff	dry			
90 1239		fair			tan-buff	dry			
95 RC-1240		fair			tan-buff	dry	hole still bad so hole moistened to stabilize walls. Overburden		
7/17 6:30 AM 100									

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-3 COORD: N

TOTAL DEPTH 400' E

SIZE 5 1/8" COLLAR ELEV. ±5,522 START 7/16 FINISH 7/17

BEARING S50°E INCLINATION -50°

Page 3 of 8

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au	Ag
100	RC-1241	fair			tan-brn	dry	Overburden continued? Mixed bag Paleozoic sed: (metasiltstone + recrystallized ls, qtz + calcite vein frags).		
105	1242	fair			tan buff	dry			
110	1243	fair			tan-buff	dry			
115	1244	fair			buff	dry			
120	1245	fair			brn	dry			
125	1246	fair			tan-brn	dry	No obvious Tut in this hole May be eroded ??		
130	1247	fair			tan olive brn	dry			
135	1248	fair			tan olive brn	dry			
140	1249	fair ?		weathered	olive brn	dry	During drilling it was thought that bed rock was intersected at this point -- Can't be sure from washed chips?? Common clay + oxidized, rounded? gray siltstone chips, some qtz + calcite vein chips, + dike or intrusive?	<.0025	.07
145	RC-1250	fair ?			olive brn	dry	Same as above Overburden?? Outcrop??	<.0025	<.05
150							140'-150' maybe sheared bedrock		

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-3 COORD: N

TOTAL DEPTH 400' E

SIZE 5 1/8" COLLAR ELEV. ±5,522 START 7/16 FINISH 7/17

BEARING S50°E INCLINATION -50°

Page 4 of 8

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t	Ag oz/t	Au ppb	Hg ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
150 RC 1251		good	?	weathered	(gray-) buff	dry	Mixed bag of meta siltstone + recrystallized ls., qtz. + calcite vein frags. Common dk gray-blk. foliated siltstone? suggesting possible bedrock interface. Clay absent, some vein(?) frags. w/ sphal??	<.0025	<.05						
155 1252 ✓		good	?		(gray-) brn	dry	Same as above. Identity uncertain, but 150 – 185 maybe phyllitic shale/siltstone ("phyllite") + hangingwall recrystallized ls. (Ep+Cr ls.) (or maybe Cr ls₂+ms ??)	<.0025	<.05	<5	0.4	25	13	80	9
160 1253 ?		good	?	strong	olive brn	dry	Common qtz. vein frags. -- Rx. are strongly weathered meta-siltstone w/ minor less weathered blk. chips from above zone	<.0025	<.05						
165 1254		good	?	less	(gray-) brn	dry	Mixed siltstone as above + recrystallized ls., some qtz. + calcite vein chips. Definite bedrock now!	<.0025	<.05						
170 1255 ✓		good	?		tan	dry	Mainly recrystallized ls. (gray-white med.-gnd.). Some clay + strongly weathered fragments prob structural zone. dk-reddish blk. (pos. translucent) mineral maybe Fe-sphal. or goethite??	<.0025	<.05	<5	0.3	60	14	109	7
175 1256 ✓		good	?	strong	tan-brn	dry	Strongly weathered siltstone. Common limonitic Fe-oxides + pos. sphal.? Common tan clay.	<.0025	<.05	<5	<.2	132	14	115	7
8:45 AM 180 1257 ✓		good	?		tan brn	dry	Same as above, Some minor calcite veining.	<.0025	<.05	<5	<.2	145	12	133	3
185 1258		good	?		red-tan brn	dry	Minor siltstone from above, Common clay + gouge + hematitic-red phyllitic shale/siltstone. Main post mineral shear	<.0025	<.05						
190 1259 ✓ Hg?		good	?		red brn	dry	Gouge, clay, oxidized ?, pos. sphal?? qtz. vein + calcite chips sulfides: (limonite/goethite) Hg = 950 ppb	<.0025	<.05	20	0.2	39	27	119	2
195 1260 ✓ Hg? RC		good	?		tan buff	dry	Same as above Hg = 900 ppb intersect main calcite vein at end of interval some gypsum (selenite)	<.0025	<.05	75	0.4	52	23	166	4
9:00 AM 200															

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-3 COORD: N

TOTAL DEPTH 400' E

SIZE 5 1/8" COLLAR ELEV. ±5,522 START 7/16 FINISH 7/17

BEARING S50°E INCLINATION -50°

Page 5 of 9

Geologist R.E.B.

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t	Ag oz/t	Au ppb	Hg ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
200															
Hg 1261		Good	?	mostly ard.	white buff	dry	Predom. white calcite vein chips. Common oxidized siltstone chips prob. wall rock breccia frags. in calcite vein ≅ cemented breccia Hg = 600 ppb 2nd split 2ATFA GD Resources 0.007 o/t Au 240	<.0025	<.05	520	0.5	71	9	249	5
205															
Hg 1262		Good	?		white buff	dry	Same less calcite vein chips. Hg = 525 ppb Tr. yellow-white-(green) mineral coating looks almost like sulfur??	<.0025	<.05	55	0.3	70	9	170	2
210															
Hg 1263		Good	≤1%		white buff	dry	Mixed: some calcite vein chips + variably oxidized + fresh gray meta-siltstone Some dissem. + fract. controlled pyrite /sphal? Hg = 900 ppb	<.0025	<.05	90	0.6	82	5	96	2
215															
Hg 1264		Good	?1-3%?	Oxidized	buff	dry	Predom. oxidized siltstone; common white calcite vein chips -- Common red-blk. sphal?? 1,000 ppb	<.0025	0.06	160	0.7	125	58	161	2
220															
X 1265		Good	?	altered to fresh	white	dry	Predom. white calcite vein w/ yellow transparent, soft native sulfur ?! = trace Calcite very white! translucent, tr. dk. rusty specks in calcite 2nd split 2ATFA GD Resources 0.012 o/t Au 411	0.0134 459	<.05	480	0.2	11	57	79	1
225															
X 1266		Good	?		buff white	dry	Mixed calcite vein + altered siltstone frags. possible x/n. cinnabar? siltstone is prob. breccia frags. in calcite cemented bxa. tr. gypsum, tr. sulfur! No pyrite obs. since 215' 2nd split 2ATFA GD Resources 0.012 o/t Au	0.0125 429	<.05	460	0.5	15	12	94	4
230															
X 1267		Good	?		buff white	dry	Same as above, calcite notably pinkish. Note fine plate-like x/l. rosettes of calcite. 2nd split 2ATFA GD Resources 0.008 o/t Au 274	0.0081 278	<.05	220	0.6	10	9	26	2
235															
X 1268		Good	?		buff white	dry	Same; increase vein: siltstone chips 2nd split 2ATFA GD Resources 0.013 o/t Au 1146	0.0100 343	0.08	300	0.2	3	7	28	2
9:40 AM 240															
1269		Good	1-2%?	mostly fresh	gray	dry	Minor calcite vein chips, predom. siltstone chips, some qtz. vein chips	<.0025	<.05	130	0.4	45	7	54	2
245															
RC 1270		Good	Tr.	partly oxid.	olive gray	dry	Mostly meta-siltstone.	<.0025	<.05	40	0.3	80	7	86	2
250															

GSI Bondar-Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-3 COORD: N

TOTAL DEPTH 400' E

SIZE 5 1/8" COLLAR ELEV. ±5,522 START 7/16 FINISH 7/17

BEARING S50°E INCLINATION -50°

Page 6 of 8

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t	Ag oz/t	Au ppb	As ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
250															
RC-7 1271		good	±1-2 %?	partly oxidiz.	olive gray	dry	Predom. gray-green micaceous siltstone. Some qtz. vein fragments + common calcite veining. Predom. pyrite ?? chalcopyrite + sphal.	<.0025	<.05	45	0.4	117	4	84	2
255															
1272		good	<1%?	←	olive gray	dry	Same w/ decrease in sulfides (pos. sphalerite, much less pyrite).	<.0025	0.07	25	0.2	76	5	104	2
260															
1273		good	<1%	←	(olive gray)	dry	Same, common calcite veinlets	<.0025	<.05	45	0.6	70	10	95	3
265															
1274		good	<1%	mostly fresh	gray	dry	Same, some calcite + qtz. veinlets.	127 0.0037	0.09	40	0.4	38	6	72	3
270															
1275		good	≤1%?	partly oxid.	lt. gray	dry	Mixed siltstone + lt. gray-white recrystallized ls. minor qtz + common calcite vein chips.	296 0.0060	<.05	110	0.6	48	17	43	6
275															
1276		good	<1%	lt. oxid.	gray	dry	gray green, micaceous meta-siltstone w/ calc. dissem. pyrite	<.0025	0.05	55	-	-	-	-	-
10:25 AM 280															
1277		good	<1%?	←	gray	dry	Mixed meta-siltstone + healed mixed fragment micro-breccia? healed but matrix soft yet not calcareous?? minor dusty qtz.	<.0025	0.08	25	0.2	45	9	81	3
285															
1278		good	<1%	partly oxid.	olive gray	dry	Predom. meta-siltstone	<.0025	<0.05						
290															
1279		good	lt.	wkly oxidiz.	olive gray	dry	Same	<.0025	<.05						
295															
As 50 Hg RC-1280		good	≤1%?	silicified	olive gray	dry	Mixed unaltered meta-siltstone + strongly silicified micro-breccia (jasperoid-style) which is wkly sulfidic (gray siliceous frags.) (First silicification obs. in first 3 drill holes) "pervasive" 95 ppb	<.0025	<.05	30	0.3	20	5	29	3
11:00 AM 300															

GSI Bondar-Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-3 COORD: N

TOTAL DEPTH 400' E

SIZE 5 1/8" COLLAR ELEV. ±5,522 START 7/16 FINISH 7/17

BEARING 550° E INCLINATION -50°

Page 7 of 8

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t	Ag oz/t	As ppb	As ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
300															
3333 RC-		good	≤1%	silica pervasive	gray brown	dry	silicified breccia continued; tr. gypsum minor siltstone frags, Hg = 2,250 ppb	0.0049	0.12	100	20	54	7	25	3
305															
3334		good	≤1-2%		lt. gray	dry	Mixed siliceous microbreccia + med. grnd. recrystallized gray/white ls. w/ calcite veinlets	0.0029	0.06	90	1.1	13	7	11	7
310															
3335		good	≤1%	wkly. oxidiz.	lt. gray	dry	med. gray to dk. gray recrystallized ls. wkly sulfidic. pos. sphal.	<.0025	<.05	20	-	-	-	-	-
315															
3336		good	≤1%	tr. oxidiz.	gray	dry	Same prob. increase in pyrite locally pos. sphal. minor siltstone chips (interbeds??)	<.0025	<.05						
11:30 320															
3337		good	≤1%		gray	dry	Same as above	<.0025	<.05						
325															
3338		good	≤1%	mostly oxid.	lt. gray	dry	Same w/ some prob. mineralized fractures.	<.0025	<.05						
330															
3339		good	≤1%	tr. oxidiz.	lt. gray	dry	Same as 325'-330'.	<.0025	<.05						
335															
3340		good	≤1%		lt. gray	dry	Same as above.	<.0025	<.05						
340															
3341		good	≤1%?	partly oxid.	gray buff	dry	Mixed bag — some recrystallized ls. as above, some siltstone, some calcite veining + some breccia + mineralized fractures.	<.0025	0.08	55	0.4	15	13	19	6
345															
3342 RC-		good	≤1%?		gray buff	dry	Same as above	<.0025	<.05	25	0.5	14	10	32	4
350															

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-3 COORD: N

TOTAL DEPTH 400' E

SIZE 5 1/8" COLLAR ELEV. ±5522' START 7/16 FINISH 7/17

BEARING S50°E INCLINATION -50°

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au %	Ag %	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
350	RC 3343	Good	≤1%	partly oxidiz.	lt. gray	dry	Same as above	<.0025	0.05	45	0.6	21	8	21	4
35 5	3344	Good	≤1%??		gray-buff	dry	Predom. siltstone chips w/ subord. recrystallized ls. + qtz. + calcite vein chips.	<.0025	<.05	5	0.2	60	40	92	4
12:15 PM 36 0	3345	Good	<1%	?	olive gray	dry	Meta-siltstone (bleached? in part) Some qtz + (?) calcite vein chips, Possible diabase dike etc.	<.0025	<.05						
36 5	3346	Good	<1%	lt. oxidiz.	dk. olive gray	dry	dk. gray micaceous diabase-dike (??) locally sulfidic (pyrite) + wkly calcareous	<.0025	<.05						
37 0	3347	Good	<1%	partly oxid.	olive gray	dry	Fresh (minor) diabase dike ?; common bleached (oxidized) dike + meta siltstone etc. zone prob. near end of interval.	<.0025	0.05						
37 5	3348	Good	≤1%?		olive gray	dry	Predom. meta-siltstone wkly calcareous Some calcite veining	<.0025	<.05	<5	0.2	48	7	91	3
12:45 PM 38 0	3349	Good	<1%	wk lt. oxid.	lt. olive gray	dry	Vy. minor siltstone w/ predom. recrystallized ls.	<.0025	<.05						
38 5	3350	Good	≤1-2%	lt. oxid.	lt. gray	dry	Gray-green-white recrystallized ls. w/ some pyrite	<.0025	<.05						
39 0	3351	Good	<1%	partly oxid.	olive gray	dry	Same carbonate as above, prob. small structural zone, then prob. micaceous siltstone.	<.0025	<.05						
39 5	RC 3352	Good	<1%		olive gray	dry	Mixed siltstone + some recrystallized carbonate, minor calcite veining.	<.0025	<.05	5	<.2	44	6	47	14
1:00 PM 40 0															

T.D. = 400'

LONG LAC MINERALS EXPL. (TEXAS) INC.

DRILL LOG SUMMARY SHEET

PROJECT **Elizabeth**

HOLE NUMBER E-4 TOTAL DEPTH 485' LOGGED BY RE Bennett

Date started 7/17/86

Date completed 7/18/86

Initial bearing S50°E

Initial inclination -50°

Elevation ±5,525'

Collar coordinates:

N

E

Contractor Lang Exploratory Drilling

Drill Type Reverse Circulation Rotary

Hole Size 5 1/4" tricone/hammer

Comments 0-220' tricone

220'-485' hammer

DOWN HOLE SURVEY INFORMATION

FROM	TO	SURVEY POINT	INCLI-NATION	BEARING	X (Easting)	Y (Northing)	Z (Elevation)

Item 13

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PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-4 COORD: N

TOTAL DEPTH 485' E

SIZE 5¼" COLLAR ELEV. ±5,525' START 7/17 FINISH 7/18/86

BEARING S50°E INCLINATION -50°

Page 1 of 10

Geologist RE Bennett

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET	ANALYSES Au	Ag
0								
RC-1281		fair			tan-buff	dry		
5								
1282		fair			tan-buff	dry		
10								
1283		fair			tan-buff	dry		
15								
1284		fair			tan-buff	dry		
2:05 PM 20								
1285		good			buff	dry		
25								
1286		good			buff	dry		
30								
1287		good			buff	dry		
35								
1288		good			buff	dry		
40								
1289		good			buff	dry		
45								
1290		good			buff	dry		
50								

Overburden -- mixed Paleozoic colluvium
No vol. component obs.

6" casing to 20'

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-4 COORD: N

TOTAL DEPTH 485' E

SIZE 5 1/4" COLLAR ELEV. +5,525 START 7/17 FINISH 7/18

BEARING S50°E INCLINATION -50°

Page 2 of 10

Geologist RCB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au	Ag
5 0	RC-1291	good		weathered	tan-olive	dry	Some overburden as above; bedrock intercept w/ hanging wall phyllitic shale/siltstone.		
5 5	1292	good			olive-tan	dry			
6 0	1293	good			olive-tan	dry			
6 5	1294	good			tan-olive	dry			
7 0	1295	good			olive-tan	dry			
7 5	1296	good			olive tan	dry			
8 0	1297	good			olive tan	dry			
8 5	1298	good			olive tan	dry			
9 0	1299	good			olive tan	dry			
9 5	1300	good			olive tan	dry			
10 0									

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-4 COORD: N

TOTAL DEPTH 485' E

SIZE 5/4 COLLAR ELEV. 5,525 START 7/12 FINISH 7/18

BEARING S50°E / INCLINATION -50°

Page 3 of 10

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET	Description	Au oz/t	Ag oz/t	As ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
10 0															
RC-1301		good	?	weathered	gray tan	dry	Mixed phyllitic shale/siltstone + recrystallized ls. (gen. dk. gray). Some mineralized? fracture zones. Fe oxides on fractures.								
10 5															
1302		good	?		gray buff	dry	Predom. recrystal. buff to gray ls. w/ some mineralized? fractures, some calcite veinlets. Fe oxides on fracts.	<.0025	0.06						
11 0															
1303		good	?		gray tan	dry	Mixed ls. + phyllitic-shale/siltstone Fe-oxides on fractures. Some qtz. veinlets.	<.0025	<.05						
11 5															
1304		good	?		tan	dry	Strongly oxidized shale/siltstone, common Fe-oxides, + clay	<.0025	<.05						
12 0															
1305		good	?		buff	dry	Abund. qtz. and calcite vein chips some breccia frags. Minor shale/siltstone frags. Some clay	<.0025	<.05	<5	1.3	40	308	88	9
12 5															
1306		good	?		buff white	dry	Abund. qtz. vein frags + breccia frags. as above, Some siltstone frags.	<.0025	<.05						
13 0															
1307		good	?	partly oxide.	white buff	dry	Predom. recrystallized ls. fragments + very clear qtz. xls. are common.	<.0025	<.05						
13 5															
1308		good	?	weathered	olive tan	dry	dk. gray blk. phyllitic shale/siltstone Common Fe-oxides, mainly on fractures.	<.0025	<.05						
14 0															
1309		good	?		olive tan	dry	Predom. strongly weathered buff colored siltstone w/ minor frags. of phyllitic shale. Minor Fe-oxides.	<.0025	<.05						
14 5															
1310		good	?		gray-brown	dry	Return to dk. gray blk. phyllitic shale/siltstone, some qtz. veinlets. Common Fe-oxides on fractures.	<.0025	<.05						
15 0															

ANALYSES: Au oz/t, Ag oz/t — GSI; As ppb, Ag ppm, Cu ppm, Pb ppm, Zn ppm, Mo ppm — Bondar-Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-4 COORD: N

TOTAL DEPTH 485' E

SIZE 5 1/4 COLLAR ELEV. ±5,525 START 7/17 FINISH 7/18

BEARING 550° E INCLINATION -50°

Page 4 of 18

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		Au oz/t	Ag oz/t	Au ppb	As ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
150															
✓ RC-1311		good	?	weathered	tan	dry	Same as above -- more fractured + more strongly weathered.	<.0025	<.05						
155															
1312		good	?		gray tan	dry	Same, less weathered some clay (same as 145'-150')	<.0025	<.05						
160															
1313		good	?		tan	dry	Same (as 150'-155')	<.0025	<.05						
165															
1314		good	?		tan olive	dry	Minor dk. gray phyllitic shale -- more (strongly weathered) siltstone, common clay	<.0025	<.05						
170															
1315		good	?		olive tan	dry	Mixed phyllitic shale/siltstone, ls. (minor), and qtz.+ calcite vein chips., clay, Fe-oxides.	<.0025	<.05						
175															
✓ 1316		good	?		tan	dry	Same as above	<.0025	0.09						
180															
✓ 1317		good	?		tan	dry	Phyllitic shale/siltstone, common selenite gypsum, Fe-oxides, some qtz.+ calcite vein frags, clay.	<.0025	<.05						
185															
✓ 1318		good	?		tan olive	dry	Same as above.	<.0025	0.06						
190															
✓ 1319		good	?		buff	dry	Mixed clay, siltstone, some gypsum + common calcite vein frags. Some sediment frags. prob. from breccia fragments in a calcite cemented breccia. Post mineral shears at vein front 2nd split 3ATTFA GD Resources 0.010 oz/t Au	0.0102	<.05	760	0.6	20	15	77	2
195															
✓ 1320		good	<1%	mod. fresh silica	lt. gray	dry	Mixed calcite vein (subordinate) + silicified breccia fragments (predominant), some fresh pyrite	<.0025	<.05	40	1	1	1	1	1
200															

As, Sb? Hg?

GSI | Bondar-Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-4 COORD: N

TOTAL DEPTH 485' E

SIZE 5 1/4" COLLAR ELEV. ±5,525 START 7/17 FINISH 7/18

BEARING 550°E INCLINATION -50°

Page 5 of 10

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET	DESCRIPTION	Au oz/t	Ag oz/t	Au ppb	As ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
200							Silicified breccia + calcite vein continued								
1321 ✓ RC- As, Sb, Hg		good	tr.	mostly fresh	lt. gray	dry	Some	<.0025	<.05	55	-	-	-	-	-
205															
1322 ✓		good	tr.		gray-white	dry	Mixed calcite vein + recrystallized ls. chips; minor siliceous chips. Minor fresh pyrite	<.0025	<.05	40	-	-	-	-	-
210															
1323 ✓		good	<1%		gray	dry	Mixed calcite vein + recrystallized ls. chips; minor pyrite	<.0025	<.05	65	1.0	6	17	14	9
215															
1324 7/17 ✓		good	<1%		gray	dry	Predom. siliceous breccia chips + calcite vein, minor pyrite	<.0025	<.05	100	1.0	6	20	15	12
5:00 PM 220							Tripped rods to switch to hammer bit								
1325 7/18 ✓		poor	<1%	mostly acid.	olive gray	damp	Minor clay + calcite vein, Mostly calcite healed lt. breccia + wkly. calcareous siltstone. minor pyrite. Sample damp from stabilizing hole w/ water at bit change, prob. some mud contamination	168 0.0049	<.05	140	0.4	10	26	35	8
225															
1326 ✓		fair	≤1%	tr. oxidiz.	gray	dry	Pred. wkly calcareous siltstone w/ common calcite veinlets + calcite healed breccia. Some fresh pyrite. Better sample; some mud balls from above	<.0025	<.05	100					
230															
1327 ✓		good	<1%		lt. gray	dry	Same as above.	<.0025	<.05	25					
235															
1328		good	tr.		lt. gray	dry	Some calcite vein chips; Predom. fresh non-calcareous dk. gray micaceous siltstone.	<.0025	<.05						
240															
1329		good	tr.	wkly. oxid.	gray	dry	Same as above; some qtz. veinlets	<.0025	<.05						
6:30 AM 245															
1330 ✓ RC-		good	tr.	mostly oxid.	gray buff	dry	Siliceous meta-siltstone, pos. sphal. Note ultra fine-gnd. pos. metallic flecks throughout rx.??	<.0025	<.05	70	0.7	361	29	30	3
250							Rx. from 245' through 300' maybe phyllite equivalent??								

65

93?

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PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-4 COORD: N

TOTAL DEPTH 485' E

SIZE 5/4 COLLAR ELEV. ±5525 START 7/17 FINISH 7/18

BEARING S50°E INCLINATION -50°

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Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		Au oz/t	Ag oz/t	As ppm	Sb ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
25 0															
RC-1331		Good	Tr.	Partly weath.	graybuff	dry	Same--siliceous, micaceous siltstone (same fine-grnd inclusions metallic?) tr. qtz. vein + fracture controlled pyrite	<.0025	<.05						
25 5															
1332		Good	Tr.		graybuff	dry	Same as above.	<.0025	<.05						
26 0															
1333		Good	Tr.		gray buff	dry	dk. gray (biotitic) micaceous siltstone minor qtz. vein.	<.0025	<.05						
6:50 AM 26 5															
1334		Good	Tr.		gray buff	dry	Same as above.	<.0025	<.05						
27 0															
1335		Good	Tr.		gray buff	dry	Same	<.0025	<.05						
27 5															
1336		Good	Tr.		gray buff	dry	Same	<.0025	<.05						
28 0															
1337		Good	Tr.		gray buff	dry	Same	<.0025	<.05						
7:10 AM 28 5															
1338		Good	Tr.?		olive gray	dry	Increase oxidation -- micaceous siltstone w/ increase limonite + red hematitic Fe-stain, possible sphal??	<.0025	<.05						
29 0															
1339		Good	Tr.?		olive gray	dry	Same as 285'-290'	<.0025	<.05						
29 5															
As, Sb, Hg. ✓ RC-1340		Good	Tr.?		gray tan	dry	Increase red-hematitic Fe-stain minor breccia chips	<.0025	<.05	10	1.2	59	6	39	4
30 0															

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-4 COORD: N

TOTAL DEPTH 485' E

SIZE 5 1/4 COLLAR ELEV. ±5,525' START 7/17 FINISH 7/18

BEARING S50°E INCLINATION -50°

Page 7 of 10

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t	Ag oz/t	Pb ppm	Zn ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
300 RC-3353		good	tr	partly oxid.	gray	dry	Minor siltstone, Predom. calcite veined recrystallized ls.	<.0025	<.05						
305 3354		fair	tr.		gray	dry	Predom. recrystallized ls., gray-blk., locally micaceous,	<.0025	<.05						
310 3355		fair	tr.		gray	dry	Same, minor oxidized frags. w/ limonite after pyrite??	<.0025	<.05						
315 3356		fair	tr.		gray buff	dry	Same w/ some dk. gray blk. siltstone leading into next rock type interval.	<.0025	<.05						
320 3357		fair	tr. < 1%	wkly oxid.	gray brn	dry	dk. gray-blk. meta-siltstone, prob. slight increase in pyrite	<.0025	<.05						
325 3358		good	tr.	partly oxid.	gray brn	dry	Same, some calcite veinlets	<.0025	<.05						
330 3359 ?		good	? tr.	oxidized	gray buff	dry	blkh. + veined siltstone w/ common calcite veinlets + breccia matrix + limonite after sulfides, some fresh pyrite. — Structural zone —	<.0025	<.05	70	0.2	43	20	38	7
335 3360		good	? tr.	mostly oxid.	gray buff	dry	Same as above	<.0025	<.05						
340 3361		good	? tr.	partly oxid.	gray buff	dry	Same	<.0025	<.05						
345 RC-3362		good	? tr.		gray buff	dry	Same	<.0025	<.05						
350															

GSI Bondar-Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-4 COORD: N

TOTAL DEPTH 485' E

SIZE 5/4 COLLAR ELEV. ±5,525 START 2/12 FINISH 2/18

BEARING S50°E INCLINATION -50°

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		Au oz/t	Ag oz/t	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
35 0	RC-3363	good	tr.	partly oxid.	buff	dry	Fine-grnd. dk. gray siltstone; common calcite veinlets + calcite-healed breccia, some limonite + Fe-stained fractures.	<.0025	<.05						
35 5	3364	good	tr.	mostly oxid.	buff	dry	Same as above; increase oxidation	<.0025	<.05						
36 0	3365	good	tr.		buff	dry	Minor siltstone but similar to above. Common yellowish carbonate + some gray white calcite marble (recryst. ls.)	<.0025	<.05						
36 5	3366	good	tr.	partly oxid.	gray buff	dry	Same	<.0025	<.05						
37 0	3367	good	tr.		gray buff	dry	Minor gray siltstone, common gray-white med. grnd. calcite prob. predom. recrystallized ls. + some calcite veinlets.	<.0025	<.05						
37 5	3368	good	tr.		gray buff	dry	Predom. med. x/ln. carbonate (recryst. ls.) gen. gray or yellow-tan, some dk. gray siltstone	<.0025	<.05						
38 0	3369	good	tr.		gray buff	dry	Same	<.0025	<.05						
±9:30 AM 38 5	3370	good	tr.		gray buff	dry	±9:30 stuck in hole, hole dirty, free at 9:45 Same, but more gray/white carbonate	<.0025	<.05						
39 0 ✓	3371	good	<1%	mostly fresh	gray	dry	Mostly fresh gray white recrystallized ls., minor dk. gray siltstone, increase in fresh pyrite.	<.0025	<.05	<5	<.2	13	11	27	6
39 5	RC-3372	good	? tr. <1%		gray	dry	Minor x/ln. gray carbonate, Predom. dk. green diabase dike rock (?) Note dissem. pyrite predom. in carbonate.	<.0025	0.05						
40 0															

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-4 COORD: N

TOTAL DEPTH 485' E

SIZE 5/4 COLLAR ELEV. ±5,525 START 7/17 FINISH 7/18

BEARING S50°E INCLINATION -50°

Page 9 of 10

Geologist KEB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t	ANALYSES Ag oz/t
40 0	3373	fair	tr.	fresh	dk. gray	dry	diabase dike (?), biotite, chlorite, feldspar matrix fine-grnd. xln., w/ some pyrite	<.0025	0.06
10:15 AM 40 5	3374	fair	tr.?	tr. oxid.	dk. olive-gray	dry	Predom. diabase(?) dike w/ some siltstone chips + minor qtz. vein chips.	<.0025	<.05
41 0	3375	good	tr.-1	partly oxid.	dk. olive gray	dry	Siltstone?? or perhaps dike rx.?? Some Fe-stained fractures.	<.0025	0.07
41 5	3376	good	<1% tr.	more oxid.:	gray buff	dry	Wkly. calcareous gray to tan siltstone local dissem. fresh pyrite, some Fe-stained fractures.	<.0025	<.05
42 0	3377	good	tr.	partly oxid.	dk. olive-gray	dry	Mixed siltstone + cte. zone w/ another diabase dike as above.	<.0025	<.05
42 5	3378	good	tr.	mostly fresh	dk. gray	dry	dike(?) as above (400'-405' eg.) Prob. meta-diabase dike	<.0025	0.07
43 0	3379	good	<1%		dk. gray	dry	dike? (more foliated?) slightly more sulfidic, some veinlet fragments (mainly qtz.)	<.0025	0.06
43 5	3380	good	tr.		dk. gray	dry	Same as above	<.0025	<.05
44 0	3381	good	tr.		dk. gray	dry	Same(?) very micaceous (biotite) foliated and is either same dike? rock or metasiltstone?? in cte. zone w/ diabase??	<.0025	<.05
11:50 AM 44 5	3382	good	tr.		dk. gray	dry	Same as 440-445	<.0025	<.05
45 0									

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-4 COORD: N

TOTAL DEPTH 485' E

SIZE 5 1/4 COLLAR ELEV. +5,525 START 7/17 FINISH 7/18

BEARING 550°E INCLINATION -50°

Page 10 of 10

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t	Ag oz/t	Au ppb	As ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
45 0 – 3383		good	≤ 1% 2%	tr. oxidiz.	lt. gray	dry	Gray-white, med. gnd. s/n., calcite marble w/ common dissem. pyrite.	<.0025	<.05						
45 5 – 3384 ✓		good	≤ 1%-2%		gray	dry	Same as above pos. chalcopyrite	<.0025	<.05	<5	<.2	11	13	12	6
46 0 – 3385		good	≤ 1%	mostly oxidiz.	gray	dry	Same recrystallized ls. w/ some dk. gray metasiltstone, more oxidized than above, less sulfides	<.0025	0.07						
12:25 PM 46 5 – 3386		good	tr.	likely oxidiz.	gray	dry	recrystallized ls.	<.0025	<.05						
47 0 – 3387		good	<1%		gray	dry	Dirty, micaceous gray-blk. recrystallized ls.	<.0025	0.06						
47 5 – 3388 ✓		good	tr.		gray	dry	Mixed recrystallized ls. + micaceous metasiltstone.	<.0025	0.08	5	<.2	23	14	37	7
48 0 – 3389		good	tr.	partly oxid.	lt. gray	dry	Same as above.	<.0025	<.05						
1:00 PM 48 5							T.D. 485'								
0															
5															
0															

GSI Bondar-Clegg

LONG LAC MINERALS EXPL. (TEXAS) INC.

DRILL LOG SUMMARY SHEET

PROJECT *Elizabeth*

HOLE NUMBER *E-5* TOTAL DEPTH *460'* LOGGED BY *RE Bennett*

Date started *7/18/86*

Date completed *7/19/86*

Initial bearing *S40°E*

Initial inclination *-55°*

Elevation *5,530'*

Collar coordinates:

N

E

Contractor *Lang Exploratory Drilling*

Drill Type *Reverse Circulation Rotary*

Hole Size *5 1/4" tricone*

Comments

DOWN HOLE SURVEY INFORMATION

FROM	TO	SURVEY POINT	INCLI-NATION	BEARING	X (Easting)	Y (Northing)	Z (Elevation)

Item 13

(88)

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-5 COORD: N

TOTAL DEPTH 460' E

SIZE 5 1/4" COLLAR ELEV. ±5,530' START 7/18 FINISH 7/19/86

Tricone BEARING S40°E INCLINATION -55°

Page 1 of 10

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au ppb	ANALYSES Ag ppm
0–5 (1341)		fair	? Ø	weathered	tan-brn	dry	Phyllitic shale + siltstone, some gypsum, qtz. vein frags., + fines are calcareous.		
5–10 (1342)		fair	? Ø		tan-brn	dry	Same as above 6" Casing to 10'		
10–15 (1343)		good	? Ø		tan	dry	Predom. phyllitic shale/siltstone w/ common calcite + some qtz. vein chips		
15–20 (1344)		good	? Ø		buff	dry	calcite veinlets? in blk-gray phyllitic shale/siltstone		
20–25 (1345)		good	? Ø		gray-buff	dry	Predom. fine-grad. recrystallized ls. w/ calcite vein frags.		
25–30 (1346)		good	? Ø		tan	dry	calcite veinlets + phyllitic shale + siltstone		
30–35 (1347)		good	? Ø		tan brn	dry	Same		
35–40 (1348) ✓		good	? Ø ?		tan brn	dry	Same, but w/ common qtz. vein frags. + limonite pos. often sulfides. Rx. look broken w/ pos. mineralized fractures Hg = 1.000 ppm	5	0.6
40–45 (1349)		good	? Ø		buff	dry	Same sh/silt. + qtz. vein, but less bkn. + Fe-oxides?		
45–50 (Re-1350)		good	? Ø		buff	dry	Same as 40'-45'.		

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-5 COORD: N

TOTAL DEPTH 460' E

SIZE 5¼" COLLAR ELEV. ±5,530 START 7/18 FINISH 7/19

BEARING 540° E INCLINATION -55°

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au ppb	ANALYSES Ag ppm
5 0 – 1351 (Re-)		good	? Ø	weathered	(gray) buff	dry	Phyllitic shale/siltstone w/ some qtz. vein frags. + wk. calcite veinlets!		
5 5 – 1352		good	? Ø		tan	dry	Same		
6 0 – 1353		good	? Ø		tan	dry	Same		
6 5 – 1354 ✓		good	? Ø		tan	dry	Same w/ apparent increase in siliceous Fe-stained breccia +/or altered fracture fillings. Hg = 0.400 ppm	<5	0.5
7 0 – 1355		good	? Ø		tan	dry	Same		
7 5 – 1356		good	? Ø		tan	dry	Same		
8 0 – 1357		good	? Ø		tan	dry	Same		
8 5 – 1358 ✓		good	1%		buff	dry	One chip w/ pos. fine-grd. galena? + pyrite in qtz. vein obs. — Rx. are phyllitic shale/siltstone w/ common qtz. + some calcite veinlets. Hg = 0.650 ppm	5	5.1
9 0 – 1359		good	? Ø		buff	dry	Mainly oxidized phyllitic shale/siltstone + some dk. gray qtz. vein frags.		
9 5 – 1360		good	? Ø		tan	dry	Same		
10 0									

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-5 COORD: N

TOTAL DEPTH 460' E

SIZE 5 1/4" COLLAR ELEV. ±5,530' START 2/18 FINISH 7/19

BEARING S40°E INCLINATION -55°

Page 3 of 10

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au	ANALYSES Ag
10 0									
RC-1361		good	Ø?	weathered	tan-buff	dry	Phyllitic shale/siltstone		
10 5									
1362		good			tan-buff	dry	Same		
11 0									
1363		good			tan	dry	Same		
11 5									
1364		good			tan-buff	dry	Same		
12 0									
1365		good			buff	dry	Same		
12 5									
1366		good			brn	dry	Same		
13 0									
1367		good			olive brn	dry	Same		
13 5									
1368		good			orange-olive-brn	dry	Same; Hg = 2.500 ppm; Pos. shear? (Note fines color)	<5	1.5
14 0									
1369		good			gray-buff	dry	Same		
14 5									
RC-1370		good			olive-brn	dry	Same		
15 0									

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-5 COORD: N

TOTAL DEPTH 460' E

SIZE 5 1/4" COLLAR ELEV. ±5,530' START 7/18 FINISH 7/19

BEARING S40°E INCLINATION -55°

Page 4 of 10

Geologist RER

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t	Ag oz/t	Au ppb	Hg ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
15.0 1371		good	1 %	weathered	red-tan	dry	hematitic-red Fe-stained phyllitic shale + siltstone, minor qtz. + calcite veinlets, some clay -- zone of part mineral shearing.	<.0025	<.05						
15.5 1372		good	1 % Tr. <1%	mostly fresh	lt. gray	dry	Predom. white calcite vein chips + common dk. gray silicified fault breccia chips. Minor fresh pyrite tr. red clay from shear zone. Minor micaceous siltstone. 2nd split 2ATFA GD Resources 0.003 oz/t 103	0.0198	<.05	25	<.02	12	6	21	2
16.0 1373		good	≤1-2%	tr. arg.	gray	dry	dk. gray blk. micaceous meta-siltstone w/ common calcite veinlets + some fresh pyrite pos. ~~sphal~~?? minor qtz. vein frags.	<.0025	<.05	30	0.2	23	11	28	4
16.5 1374		good	tr.		gray-buff	dry	Metasiltstone w/ minor calcite + qtz. veinlets	<.0025	<.05						
17.0 1375		good	tr. <1%		gray	dry	Same, pos. slight increase in sulfides pyrite (and perhaps sphal.??)	<.0025	<.05						
17.5 1376		good	tr.		gray buff	dry	Meta-siltstone/shale w/ minor prob. wkly sulfidic qtz. veinlets, some minor disem. pyrite	<.0025	<.05						
18.0 1377		good	tr.		gray buff	dry	Same, some calcite veinlets	<.0025	<.05						
18.5 1378		good	tr.		gray	dry	Same	<.0025	<.05						
19.0 1379		good	tr.		gray	dry	Same	<.0025	<.05						
19.5 RC-1380 20.0		good	tr.		gray buff	dry	Same	<.0025	<.05						

GSI Bondar-Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-5 COORD: N

TOTAL DEPTH 460' E

SIZE 5 1/4" COLLAR ELEV. ±5,530' START 7/18 FINISH 7/19

BEARING S40°E INCLINATION -55°

Page 5 of 10

Geologist AEB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au o/t	Ag o/t	Pb ppm	Zn ppm	Cu ppm	Mo ppm	Zn ppm	Mn ppm
20 0	RC-1391	Good	tr.	Tr. oxidized	dk. gray	dry	Same	<.0025	0.06						
20 5	1392	Good	tr.		dk. gray	dry	Same dk. gray meta-siltstone, wkly pyritic minor gray carbonate chips, weak calcite + qtz. veining (veinlets-fracture coatings).	<.0025	<.05						
21 0	1393	Good	tr.		gray brown	dry	Same, more (biotite) micaceous	<.0025	<.05						
21 5	1394	Good	tr.		gray brown	dry	meta-siltstone	<.0025	<.05						
22 0	1395	Good	tr. <1%		gray	dry	Same, prob. increase sulfides (pyrite) + calcite veinlets.	<.0025	<.05	<5	<.2	23	6	64	3
22 5	1396	Good	tr.		gray buff	dry	Same (vy. lt. sulfides.)	<.0025	<.05						
23 0	1397	Good	tr.	mostly oxidiz.	gray buff	dry	Same, more veinlets + limonite	<.0025	<.05						
23 5	1398	Good	tr.		gray buff	dry	Same increase calcite veinlets + oxidation	<.0025	<.05	20					
24 0	1399	Good	<1%		lt. gray buff	dry	Common calcite vein chips. Common limonite + some fresh pyrite. 2nd split 2 ATFA GD Resources 0.013 o/t Au 446	0.0121	0.05	360	0.5	21	12	19	4
24 5	RC-1400	Good	≤1%		lt. gray	dry	Predom. gray recrystallized ls. w/ common siltstone chips (interbeds?) Some hematitic + limonitic Fe-oxides, minor chalcopyrite + common pyrite, + pos. sphal?? Common calcite vein chips.	0.0042	<.05	65	0.2	21	13	39	3
25 0															

GSI Bondar-Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-5 COORD: N

TOTAL DEPTH 460' E

SIZE 5 1/4" COLLAR ELEV. ±5,530' START 7/18 FINISH 7/19

BEARING S40°E INCLINATION -55°

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t	Ag oz/t	Au ppb	As ppm	Cu ppm	Zn ppm	Mo ppm	
7/19 6:00AM 25 0															
X 1391		Good	≤1%	Lightly arid.	H. gray (buff)	dry	Same as above pyrite/chalcopyrite?, sphal.?	3150.0092	<.05	180	0.5	17	10	26	4
25 5															
X 1392		Good	≤1%		H. gray (buff)	dry	Same.	3160.0092	0.05	260	0.4	17	12	32	6
6:20 AM 26 0															
X 1393		Good	tr.		H. gray (buff)	dry	Same (more calcite chips?), decrease sulfides.	1570.0030	<.05	90	0.4	16	10	27	3
26 5															
1394		Good	<1%		H. gray (buff)	dry	Same, pos. increase sulfides.	<.0025	<.05	60					
27 0															
1395		Good	tr.		H. gray	dry	Same, prob. decrease sulfides.	<.0025	<.05	60					
27 5															
1396		Good	tr.	H. arid.	Gray	dry	Predom. gray recrystallized ls. w/ calcite veinlets + minor sulfides (pyrite, etc.?)	<.0025	<.05	35					
28 0															
1397		Good	tr.		H. gray	dry	Same as above	<.0025	<.05	30					
28 5															
✓ 1398		Good	≤1%	partly arid.	H. gray	dry	Increase sulfides (slight) increase fractures + oxidation, but same recrystallized ls. w/ calcite veining.	1570.0036	<.05	55	0.3	9	19	20	15
29 0															
✓ 1399		Good	≤1-2%		H. gray (buff)	dry	Same w/ prob. some siltstone? pos. increase sulfides.	1570.0033	<.05	55	0.2	9	32	30	14
29 5															
✓ RC-4400		Good	≤1-2%		H. gray (buff)	dry	Same	1570.0051	<.05	95	0.4	10	24	42	12
30 0															

GSI — Bondar-Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-5 COORD: N

TOTAL DEPTH 460' E

SIZE 5 1/4" COLLAR ELEV. ±5,530 START 7/18 FINISH 7/19

BEARING 540°E INCLINATION -55°

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Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		Au oz/t	Ag oz/t	Au ppb	As ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
300															
RC-340 1		good	1/2%	pentl. oxid.	lt. gray	dry	Mixed recrystallized carbonate + some meta-siltstone, common calcite veinlets, ex look broken, common limonite + Fe-stain (some hematitic-red)	<.0025	<.05	20	-	-	-	-	-
305															
3402		good	tr.?	wkly. oxid.	lt. gray (buff)	dry	Predom. recrystallized ls. + calcite veinlets. Note blk. fine-grd. mottled appearance in carbonate -- ?? carbonaceous?, ~~sulfides~~ ~~Zn, Ag, Sb~~? zone??	<.0025	<.05	20	-	11	17	60	-
310															
3403		good	tr.?	tr. oxidiz.	lt. gray	dry	Same dk. mottlings??	<.0025	<.05	-	-	-	-	-	-
315															
3404		good	tr.?		lt. gray	dry	Same dk. mottlings. ??	<.0025	0.07	30	<.2	16	13	28	8
320															
3405		good	<1%?		lt. gray	dry	Same (increase in pyrite)	<.0025	<.05	15	<.2	17	270	36	7
325															
3406		good	≤1-2%?		lt. gray	dry	Same (increase in sulfides) Note hematitic red fragments -- mineralized fractures; Mixed carbonate + siltstone frags. Looks like a good zone!	<.0025	<.05	45	1.1	1,260	14	46	5
330															
3407		good	3-5%+?	pentl. oxid.	gray buff	dry	Same good (?) zone cont. (siltstone) Chalcopyrite? ~~sphal?~~, pyrite ~~Ag~~??	0.0042	0.33	100	1.1	1,486	10	54	7
335															
3408		good	1-3%		gray buff	dry	Same, (less sulfides) metasiltstone	<.0025	0.18	70	0.6	255	7	23	3
8:05 AM 340															
3409		good	<1%		gray buff	dry	Same w/ zone weakening	<.0025	<.05	25	<.2	58	5	24	2
345															
3410		good	tr.		gray buff	dry	Same	<.0025	<.05	15	-	-	-	-	-
350															

PROJECT ELIZABETH CO. ESMERALDA STATE NV. Page 8 of 10

HOLE NO. E-5 COORD: N

TOTAL DEPTH 460' E

SIZE 5 1/4" COLLAR ELEV. ±5,530 START 7/18 FINISH 7/19 Geologist REB

BEARING S40°E INCLINATION -55°

Time	Depth (ft)	Graphic Log	% Recovery	% Sulfides	Alteration	Fines Color	Dry / Wet	Description	Au oz/t	Ag oz/t	Pb ppm	Zn ppm	Cu ppm	Mo ppm	Mn ppm	GSI	Bondar-Clegg
8:20 AM	35	RC-3411	good	tr.	wkly oxid.	gray-buff	dry	Meta-siltstone, minor qtz > calcite vein fragments, tr. fresh pyrite, some oxidized Fe-stained fractures.	<0.0025	0.11	30	-	-	-	-	-	
	35 5	3412	good	? tr.		gray-buff	dry	Same w/ some carbonate chips may be vein and/or recrystallized ls. interbed. pos. [illegible]? Some Fe-stained fractures. tr. pyrite	<0.0025	0.24	120	0.3	26	13	24	10	103?
	36 0	3413	good	tr.		gray-buff	dry	Same	0.0050	0.18	100						136
	36 5	3414	good	<1%	buff/oxid.	gray-buff	dry	Same, possible slight increase in sulfides + Fe-stain (zone looks as mineralized here as above?	<0.0025	<.05	110						98?
	37 0	3415	good	tr.		gray-buff	dry	Same	0.0052	<.05	240						209
	37 5	3416	good	<1%		gray-buff	dry	Same	0.0046	0.07	170						164
	38 0	3417	good	tr.		reddish gray-buff	dry	Same common hematitic-red Fe-stain pos. Zn?	0.0057	0.06	130	0.2	23	9	41	8	163
	38 5	3418	good	?		red-buff	dry	(Possible structural etc. to phyllitic-- (siltstone/shale lithology -- more micaceous + foliated, common hematitic-red Fe-stain. Weak limonite	<0.0025	0.05	75						
	39 0	3419	good	?		red-gray buff	dry	Phyllitic-shale/siltstone, wk. limonite; minor qtz. vein chips, + light hematitic-red Fe-stain.	<0.0025	<.05	35						
	39 5	RC-3420	good	?		red gray buff	dry	Same w/ increase in Fe-stain + fractures.	<0.0025	0.10	-						
	40 0																

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-5 COORD: N ____ E ____

TOTAL DEPTH 460' SIZE 5 1/4" COLLAR ELEV. ±5,530' BEARING S40°E INCLINATION -55°

START 7/18 FINISH 7/19

Page 9 of 10 Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		Au oz/t	Ag oz/t	As ppb	Hg ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
40 0	RC-3421	Good	?	partly arid.	gray buff	dry	Same phyllitic-shale/siltstone less Fe-stain	<.0025	<.05	-					
40 5	3422	Good	?		gray buff (red)	dry	Same, Note some calcite veining	<.0025	0.09	6	<.02	31	47	64	5
41 0	3423	good	<1%		buff gray	dry	Mixed meta-phyllitic shale/siltstone + gray xln. carbonate, some calcite + qtz. veining + Fe-stained fracture material	<.0025	0.14	5	<.2	26	15	51	5
41 5	3424	Good	tr.		buff gray	dry	Mixed meta-siltstone + recrystallized ls., common veinlets + fracture fillings. tr. pyrite and pos. sphal.??	0.0084	<.05	6	<.2	21	14	42	5
42 0	3425	Good	tr.	wkly. arid.	buff gray	dry	Same as above (recryst. ls. + meta-siltstone) pos. sphal.	<.0025	0.10						
42 5	3426	Good	tr.		gray (buff)	dry	Same (ls. > siltstone)	<.0025	<.05						
43 0	3427	Good	<1%	tr. arid.	gray	dry	Same (increase pyrite)	<.0025	<.05						
43 5	3428	Good	<1%	wkly. arid.	gray (buff)	dry	Same (pos. increase siltstone > ls.)	<.0025	<.05						
44 0	3429	Good	tr.	partly arid.	olive gray	dry	Same, but increase oxidation + calcite veinlets. Same clay/grab. structural zone	<.0025	0.15	35					
44 5	3430	Good	tr.		lt. olive gray	dry	Same as 440-445 -- tr. oxidized + fractured w/ calcite veinlets and some clay.	<.0025	<.05						

GSI | Bondar-Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-5 COORD: N

TOTAL DEPTH 460' E

SIZE 5 1/4" COLLAR ELEV. ±5,530 START 7/18 FINISH 7/19

BEARING S40°E INCLINATION -55°

Page 10 of 10

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t	ANALYSES Ag oz/t
450	RC-3431	good	?	Partly oxid.	H. olive gray	dry	Partly oxidized + fractured metasiltstone, common qtz. vein fragments, some calcite veinlets, wk. limonite, no fresh sulfide obs. but trace may be present.	<.0025	<.05
455	RC-3432	good			(gray) buff	dry	Mixed siltstone + recrystallized ls., tr. fresh pyrite, some limonite + Fe-stained fractures; some calcite + qtz. veinlets.	<.0025	<.05
7/19 10:25 AM 460							T.D. 460'		
5									
0									
5									
0									
5									
0									
5									
0									

LONG LAC MINERALS EXPL. (TEXAS) INC.

DRILL LOG SUMMARY SHEET

PROJECT *Elizabeth*

HOLE NUMBER *E-6* TOTAL DEPTH *420'* LOGGED BY *R.E. Bennett*

Date started *7/19/86*

Date completed *7/20/86*

Initial bearing *S30°E*

Initial inclination *-50°*

Elevation *± 5,560'*

Collar coordinates:

N

E

Contractor *Lang Exploratory Drilling*

Drill Type *Reverse Circulation Rotary*

Hole Size *5 1/4" tricone*

Comments

DOWN HOLE SURVEY INFORMATION

FROM	TO	SURVEY POINT	INCLI-NATION	BEARING	X (Easting)	Y (Northing)	Z (Elevation)

Item 13

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-6 COORD: N

TOTAL DEPTH 420' E

SIZE 5 1/4" COLLAR ELEV. ±5,560' START 7/19 FINISH 7/20/86

tricone BEARING S30°E INCLINATION -50°

Page 1 of 9

Geologist RE Bennett

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t	ANALYSES Ag oz/t
RC-1401 0–5		fair	? Ø	weathered	(red) buff	dry	Recrystallized ls., common hematitic-red Fe-stain, minor qtz. vein fragments, some calcite veining.	<.0025	<.05
1402 5–10		fair	? Ø		red-buff	dry	Same 6" casing to 10'.	<.0025	<.05
11:25 AM 1403 10–15		good	Ø ?		red-buff	dry	Same	<.0025	<.05
1404 15–20		good	? Ø		red-buff	dry	Same	<.0025	<.05
12:00 PM 1405 20–25		good	? Ø		red-buff	dry	Mixed metasiltstone + recrystallized ls. hematitic-red Fe-stain, some qtz. + calcite veinlets.	<.0025	<.05
1406 25–30		good	? Ø		buff-red	dry	recrystallized ls.	<.0025	<.05
1407 30–35		good	? Ø		buff-red	dry	Same	<.0025	<.05
1408 35–40		good	? Ø		buff-red	dry	Same	<.0025	<.05
1409 40–45		good	? Ø		red-brown	dry	Mixed recrystallized ls. + siltstone. Abundant Fe-stain + broken rx., common calcite + qtz. vein frags. Prob. structural zone.	<.0025	<.05
1410 45–50		good	? Ø		brown-red	dry	Same as 40'-45' w/red clay	<.0025	<.05

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-6 COORD: N

TOTAL DEPTH 420' E

SIZE 5 1/4" COLLAR ELEV. ±5,560 START 7/19 FINISH 7/20

BEARING S30°E INCLINATION -50°

Page 2 of 9

Geologist RE Bennett

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au o/t	Ag o/t	As ppm	Pb ppm	Cu ppm	Zn ppm	Mo ppm	
50	RC-1411	good	? Ø ?	weathered	red-brn	dry	Same structural zone 2nd split 2ATFA GD Resources 0.006 o/t Au 206	0.0345	<.05	140	0.3	23	19	43	4 510
55	1412	good	? Ø ?		brn-red	dry	dk. siltstone w/ common yellow-tan calcite veining + common hematitic-red Fe-stain	<.0025	<.05						
12:25 pm 60	1413	good	? Ø		buff (red)	dry	Same as above	<.0025	<.05						
65	1414	good	? Ø		buff	dry	Same as above (increase white calcite vein chips)	0.0039	<.05						
70	1415	good	? Ø		buff	dry	Same (slight increase white calcite vein chips, again).	0.0027	0.06						
75	1416	good	? Ø		buff	dry	Same dk. meta-siltstone + yellow tan carbonate, decrease in white calcite vein frags. Minor hematite-stain	<.0025	0.09						
12:45 pm 80	1417	good	? Ø		buff-red	dry	Same w/ lg. increase in white qtz + calcite veinlets. Common hematite Fe-stain 2nd split 2ATFA GD Resources 0.013 o/t Au 446	0.0183	0.08	480	<.2	17	12	23	3 518.
85	1418	good	? Ø		buff-red	dry	Same; decrease in qtz./calcite vein chips Common hematite-Fe stain	0.0040	<.05	85	-	-	-	-	- 111
90	1419	good	? Ø		buff-red	dry	Same; Common hematite-Fe-stain	0.0047	<.05	120	-	-	-	-	- 141
95	1420	good	? Ø		buff-red	dry	Same; minor qtz./calcite vein chips. Common hematite Fe-stain 0.008 o/t Au, 2nd split 2ATFA GD Resources	0.0151	<.05	200	0.2	26	12	46	3 331
1:00 pm 100															

GSI Bondar-Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-6 COORD: N

TOTAL DEPTH 420' E

SIZE 5 1/4 COLLAR ELEV. ±5560 START 7/19 FINISH 7/20

BEARING S30°E INCLINATION -50°

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t	Ag oz/t	Au oz/t	Pb ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm	
100																
1421		good	?	weathered	brown-red	dry	Same, but increase hematite Fe-stain + slight increase in qtz./calcite vein frags. red clay -- prob. structural zone. 2nd split 2ATFA GD Resources 0.011 oz/t Au Stuck rods at 1:05 PM 377	326 0.0095	<.05	280	0.2	36	8	72	5	328
105																
1422		good	?		buff-red	dry	Same rx. + qtz./calcite vein chips, decrease in hematite Fe-stain Minor hematite stain.	216 0.0063	<.05							216
110																
1423		good	tr.		buff	dry	Abund. calcite vein chips, + broken dk. metasiltstone. Minor hematite-stain	0.0096	<.05	520						425
115																
1424		good	tr.		gray buff	dry	dk. blk. meta-siltstone, minor qtz./calcite vein chips Minor hematite-stain	<.0025	<.05	180						133?
120																
1425		good	?		gray-brown	dry	Same	<.0025	<.05	75						
125																
1426		good	?		buff-gray	dry	Same, w/ minor calcite/qtz. veinlets	<.0025	0.07	60						
130																
1427		good	?		yel-buff-gray	dry	Same, increase in calcite vein chips (slight) + increase hematite-red Fe-stain	141 0.0041	0.05	35						
135																
1428		good	?		red-buff-gray	dry	Same, Note increase again in yellow-tan carbonate + big decrease in white calcite vein chips. Common hematite-stain	<.0025	<.05	40						
1:45 PM 140																
1429		good	?		buff-red	dry	Same as 135-140'	<.0025	<.05	15						
145																
1430		good	?		brown-buff	dry	Siltstone + calcite vein + breccia	<.0025	<.05	35						
150							stuck rods momentarily									

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-6 COORD: N

TOTAL DEPTH 420' E

SIZE 5¼ COLLAR ELEV. ±5,560 START 7/19 FINISH 7/20

BEARING S30°E INCLINATION -50°

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET	DESCRIPTION	ANALYSES Au oz/t	ANALYSES Ag oz/t						
150															
RC-1431		good	Ø ?	weathered	red-buff	dry	Calcite vein, siltstone + phyllite breccia frequents w/ probe. Footwall phyllitic shale/siltstone at end of interval.	<.0025	<.05	30					
155															
1432		good	Ø ?	↓	red-tan	dry	phyllitic-shale + siltstone, hematitic-red Fe-stain, common qtz. vein frags. little or no calcite veining.	<.0025	<.05	35					
2:05 PM 160															
1433		good	Ø ?	partly oxid.	buff	dry	Relatively fresh green phyllitic shale/siltstone, minor limonite + qtz. veinlets.	<.0025	<.05						
165															
1434		good	Ø ?	tr. oxid.	gray buff	dry	Predom. green gray siltstone, locally foliated	<.0025	<.05						
170															
1435		good	Ø	↓	gray buff	dry	Same	<.0025	<.05						
175															
1436		good	tr.	↓	gray buff	dry	Same rx., tr. fresh pyrite + Fe-stained fractures.	<.0025	<.05						
180															
1437		good	Ø	↓	gray brown	dry	Same rx., less Fe-stain, No fresh pyrite obs.	<.0025	<.05						
185															
1438		good	tr.	wkly oxid.	gray buff	dry	Same rx., tr. fresh py., minor qtz./calcite veinlets.	<.0025	<.05						
190															
1439		good	tr.	↓	gray buff	dry	Same, more foliated -- phyllitic shale/siltstone. Slight increase in Fe-stain + fresh pyrite.	<.0025	<.05						
195															
1440		good	? Ø	tr. oxid.	gray buff	dry	Clean "Text-book" Elizabeth phyllitic shale/siltstone. Well foliated blue-gray-green phyllite. Non-calcareous, minor qtz. veinlets, vy. wk. limonite on fractures tr. calcite veinlets	<.0025	<.05						
200															

PROJECT ELIZABETH CO. ESMERALDA STATE NV. Page 5 of 9

HOLE NO. E-6 COORD: N Geologist REB

TOTAL DEPTH 420' E

SIZE 5 1/4 COLLAR ELEV. ±5560' START 7/19 FINISH 7/20

BEARING S30°E INCLINATION -50°

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au o/t	Ag o/t	As ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
200 RC-1441		good	? tr	pentle oxid.	red-brn	dry	Same phyllitic shale/siltstone, but wkly mineralized fracture zone w/ hematitic-red Fe-stain. pos. tr. sphal. + some limonite on fractures.	<.0025	0.27						
205 1442		good	tr.		gray buff	dry	Same	<.0025	<.05						
210 1443		good	±1-2%	tr. oxid.	gray buff	dry	Same phyllitic shale/siltstone w/ common fn-grnd. dissem + fracture controlled sulfide (pyrite + / or chalco-pyrite. Vg. minor qtz./calcite veinlets.	<.0025	<.05	10	<.2	72	8	24	3
215 1444		good	<1%?		gray buff	dry	Same wkly. sulfidic siltstone/shale	<.0025	<.05						
3:15 PM 220							hole blocked above, stuck, Rods pulled, bit skirt change, wet hole to stabilize.								
1445		good	≤1%		gray	dry	Minor phyllitic shale/siltstone + predom. mottled blk. + white recrystallized carbonate. minor fresh sulfide (pyrite), some qtz. + calcite veinlets.	<.0025	<.05						
5:05 PM 225 1446		good	<1%		lt. gray	dry	Mixed gray + white mottled, recrystallized ls. + dk. gray siltstone w/ some calcite veining, some pyrite, pos. chalcopyrite	<.0025	0.11	50	0.3	16	63	132	6
230 1447		good	1-2%+?		dk. gray	dry	Predom. dk. gray meta-siltstone w/ common calcite veinlets + fairly abundant fresh sulfide, pyrite + pos. chalcopyrite	<.0025	<.05	20	<.2	18	25	64	5
235 1448		good	≤1%?		gray	dry	Same, pos. minor recrystallized ls. prob. chalcopyrite.	<.0025	<.05	20	<.2	15	33	52	5
5:25 240 1449		good	<2%?		gray	dry	Same w/ pos. more carbonate	<.0025	<.05	40	<.2	11	30	54	7
245 1450		good	<1%		gray	dry	Minor siltstone; predom. carbonate wk. chalcopyrite.	<.0025	<.05	35	0.2	11	17	28	6
250															

PROJECT ELIZABETH CO. ESMERALDA STATE NV. Page 6 of 9

HOLE NO. E-6 COORD: N Geologist REB

TOTAL DEPTH 420' E

SIZE 5 1/4 COLLAR ELEV. ±5,560' START 7/19 FINISH 7/20

BEARING S 30° E INCLINATION -50°

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t	Ag oz/t	Pb ppm	Ba ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
25 0															
✓ RC-1451		good	<1%	mostly oxid.	lt. gray-white	dry	Some recrystallized ls. + common meta-siltstone pos. tr. chalcopyrite, sphal.?, molybdenite??	<.0025	<.05	30	<.2	13	21	40	6
25 5															
1452		good	tr.		lt. gray	dry	Predom. siltstone, wk. carbonate, some calcite veinlets (some recrystallized ls.)	<.0025	<.05						
26 0															
1453		good	? tr.		gray-buff	dry	Predom. btn., partly oxidized siltstone w/ some gray-white carbonate; some qtz. + calcite veinlets; some limonite on fractures increase oxidation.	<.0025	<.05						
7/19 / 7/20 26 5															
1454		good	tr. ?		brown	dry	broken siltstone + minor carbonate, some clay + gypsum, some qtz. + calcite veinlets some limonite on fractures. increase oxidation.	<.0025	<.05						
27 0															
1455		good	tr.		buff-gray	dry	Same as above less oxidized siltstone + minor carbonate	<.0025	<.05						
27 5															
✓ 1456		good	≤1-2%?	tr. oxid.	gray	dry	Predom. blk + white mottled carbonate w/ common white calcite veinlets, common sulfide (pyrite and chalcopyrite.	<.0025	0.12	85	0.5	16	16	30	8
28 0															
✓ 1457		good	≤1%		gray	dry	Same tx. (less sulfide)	<.0025	<.05	15	0.2	12	13	27	7
28 5															
✓ 1458		good	≤1%		gray	dry	Mixed carbonate + dk. gray metasiltstone some calcite veinlets, some pyrite + chalcopyrite.	<.0025	<.05	30	<.2	16	15	36	9
29 0															
✓ 1459		good	≤1%		gray	dry	Same	<.0025	<.05	45	<.2	11	14	26	7
6:40 AM 29 5															
✓ 1460		good	≤1-2%	wkly oxid.	gray-buff	dry	Same, increase calcite veinlets + sulfides	<.0025	<.05	95	0.4	12	22	30	7
6:45 AM 30 0															

GSI Bondar-Clegg

90?

PROJECT ELIZABETH CO. ESMERALDA STATE NV. Page 7 of 9

HOLE NO. E-6 COORD: N

TOTAL DEPTH 420' E

SIZE 5 1/4" COLLAR ELEV. ±5,560' START 7/19 FINISH 7/20 Geologist

BEARING S30E INCLINATION

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t	Ag oz/t	As ppm	Sb ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
30 0															
RC-1461		good	<1%	Partly oxid.	gray	dry	Mixed siltstone + carbonate, minor pyrite + calcite veinlets.	<.0025	<.05						
30 5															
1462		good	<1%	wkly oxid.	gray buff	dry	Same, pos. chalcopyrite + pyrite	<.0025	<.05						
31 0															
1463		good	<1%	Partly oxid.	buff-gray	dry	Same	<.0025	<.05						
31 5															
1464		good	<1%	tr. oxid.	gray	dry	Same (w/ increase in carbonate chalcopyrite + pyrite	<.0025	<.05						
32 0															
1465		good	<1%	wkly. oxid.	gray	dry	Same	<.0025	<.05						
32 5															
1466		good	<1%	tr. oxid.	gray	dry	Same	<.0025	<.05						
33 0															
1467		good	<1%		gray	dry	Same	<.0025	<.05						
33 5															
1468		good	<1%		gray buff	dry	Same	<.0025	<.05						
34 0															
1469		good	<1%	Partly oxid.	gray buff	dry	Same	<.0025	<.05						
7:40 AM 34 5															
1470		good	<1%	wkly. oxid.	gray buff	dry	Same	<.0025	0.15	25	0.2	13	42	62	4
35 0															

GSI Bondar-Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-6 COORD: N

TOTAL DEPTH 420' E

SIZE 5 1/4 COLLAR ELEV. ±5,560' START 7/19 FINISH 7/20

BEARING S30°E INCLINATION -50°

Page 8 of 9

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		Au %	Ag %	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
35															
14171		good	<1%	wkly. oxid.	gray buff	dry	Same, Mixed siltstone + calcareous siltstone, some calcite veining + fresh pyrite wkly. oxidized + some limonite on fractures. Curious --no visible galena or Sphal. noted in chips-but pos. grain chalco.?	<0.0037	0.07	95	4.2	20	2,800	1,718	3
35 5															
14172		good	<1%		gray	dry	wkly calcareous siltstone + recrystallized ls. minor, minor calcite veinlets.	<.0025	0.06	60	0.9	15	40	1,000	4
36															
14173		good	<1%	partly oxid.	buff-gray	dry	Same pos. minor chalcopyrite	<.0025	<.05	20	-	16	38	52	-
36 5															
14174		good	≤1%	wkly. oxid.	buff-gray	dry	Same.	<.0025	<.05	25	-	17	31	41	-
37															
14175		good	<1%	partly oxid	buff-gray	dry	Same, somewhat fractured, more oxidized + minor clay.	<.0025	<.05	40	-	17	23	41	-
37 5															
14176		good	<1%	wkly oxid.	buff-gray	dry	Same	<.0025	<.05	20	-	15	45	40	-
38															
14177		good	tr.		gray buff	dry	Same	<.0025	<.05						
38 5															
14178		good	tr.		gray buff	dry	Same	<.0025	<.05						
39															
14179		good	tr.		buff gray	dry	Same	<.0025	<.05						
39 5															
14180		good	<1%	partly oxid.	buff gray	dry	Same, Slight increase Fe-oxide + sulfides + weathering --fracturing, calcite veinlets.	<.0025	<.05						
40															

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-6 COORD: N

TOTAL DEPTH 420' E

SIZE 5 1/4" COLLAR ELEV. ±5,560' START 7/19 FINISH 7/20

BEARING S30°E INCLINATION -50°

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au %	ANALYSES Ag %
40 0	1481	good	? Ø	Pattl. oxid.	brn	dry	Prob. structural? ctc w/ phyllitic shale siltstone unit, commonly hematitic red Fe-stain minor clay, minor qtz. vein frags.	<.0025	<.05
40 5	1482	good	Ø	tr. oxidic.	graytan	dry	Typical gray micaceous, foliated phyllitic shale/siltstone "phyllite"	<.0025	<.05
41 0	1483	good	Ø		graybrn	dry	Same, wk. veinlets + Fe-stained fractures	<.0025	<.05
41 5	1484	good	Ø		graybrn	dry	Same	<.0025	<0.05
9:18 AM 42 0							T.D. 420'		
5									
0									
5									
0									
5									
0									

LONG LAC MINERALS EXPL. (TEXAS) INC.

DRILL LOG SUMMARY SHEET

PROJECT *Elizabeth*

HOLE NUMBER *E-7* TOTAL DEPTH *460'* LOGGED BY *R.E. Bennett*

Date started *7/20/86*

Date completed *7/21/86*

Initial bearing *S40°E*

Initial inclination *-50°*

Elevation *5,533'*

Collar coordinates:

N

E

Contractor *Lang Exploratory Drilling*

Drill Type *Reverse Circulation Rotary*

Hole Size *5 1/4"*

Comments

DOWN HOLE SURVEY INFORMATION

FROM	TO	SURVEY POINT	INCLI-NATION	BEARING	X (Easting)	Y (Northing)	Z (Elevation)

Item 13

88

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-7 COORD: N

TOTAL DEPTH 460' E

SIZE 5 1/4" hammer COLLAR ELEV. ±5,533' START 7/20 FINISH 7/21

BEARING 540°E INCLINATION -50°

Page 1 of 10

Geologist R.E. Bennett

Time	Depth (ft)	Graphic Log	% Recovery	% Sulfides	Alteration	Fines Color	Dry / Wet	Description	Au ppb	Ag ppm
10:15 AM ✓ RC-3001	0–5		fair	?	weathered	buff-brn	dry	Recrystallized lt. gray ls., minor Fe-stained fracture fillings, minor gypsum, minor phyllitic shale/siltstone. 5' of 6" casing in bedrock		
3002	5–10		good	Ø	↓	tan	dry	Predom. greenish gray phyllitic shale siltstone.		
✓ 3003	10–15		good	?	↓	red-tan	dry	Phyllitic shale/siltstone w/ common qtz. vein + limonitic fracture fillings, possible sphal.?? gypsum, calcite veinlets. Zone prob. well fractured. Hg = 0.315 ppm	35	1.2
3004	15–20		good	?	↓	tan	dry	Same w/ less mineralized material + more phyllitic-shale siltstone, qtz. vein + gypsum.		
3005	20–25		good	Ø	↓	olive tan	dry	Rel. clean, typical phyllitic shale-siltstone (phyllite). Minor Fe-stained fractures.		
3006	25–30		good	Ø	↓	olive tan	dry	Same		
3007	30–35		good	Ø	↓	olive tan	dry	Same		
3008	35–40		good	Ø	↓	olive-gray	dry	Same		
3009	40–45		good	Ø	↓	olive tan	dry	Same		
10:50 AM 3010	45–50		good	Ø	↓	olive tan	dry	Same w/ abundant white bull qtz. vein fragments. Hg = 0.040 ppm	<5	<.2

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-7 COORD: N

TOTAL DEPTH 460' E

SIZE 5 1/4" COLLAR ELEV. ±5,533' START 7/20 FINISH 7/21

Hammer BEARING S40°E INCLINATION -50°

Page 2 of 10

Geologist RSB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au	Ag
50	3011	good	Ø	weathered	tan buff	dry	Typical, weathered, hangingwall, phyllitic shale/siltstone w/ some white qtz. vein fragments.		
55	3012	good	Ø		tan buff	dry	Same		
60	3013	good	Ø		tan buff	dry	Same		
11:00 AM 65	3014	good	Ø		tan	dry	Same		
70	3015	good	Ø		tan-brn	dry	Same		
75	3016	good	Ø ?		olive gray	dry	Dark green, fine crystalline diabase dike.		
80	3017	good	Ø ?	mostly fresh	olive gray	dry	Same		
11:20 AM 85	3018	good	Ø	weathered	olive buff	dry	Predom. phyllitic shale/siltstone + some clay, minor qtz. vein frags, minor limonite + Fe-stain.		
90	3019	good	? Ø ?		olive gray	dry	Predom. diabase dike, some clay + phyllite		
95	3020	good	? Ø ?	mostly fresh	dk. olive gray	dry	diabase dike		
100									

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-7 COORD: N

TOTAL DEPTH 460' E

SIZE 5¼" COLLAR ELEV. ±5,533' START 7/20 FINISH 7/21

BEARING S 40° E INCLINATION -50°

Page 3 of 10

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au ppb	ANALYSES Ag ppm
100									
3021		good	Ø	weathered	olive buff	dry	Mixed diabase dike + phyllitic shale/siltstone.		
11:33 AM 105									
3022		good	Ø		olive buff	dry	Phyllitic shale/siltstone		
110									
3023		good	tr.		buff olive	dry	Predom. phyllitic-shale + siltstone some sulfidic qtz. vein material w/ pyrite + pos. chalcopyrite; some clay Hg = 0.110 ppm	10	<0.2
115									
3024		good	Ø		buff tan	dry	Phyllitic shale/siltstone		
120									
3025		good	Ø		tan	dry	Same		
11:45 125									
3026		good	Ø		tan	dry	Same		
130									
3027		good	Ø		olive buff	dry	Same		
135									
3028		good	Ø		olive gray	dry	Same (typical phyllite)		
140									
3029		good	Ø		olive gray	dry	Same		
145									
3030		good	Ø		olive gray	dry	Same		
150									

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-7 COORD: N

TOTAL DEPTH 460' E

SIZE 5 1/4" COLLAR ELEV. ±5,533 START 7/20 FINISH 7/21

BEARING INCLINATION

Page 4 of 10

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		Au oz/t (GSI)	Ag oz/t (GSI)	Au ppb (Bondar-Clegg)	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
15.0															
Pc-3031		good	Ø	weathered	olive gray	dry	Same (typical phyllite, hangingwall weathered).								
15.5															
3032		good	Ø		olive gray	dry	Same.								
16.0															
3033		good	Ø ?		gray buff	dry	Phyllitic shale/siltstone then post-mineral (?) shear zone w/ clay + gouge then (prob.) calcite vein (pink-white, clean calcite).	<.0025	<.05						
16.5															
3034		good	Ø ?		red buff	dry	calcite vein, hematitic-red Fe-stained breccia + phyllitic shale/siltstone	<.0025	<.05	45	1.2	26	44	53	4
17.0															
3035		good	Ø ?		buff red	dry	Same (common calcite vein frags. cont.) hematite-red Fe-stain.	<.0025	<.05						
17.5															
3036		good	Ø ?		red buff	dry	Same (slight decrease calcite vein chips) Hg = 140 ppb	<.0025	<.05	940	1.2	40	29	71	4
18.0															
3037		good	Ø ?		red buff	dry	Same	<.0025	<.05						
18.5															
3038		good	Ø ?		buff red	dry	Same w/ much less hematitic-red Fe-stain, Some limonitic Fe-stain, minor calcite vein. More greenish shale/siltstone.	<.0025	<.05						
19.0															
3039		good	Ø ?		red buff	dry	same, increase hematite-red Fe-stain, minor qtz. vein, > calcite vein frags., minor limonite + limonitic Fe-stain.	<.0025	<.05						
19.5															
3040		good	Ø ?		red buff	dry	Same	<.0025	<.05						
20.0															

ANALYSES

GSI — Bondar-Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-7 COORD: N

TOTAL DEPTH 460' E

SIZE 5¼" COLLAR ELEV. +5533 START 7/20 FINISH 7/21

hammer/tricone BEARING S40°E INCLINATION -50°

Page 5 of 10

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET	DESCRIPTION	ANALYSES Au oz/t	Ag oz/t	As ppb	Sb ppm	Cu ppm	Pb ppm	Zn ppm	Fe ppm
200															
RC-3041		good	? Ø	weathered	red brn	dry	Green + hematitic-red Fe-stained phyllite, some qtz. vein fragments.	<.0025	4.05						
12:48 205							tripped rods after cleaning hole -- change to tricone bit.								
3042		good	? Ø		redbrown	dry	Same, hematitic-red + green phyllite, common qtz. vein + gypsum.	<.0025	<.05						
210															
3043		good	? Ø		olive tan	dry	Same rx., less hematitic-red Fe-stain	<.0025	<.05						
215															
3044		good	? Ø		tan	dry	Same, w/ some siliceous(?) micro-breccia fragments, + qtz. veinlets.	<.0025	<.05						
220															
2. 3045		good	? Ø	partly oxid.	olive gray	dry	Mottled gray + white + yellow-tan silty carbonate! Possible weak structural contact ??	<.0025	<.05						
225															
3046		good	? Ø		olive gray brn	dry	Same, but greater silt content(?)	<.0025	<.05						
230															
Hg? 3047		good	? Ø		gray brn	dry	Same, common hematite-stain.	<.0025	<.05	120	<.2	24	25	71	9
235															
3048		good	? Ø		gray buff	dry	Same -- increase (yellow > white) carbonate content silty carbonate	<.0025	<.05						
2:12 240															
3049		good	tr.		gray buff	dry	Same; increase white carbonate (calcite) tr.! fresh pyrite obs.	<.0025	<.05						
245															
Hg? 3050		good	tr.		gray	dry	Same as above; (pos. vy. fn-gnd. cinnabar ??); tr. fresh, vy. fn-gnd. pyrite Hg = 30 ppb	<.0025	0.13	30	<.2	12	51	51	16
250															

GSI Bondar-Clegg

103'

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-7 COORD: N

TOTAL DEPTH 460' E

SIZE 5 1/4" COLLAR ELEV. ±5,533' START 7/20 FINISH 7/21

tricone BEARING 540°E INCLINATION -50°

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Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		Au oz/t	Ag oz/t	Au ppb	Hg ppm	Cu ppm	Pb ppm	Zn ppm	As ppm
25															
Hg? 3141		good	tr.	earthy oxid.	gray buff	dry	Same sitHy(?) carbonate w/ increase limonite + some deep red fn.-gnd. mineral may be cinnabar or an Fe-oxide?? Hg = 260 ppb	<.0025	<.05	60	0.3	12	24	36	17
25 5															
3142		good	? tr.		gray buff	dry	Same	<.0025	<.05	90	0.4	10	14	23	17
26															
Fe? Fe? Hg? 3143		good	tr.		gray buff	dry	Same, increase deep blood red trans lucent mineral ?? (Ruby silver ???) (Ruby Jack ???) (Ruby Copper ???) Fe-oxides ?? not cinnabar either! Hg = 250 ppb	<.0025	<.05	80	0.5	12	15	17	18
26 5															
3144		good	tr.		gray (buff)	dry	Same	B 0.0044	<.05	100	<.2	12	15	13	13
27															
3145		good	≤1%	mostly fresh	gray	dry	Mostly fresh gray/white mottled carbonate + minor dk-gray siltstone; increase pyrite, prob. chalcopyrite, same red peculiar mineral from above. Hg = 45 ppb	B 0.0026	<.05	45	<.2	10	13	15	9	
27 5															
3146		good	<1%	earthy oxid.	gray	dry	Same, less sulfide, still some red mineral.	<.0025	<.05						
3:10 PM 28															
3147		good	1%	wkly oxid.	gray	dry	Same, note some greenish micro-breccia fragments (siliceous?)	<.0025	<.05						
28 5															
3148		good	tr.		gray	dry	Same, minor sulfide trace red mineral	<.0025	<.05						
29															
Hg? 3149		good	tr.	earthy oxid.	gray buff	dry	Same -- some clay, increase red mineral (prob. cinnabar ???) Hg = 30 ppb	<.0025	<.05	30	<.2	12	16	23	10
29 5															
Hg? 3150		good	tr.	wkly oxid.	gray buff	dry	Same, w/ some red mineral	<.0025	<.05	25	<.2	13	12	31	10
30															

ANALYSES — GSI: Au, Ag; Bondar-Clegg: Au ppb, Hg ppm, Cu ppm, Pb ppm, Zn ppm, As ppm

126

67

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-7 COORD: N

TOTAL DEPTH 460' E

SIZE 5¼" COLLAR ELEV. ±5,533 START 7/20 FINISH 7/21

BEARING S40°E INCLINATION -50°

Page 7 of 10

Geologist RER

Sample	Depth (ft)	Graphic Log	% Recovery	% Sulfides	Alteration	Fines Color	Dry / Wet	Description	Au oz/t	Ag oz/t	As ppb	Sb ppm	Cu ppb	Pb ppm	Zn ppm	Mo ppm
RC-34451	30		good	<1%	wkly. oxid.	gray buff	dry	Same	<.0025	<.05	40	0.2	15	43	53	10
34452	30		good	tr.		dk. gray buff	dry	Mixed carbonate + siltstone, some red mineral	<.0025	<.05						
34453	31		good	<1%		dk. gray buff	dry	Same, minor limonite, red mineral essen. gone.	<.0025	<.05						
34454	32		good	1%		gray buff	dry	Same, tr. red mineral, par. chalcopyrite (tr.); sphal.??	<.0025	<.05						
34455	32		good	tr.	partly oxid.	buff (gray)	dry	Same, increase oxidation and fracturing; mixed carbonate + siltstone. Some qtz. + calcite veining, common Fe-staining, pos. silicification	<.0025	0.06	90	0.3	16	20	55	16
34456	33		good	tr.		gray buff	dry	Same	<.0025	0.06	35	<.2	18	23	41	8
34457	33		good	tr.		buff-gray	dry	Same, w/ some clay - possible structural contact w/ phyllitic shale/siltstone	<.0025	0.11	15	<.2	24	21	58	4
34458	34		good	Ø	tr. oxidiz.	olive buff	dry	Rel. fresh unmineralized phyllitic shale/siltstone (essen. non-calcareous) green gray, minor calcite veinlets + tr. Fe-stained fractures -- rx. wkly to strongly foliated + variably micaceous.	<.0025	<.05						
34459	34		good	Ø		buff olive	dry	Same	<.0025	<.05						
3460	35		good	Ø		olive gray	dry	Same	<.0025	<.05						

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-7 COORD: N

TOTAL DEPTH 460' E

SIZE 5 1/4" COLLAR ELEV. ±5,533' START 7/20 FINISH 7/21

Tricone BEARING S 40°E INCLINATION

Geologist RSB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		Au oz/t	Ag oz/t	As ppm	Sb ppm	Zn ppm	Pb ppm	Zr ppm	Mo ppm
35															
RC-3461		good	Ø	wk. arg.	olive gray	dry	Phyllitic shale/siltstone as above	<.0025	<.05						
35 5															
3462		good	Ø		olive gray	dry	Same	<.0025	<.05						
36 0															
3463		good	Ø		buff olive	dry	Same, w/ increase in Fe-ox? (red fn-grnd mineral on fractures).	<.0025	<.05						
36 5															
3464		good	Ø		buff olive	dry	Same, but prob. more bkn. + pos. clay/sericite alteration--increase in white-buff fines clinging to fragments.	<.0025	<.05						
37 0															
3465		good	Ø		olive buff	dry	Rx. look fresh + value for GSI may likely be bogus (or perhaps switched w/ 3464 or 66 ?!?). Good foliated phyllite -- rel. fresh -- vy. wk. Fe-oxides on fractures. Minor qtz. vein frags. (2nd split 2 AT FA Au 0.002 oz/t)	0.0075	<.05	12	<.2	21	14	42	5 ? 172 ?
37 5															
3466		good	tr.		olive gray	dry	Same, rx. as above; increase qtz. vein frags. + Fe oxides on fractures + vein chips, tr. fresh pyrite obs. in vein frags.	<.0025	<.05						
38 0															
3467		good	Ø		olive buff	dry	Typical phyllitic shale/siltstone, minor qtz. vein chips.	<.0025	<.05						
38 5															
3468		good	Ø		olive gray	dry	Same (increase siltstone content -- pos. tr. diabase dike)	<.0025	<.05						
39 0															
3469		good	Ø		olive gray	dry	Same (w/o diabase, minor limonite on fractures)	<.0025	<.05						
39 5															
3470		good	Ø		olive buff	dry	Same, pos. tr. diabase dike prob. at end of interval	<.0025	<.05						
40															

GSI — Bondar Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-7 COORD: N

TOTAL DEPTH 460' E

SIZE 5¼" COLLAR ELEV. ±5,533 START 7/20 FINISH 7/21

BEARING S40°E INCLINATION -50°

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Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au %	ANALYSES Ag %
400	RC-34171	good	Ø	tr.	olive gray	dry	diabase dike	<.0025	<.05
405	34172	good	Ø		olive gray	dry	Mixed diabase + phyllite	<.0025	<.05
410	34173	good	Ø		olive buff	dry	Typical phyllitic shale/siltstone well foliated, fresh., pos. trace diabase dike frags.	<.0025	<.05
415	34174	good	tr.		olive buff	dry	Same, some sulfidic qtz. vein chips.	?	?
420	3081	good	Ø		olive gray	dry	(phyllite) same	<.0025	<.05
425	3082	good	tr.		olive gray	dry	Same (siltstone > shale) less micaceous tr. fresh pyrite, some limonitic Fe-stain.	<.0025	<.05
430	3083	good	Ø		olive gray	dry	Good phyllite (shale ≈ siltstone)	<.0025	<.05
435	3084	good	Ø		olive gray	dry	Same	<.0025	<.05
440	3085	good	tr.		olive gray	dry	Same, slight increase in Fe oxides on fractures.	<.0025	<.05
445	3086	good	Ø?		tan olive	dry	Same	<.0025	<.05
450									

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-7 COORD: N

TOTAL DEPTH 460' E

SIZE 5¼" COLLAR ELEV. ±5,533' START 7/20 FINISH 7/21

Tricone BEARING 540°E INCLINATION -50°

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t	Ag oz/t	Au ppb	Pb ppm	Cu ppm	Zn ppm	Mo ppm
45 0		good	0	tr. oxid.	tan olive	dry	Phyllite = phyllitic shale/siltstone	<.0025	<.05					
RC-3087														
45 5		good	<1%		tan olive	dry	Same rx., Note some fresh pyrite fracture fillings -- Notable increase since beginning of phyllite.	<.0025	0.05	25	1.2	21	9	78	3
3088														
46 0							T.D. 460'							
5							This hole was deepened in an attempt to cut the eastern fault zone, but not sufficient encouragement to continue this hole -- no calcite veining at this depth -- footage allotment reached for phase I drilling.							
0														
5														
0														
5														
0														
5														
0														

GSI Bondar-Clegg

LONG LAC MINERALS EXPL. (TEXAS) INC.

DRILL LOG SUMMARY SHEET

PROJECT **Elizabeth**

HOLE NUMBER E-8 TOTAL DEPTH 260' LOGGED BY R.E. Bennett

Date started 7/21/86

Date completed 7/21/86

Initial bearing S50°E

Initial inclination -60°

Elevation ±5,390'

Collar coordinates:

N

E

Contractor Lang Exploratory Drilling

Drill Type Reverse Circulation Rotary

Hole Size 5 1/4" tricone

Comments

DOWN HOLE SURVEY INFORMATION

FROM	TO	SURVEY POINT	INCLI-NATION	BEARING	X (Easting)	Y (Northing)	Z (Elevation)

Item 13

88

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-8 COORD: N

TOTAL DEPTH 260' PAD #15 E

SIZE 5 1/4" COLLAR ELEV. ±5,390' START 7/21 FINISH 7/21/86

tricone BEARING S50°E INCLINATION -60°

Geologist R.E. Bennett

Time	Depth (ft)	Graphic Log	% Recovery	% Sulfides	Alteration	Fines Color	Dry / Wet	Description	Au oz/t	Ag oz/t
7:45 AM	0									
	RC-3101		Fair	Ø	weathered	reddish buff	dry	0'-5' Overburden w/ ls. float minor yellow-tan shaly-siltstone Cambrian Harkess Fm. (non-calcareous)	<.0025	0.05
	5									
	3102		Fair	Ø		tan-brwn	dry	Predom. shaly siltstone + minor hematitic-red veinlet fragments. Siltstone is non calcareous + weakly to moderately foliated. Minor calcareous chips maybe from talus. 6" casing to 10'	<.0025	<.05
	10									
	3103		Good	Ø		tan	dry	Mixed ls. + shaly siltstone chips, Minor white calcite vein chips -- May or may not be cave from driving casing?	<.0025	<.05
	15									
	3104		Good	Ø		tan brwn	dry	phyllitic shale/siltstone (non calcareous) moderately foliated	<.0025	<.05
8:05 AM	20									
	3105		Good	Ø		brwn-tan	dry	Same as above	<.0025	<.05
	25									
	3106		Good	Ø		brwn tan	dry	Same as above	<.0025	<.05
	30									
	3107		Good	Ø		brwn tan	dry	Same as above w/ some qtz. vein material + minor gypsum (selenite) Some Fe-oxides on fracture surfaces.	<.0025	0.05
	35									
	3108		Good	Ø		brwn-buff	dry	Phyllitic shale/siltstone (as above)	<.0025	<.05
	40									
	3109		Good	Ø		olive-brwn	dry	Mixed phyllitic shale/siltstone and dirty ls. (dk. brwn.) weak Fe-stain	<.0025	<.05
	45									
	3110		Good	Ø		tan-buff	dry	Predom. phyllitic shale/siltstone and minor dirty ls. minor clay + qtz. vein fragments.	<.0025	0.06
	50									

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-8 COORD: N

TOTAL DEPTH 260' E

SIZE 5 1/4 COLLAR ELEV. ±5390' START 7/21 FINISH 7/21

BEARING S50°E INCLINATION -60°

Geologist KEB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au %	ANALYSES Ag %
50 RC-3/11		good	Ø	weathered	tan-buff	dry	Phyllitic shale/siltstone w/ minor qtz./calcite vein frags.	<.0025	<.05
55 3/12		good	Ø		brwn-tan	dry	Same as above	<.0025	<.05
60 3/13		good	Ø		brwn-tan	dry	Same as above -- common white bull qtz. veinlets.	<.0025	<.05
65 3/14		good	Ø		tan-buff	dry	Phyllitic shale/siltstone, minor qtz. vein chips	<.0025	<.05
70 3/15		good	Ø		tan-buff	dry	Same as above	<.0025	<.05
75 3/16		good	Ø		brwn-tan	dry	Same as above	<.0025	<.05
8:35 AM 80 3/17		good	Ø		buff-tan	dry	Same as above	<.0025	<.05
85 3/18		good	Ø		buff-tan	dry	Same as above	<.0025	<.05
90 3/19		good	Ø		olive brwn	dry	Same rx. w/ abund. clay (calcareous + some limonite grains)	<.0025	<.05
95 RC 3/20		good	Ø		brwn-tan	dry	Phyllitic shale/siltstone, non-calcareous, minor clay (from above?).	<.0025	<.05
8:50 AM 100									

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-8 COORD: N

TOTAL DEPTH 260' E

SIZE 5 1/4" COLLAR ELEV. ±5390' START 7/21 FINISH 7/21

BEARING S50°E INCLINATION -60°

Page 3 of 6

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au ppb	ANALYSES Ag ppb
100									
RC-3121		good	.2	weathered	bwn-tan	dry	Phyllitic shale + siltstone, common qtz. vein frags, some clay.	<.0025	<.05
105									
3122		good	Ø		bwn-buff	dry	Phyllitic shale / siltstone, minor qtz / calcite vein chips, minor goethite after specularite?	<.0025	<.05
110									
3123		good	Ø		bwn-buff	dry	Same as above	<.0025	<.05
115									
3124		good	Ø		bwn-buff	dry	Same as above	<.0025	<.05
120									
3125		good	Ø		buff-tan	dry	Same as above	<.0025	<.05
125									
3126		good	Ø		buff-tan	dry	Same as above	<.0025	<.05
130									
3127		good	Ø		buff-tan	dry	Same as above	<.0025	<.05
135									
3128		good	Ø		tan	dry	Same as above	<.0025	<.05
9:10 AM 140									
3129		good	Ø		bwn-tan	dry	Same as above	<.0025	<.05
145									
3130		good	Ø		bwn-tan	dry	Same as above	<.0025	0.05
150									

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-8 COORD: N

TOTAL DEPTH 260' E

SIZE 5 1/4" COLLAR ELEV. ±5,390' START 7/21 FINISH 7/21

BEARING S 50°E INCLINATION -60°

Geologist RSB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t	ANALYSES Ag oz/t
150									
RC-3131		good	Ø	weathered	brwn-tan	dry	Phyllitic shale/siltstone w/ minor qtz.-calcite veinlets + weak Fe-staining on fractures.	<.0025	<.05
155									
3132		good	Ø		brwn-buff	dry	Same as above	<.0025	<.05
160									
3133		good	Ø		brwn	dry	Same as above. Some clay.	<.0025	0.05
165									
3134		good	Ø		brwn-tan	dry	Same as above	<.0025	<.05
170									
3135		good	Ø		brwn	dry	Same as above	<.0025	<.05
175									
3136		good	Ø		brwn	dry	Same as above	<.0025	<.05
180									
3137		good	Ø		brwn-tan	dry	Same as above	<.0025	<.05
185									
3138		good	Ø		brwn-tan	dry	Predom. siltstone / minor phyllitic shale, tr. calcite vein chips. Some qtz. vein chips. Common light Fe-staining. Some tan clay.	<.0025	<.05
190									
3139		good	Ø		brwn	dry	Phyllitic shale / siltstone, locally broken, + hematitic-red Fe-stain; Common white qtz. vein frags. some selenite	#0.0036	<.05 <5
195									
3140		good	Ø		red-brwn	dry	Same w/ increase in Fe-stain (hematitic-red) and common red-tan clay.	<.0025	<.05 <5
200									

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-8 COORD: N

TOTAL DEPTH 260' E

SIZE 5 1/4" COLLAR ELEV. 5,390' START 7/21 FINISH 7/21

BEARING S 50° E INCLINATION -60°

Geologist RSB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t	Ag oz/t	Pb ppm	As ppm	Cu ppm	Hg ppm	Zn ppm	Mo ppm
200 RC-3089		good	Ø	weathered	red-buff	dry	Reddish phyllitic shale/siltstone w/ common white calcite + qtz. vein frags.	<.0025	0.05						
205 3090		good	Ø	partly fresh	brown (red)	dry	Mixed fresh greenish gray siltstone/shale + oxidized, hematitic-red siltstone/shale. Minor calcite/qtz. vein chips.	<.0025	<.05						
210 3091		good	Ø	weathered	red-brown	dry	Oxidized, hematitic-red Fe-stained phyllitic shale/siltstone w/ minor calcite + qtz. vein material.	<.0025	<.05						
215 3092		good	Ø	minor fresh	red-buff	dry	Mixed recrystallized ls. (gray-white-tan) + hematitic-red phyllitic shale/siltstone. Minor qtz./calcite vein chips	<.0025	<.05						
220 3093		good	Ø	weathered	red-brown	dry	Oxidized, hematitic-red Fe-stained phyllitic shale/siltstone w/ minor qtz./cal. vein frags.	<.0025	<.05						
225 3094		good	Ø	←	red-brown	dry	Same as above	<.0025	<.05	15					
230 3095		good	Ø	←	red-brown	dry	Same as above, but Note common white calcite vein frags. 2ATFA (2nd split) 0.001 oz/t Au GD Resources	0.0098	<.05	10					100
235 3096		good	Ø	←	red-brown	dry	Same hematitic-red phyllitic shale/siltstone as above less the calcite vein frags. Common white qtz. vein frags.	<.0025	<.05	10					12?
240 3097		good	Ø	←	brown-red	dry	Same as above! (no calcite vein!)	0.0073	<.05	12	2.2	27	11	40	4
245 3098		good	Ø	←	brown-red	dry	hematitic-red phyllitic shale/siltstone w/ minor calcite veining. Note siltstone/shale is not calcareous!	0.0031	<.05	5					56
250															

GSI Bondar-Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-8 COORD: N

TOTAL DEPTH 260' E

SIZE 5 1/4" COLLAR ELEV. ±5,390' START 7/21 FINISH 7/21

BEARING S50°E INCLINATION -60°

Page 6 of 6

Geologist R.E.B

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au o/t	Ag o/t	Au ppb					
25							hematitic-red phyllitic shale/siltstone w/ some white qtz. vein frags.								
RC-3099		good	Ø	weathered	red-brn	dry		0.0026	<.05	120					105
25															
RC-3100		good	Ø		red-brn	dry		<.0025	<.05	75					75?
10:30 AM 26															
							T.D. end of Hole E-8 260'								
							Footage allotment getting tight so hole terminated. If had to do over again -- not knowing overall results -- I might deepen hole to get out of hematite zone!								
5															
0															
5															
0															
5															
0															
5															
0															

GSI Bondar-Clegg

LONG LAC MINERALS EXPL. (TEXAS) INC.

DRILL LOG SUMMARY SHEET

PROJECT **Elizabeth**

HOLE NUMBER E-9 TOTAL DEPTH 300' LOGGED BY RE Bennett

Date started 7/21/86

Date completed 7/21/86

Initial bearing S5°E

Initial inclination -50°

Elevation ± 5,275 ft.

Collar coordinates:

N

E

Contractor Lang Exploratory Drilling

Drill Type Reverse circulation rotary

Hole Size 5 1/4" tricone

Comments

DOWN HOLE SURVEY INFORMATION

FROM	TO	SURVEY POINT	INCLI-NATION	BEARING	X (Easting)	Y (Northing)	Z (Elevation)

Item 13 (88)

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-9 COORD: N

TOTAL DEPTH 300' hole finished 2:35 pm E

SIZE 5 1/4" COLLAR ELEV. ±5,275 START 7/21 FINISH 7/21/86

tricone BEARING S5°E INCLINATION -50°

Geologist R.E. Bennett

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET	Description	ANALYSES Au %	ANALYSES Ag %
±11:30 AM 0		good	Ø	weathered	brown	dry	Cambrian Harkless siltstone (shale) minor hematite + limonite stained fractures minor caliche in veinlet form. Non calcareous siltstone.		
2:05 to complete hole RC-3151 5									
3152		good	Ø		brown	dry	Same as above		
10							10 ft. of 6" casing set, begin 5 1/4" hole dia.		
3153		good	Ø		brown	dry	Same as above; minor clay		
15									
3154		good	Ø		tan	dry	Same as above; minor clay		
11:50 AM 20									
3155		good	Ø		tan	dry	Same; minor clay + qtz. vein.		
25									
3156		good	Ø	relative. fresh	buff	dry	Relatively fresh olive-gray siltstone weak Fe-stain + minor calcite micro fract. fillings. Siltstone is non-calcareous. No clay.		
30									
3157		good	Ø		buff	dry	Same as above		
35									
3158		good	Ø		buff	dry	Same as above; Note increase in Fe-oxides + calcite microveinlets on some fracture surfaces. Still fresh		
40									
3159		good	Ø		buff	dry	Rx more broken? -- smaller chip size, but still olive-gray siltstone		
45									
? ⇒ RC-3160		good?	Ø	weathered	tan	dry	Rx more strongly oxidized, more Fe-staining; some clay	<.0025	<.05
50									

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-9 COORD: N

TOTAL DEPTH 300' E

SIZE 5 1/4" COLLAR ELEV. ±5,275 START 7/21 FINISH 7/21/86

Tricone BEARING S5°E INCLINATION -50°

Page 2 of 6

Geologist R. Bennett

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		Au oz/t	Ag oz/t	Pb ppm	ppm	Cu ppm	ppm	Zn ppm	ppm
50 RC-3161		good	tr.?	weathered	tan	dry	Same as above; pos. tr. fresh sulfide	<.0025	<.05						
55 3162		good	Ø		tan	dry	Same as above; no fresh sulfides obs. Some clay.	<.0025	<.05						
60 3163		good	? tr.		tan (red)	dry	Rel. strong Fe-oxides, siltstone is broken oxidized + Fe-stained; some clay; pos. sulfidic zones (vy. fine in gray-green patches?)	<.0025	<.05						
65 3164		good	Ø		tan	dry	Rx. rel. fresher than above, but still mod. Fe-staining on fractures.	<.0025	<.05						
70 3165		good	? Ø ?		red tan	dry	Mostly hematitic-red Fe-stained siltstone fragments some greenish unaltered chips, minor clay + bleached chips	<.0025	<.05	20	<.2	40	17	104	3
75 3166		good	? Ø		tan	dry	Similar w/ increase in bleached + fresh chips, minor white qtz. vein chips, fewer hematitic red chips; minor clay.	<.0025	<.05						
80 3167		good	? Ø		tan buff	dry	Mostly fresh green to buff siltstone chips w/ some minor Fe-staining on fractures, Minor microveinlets of qtz. + calcite.	<.0025	<.05						
85 3168		good	? ? ? ?		tan buff	dry	Mixed relatively fresh siltstone chips + possible altered + veined (microveinlets) siltstone chips. Common Fe-stained chips Some qtz + calcite + possible sphalerite?? veinlets.	<.0025	<.05						
90 3169		good	? Ø ?		green-buff	dry	Generally fresh olive gray siltstone w/ minor Fe-stained fractures — limonite after pyrite??	<.0025	<.05						
95 ? RC-3170		good	? Ø ?		tan-brn	dry	More oxidized green-gray siltstone w/ common tan clay, common Fe-stained fractures, some qtz. vein fragments, some micro qtz. veinlets w/ xln. qtz.	<.0025	<.05						
100								GSI		Bondar-Clegg					

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-9 COORD: N

TOTAL DEPTH 300' E

SIZE 5 1/4" Tricone COLLAR ELEV. 5,275 BEARING S5°E START 7/21 FINISH 7/21/86 INCLINATION -50°

Geologist R.E. Bennett

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t (GSI)	Ag oz/t (GSI)	As ppb (Bondar, Clegg)	Pb ppm	Cu ppm	Zn ppm	Mo ppm
100 RC-3171		good	? Ø	weathered	olive brn	dry	Same as above	<.0025	<.05					
105 3172		good	? Ø		olive brn	dry	Same as above.	<.0025	<.05					
110 3173		good	? Ø ?		olive brn	dry	Same as above -- increase in limonitic Fe-stain	<.0025	<.05					
115 3174		good	? Ø ?		olive tan	dry	Same as above -- increase broken character + oxidation + clay	<.0025	<.05					
120 3175		good	? Ø ?		olive brn	dry	Common clay, oxidized + broken siltstone	<.0025	<.05					
125 3176		good	? Ø ?		olive brn	dry	Rx. are relatively fresh w/ common limonitic coatings on fractures. Minor qtz. veinlets + calcite veinlets. Possible wk. sericite??	<.0025	<.05					
130 3177		good	? Ø ?		olive brn	dry	Same as above fine micaceous coatings on chips (Sericite?)	<.0025	<.05					
135 3178		good	? Ø ?		olive brn	dry	Same as above. (sericite?)	<.0025	<.05					
140 3179		good	? Ø ?		olive brn	dry	Same as above. (sericite?)	<.0025	<.05					
145 RC-3180		good	? Ø ?		tan-brn	dry	More oxidized, more limonitic Fe-stain, + more clay. (sericite?)	<.0025	0.06	10	0.7	52	17	170	2
150														

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-9 COORD: N

TOTAL DEPTH 200 E

SIZE 5 1/4" Tricone COLLAR ELEV. ±5,275' START 7/21 FINISH 7/21/82

BEARING S5°E INCLINATION -50°

Page 4 of 6

Geologist RE Barnett

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		Au oz/t	Ag oz/t	Au ppb	As ppm	Cu ppm	Pb ppm	Zn ppm	Hg ppm
150	RC-3181	good	tr.	weathered	tan	dry	less clay than above, slightly less oxidized(?), but otherwise the same. Sericite?	<.0025	<.05						
155	3182	good	tr.		olive tan	dry	increase in tan-buff clay; trace pyrite in qtz. vein fragment. Some to common milky white qtz. vein fragments. Sericite?	<.0025	<.05						
160	3183	good	tr.		olive brwn	dry	Common white qtz. vein frags. Common clay. Rx. look broken -- Possibly interesting zone.	<.0025	0.05	5	<.2	34	7	95	1
165	3184	good	tr.		olive brwn	dry	Common clay, some white qtz. vein frags	<.0025	0.05						
170	3185	good	<1%	Sericite?	olive gray	dry	Fresh rx. sericitic(?) olive gray siltstone w/ some fine-grd. disseminated + fracture controlled pyrite.	<.0025	<.05	15	0.2	53	19	114	2
175	3186	good	<1%		gray buff	dry	Sericitic gray-green siltstone, trace fresh pyrite, some white qtz. vein frags.	<.0025	<.05						
180	3187	good	<1%		gray buff	dry	Same	<.0025	<.05						
185	3188	good	<1%		gray buff	dry	Same	<.0025	<.05						
190	3189	good	<1%		med. gray	dry	Same w/ common calcite vein(?) chips	<.0025	<.05	5	<.2	58	15	100	2
195	RC-3190	good	<1%		med. dk. gray	dry	Same as above	<.0025	<.05						
200															

ANALYSES: GSI (Au, Ag); Bondar-Clegg (Au ppb, As ppm, Cu ppm, Pb ppm, Zn ppm, Hg ppm)

fresh rx. ← → weathered

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-9 COORD: N

TOTAL DEPTH 300' E

SIZE 5 1/4" COLLAR ELEV. ±5,275 START 2/21 FINISH 2/21/80

Tricone BEARING 55°E INCLINATION -50°

Page 5 of 6

Geologist RE Bennett

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t	Ag oz/t	Au ppb	As ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
200	RC-3191	good	<1%	sericite?	med. dk. gray	dry	Sericitic(?) gray green siltstone w/ trace pyrite + minor qtz + calcite vein chips.	<.0025	<.05						
205	RC-3192	good	<1%	↓	med. dk. gray	dry	Same as above	<.0025	<.05						
210	3193	good	<1%	↓	med. dk. gray	dry	Same as above	<.0025	<.05						
215	3194	good	<1%	↓	med. gray	dry	Same as above	<.0025	<.05						
220	3195	good	<1%	↓	↑	dry	Same as above	<.0025	<.05						
225	3196	good	<1%	↓	↑	dry	Same as above, common gray-white clay noted when washed.	<.0025	<.05						
230	3197	good	<1%	↓	↑	dry	Same as above	<.0025	<.05						
235	X 3198	good	<1%	↓	med. olive gray	dry	Same as above (Note lg. chip size -- harder rock, pos. slight increase in sulfides (pyrite)	<.0025	<.05	<5	1.2	46	4	74	2
1:55 PM 240	3199	good	<1%	↓	olive-gray	dry	Same as above	<.0025	<.05						
245	RC-3200	good	<1%	↓	olive-gray	dry		<.0025	<.05						
250								GSI		Bondar-Clegg					

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-9 COORD: N

TOTAL DEPTH 300' E

SIZE 5 1/4" COLLAR ELEV. ±5,275 START 7/21 FINISH 7/21/86

BEARING S5°E INCLINATION -50°

Geologist RE Bennett

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		Au o/t	Ag o/t	Ag ppb	As ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
250 RC-3201		Good	<1%	sericite	olive gray	dry	Spotted hornfelsic siltstone w/ common dk. green chloritic grain specks in light gray matrix. tr. sulfides, trace qtz. veinlets, non-calcareous rx.	<.0025	<.05						
255 3202		good	<1%		olive gray	dry	Same spotted siltstone	<.0025	<.05						
260 3203		good	<1%		light olive gray	dry	Same as above	<.0025	<.05						
265 3204		good	<1%		olive gray	dry	Same as above	<.0025	<.05						
270 3205		good	<1%		olive gray	dry	Same as above	<.0025	<.05						
275 3206		good	<1%		olive gray	dry	Same as above	<.0025	<.05						
280 3207		good	<1%		olive gray	dry	Same	<.0025	<.05						
285 3208		good	<1%		olive gray	dry	Same	<.0025	<.05						
290 3209		good	<1%		olive gray	dry	Same, w/ several small sulfide grain masses.	<.0025	<.05	5	<.2	42	5	85	3
295 RC-3210		good	<1%		olive gray	dry	Same w/ minor qtz. vein chips	<.0025	<.05						
300															

ANALYSES

GSI — Bondar-Clegg

9:35 AM

LONG LAC MINERALS EXPL. (TEXAS) INC.

DRILL LOG SUMMARY SHEET

PROJECT *Elizabeth*

HOLE NUMBER *E-10* TOTAL DEPTH *300'* LOGGED BY *RE Bennett*

Date started *7/21/86*

Date completed *7/22/86*

Initial bearing *N30°E*

Initial inclination *-50°*

Elevation *±4,930'*

Collar coordinates:

N

E

Contractor *Lang Exploratory Drilling*

Drill Type *Reverse Circulation Rotary*

Hole Size *5 1/4" tricone*

Comments

DOWN HOLE SURVEY INFORMATION

FROM	TO	SURVEY POINT	INCLI-NATION	BEARING	X (Easting)	Y (Northing)	Z (Elevation)

Item 13

88

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-10 COORD: N

TOTAL DEPTH 300' PAD #17 E

SIZE 5 1/4" COLLAR ELEV. ±4,930' START 7/21 FINISH 7/22/86

tricone BEARING N 20° E INCLINATION -50°

Page 1 of 6

Geologist RE Bennett

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		Au oz/t	Ag oz/t	As ppm	Sb ppm	Cu ppm	Mo ppm	Zn ppm
0 RC-3211		fair	Ø	weathered	brown	dry	Mixed Hankless Siltstone float + subcrop to 15'+							
5 3212		fair	Ø	↓	brown	dry								
10 3213		fair	Ø	↓	brown	dry	Set casing to 10' didn't seal, added a 1 ft. piece, didn't seal, pulled casing + set 20' of 6" casing.							
15 3214		fair	Ø	↓	olive brn	dry	Weathered Hankless siltstone w/ some calcite vein chips. weak Fe-stained fractures.							
20 3215		good	Ø	↓	tan	dry	Same as above							
25 3216		good	Ø	↓	tan	dry	Same as above	<.0025	<.05					
30 3217		good	? Ø ?	↓	tan	dry	Moderately Fe-stained Hankless siltstone. Some white qtz. vein fragments. Limonite on fractures. Common clay	<.0025	<.05	5	0.2	45	12	92
35 3218		good	? Ø ?	↓	tan	dry	Same (no clay as above)	<.0025	0.05	<5	<.2	52	19	108
40 3219		good	Ø	↓	tan	dry	Same as above (less Fe-stained -- Notable MnO_2 dendrites on chip surfaces. More standard greenish (unaltered) Hankless siltstone.	<.0025	<.05	<5	0.2	52	12	102
45 3220		good	? Ø ?	↓	tan	dry	Strongly oxidized, Common tan clay, increase Fe-oxides.	<.0025	<.05	10	0.4	49	17	98
50								GSI		Bondar-Clegg				

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-10 COORD: N

TOTAL DEPTH 300' E

SIZE 5 1/4" COLLAR ELEV. ±4,930' START 7/21 FINISH 7/22/86

BEARING N30°E INCLINATION -50°

Page 2 of 6

Geologist R.E. Bennett

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		Au oz/t	Ag oz/t	Au-b ppb	As ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
50 RC-3221		good	? Ø ?	weathered	tan	dry	Same as above w/ Notable qtz. vein fragment component	<.0025	0.08	10	0.2	50	14	96	3
55 3222		good	Ø		olive-brown	dry	Relatively less altered gray-brown Hackles siltstone, vy. minor Fe-staining on fracts., trace qtz. vein. Non-calcareous	<.0025	<.05						
60 3223		good	Ø		olive buff	dry	Same as above	<.0025	<.05						
65 3224		good	Ø		tan	dry	Same as above -- increase Fe-oxides slightly	<.0025	<.05						
70 3225		good	? Ø ?		tan	dry	Increase oxidation, rx. are broken, Fe-stained + common qtz. vein fragments. Minor clay.	<.0025	<.05						
75 3226 ?		good	? Ø ?		orange-tan	dry	Same w/ increase in clay + Fe-oxides	<.0025	<.05						
80 3227		good	? Ø ?		tan	dry	Same as above	<.0025	0.08	15	0.7 or	46	38	98	
85 3228		good	? Ø ?		tan-brown	dry	Same as above.	0.0025	0.25	30	7.0 pp	43	144	760	
90 3229		good	tr.		orange brown	dry	Same as above w/ increase in bull qtz. vein frags. w/ limonite after sulfide (tr. fresh) Possible good zone?	<.0025	0.33	85	12	52	281	980	1
95 3230		good	tr.		orange-brown	dry	Good zone (?) continued	<.0025	0.25	55	8.2	40	107	465	2
100								GSI		Bondar-Clegg					

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-10 COORD: N

TOTAL DEPTH 300' E

SIZE 5 1/4" COLLAR ELEV. ±4930' START 7/21 FINISH 7/24/86

BEARING N30°E INCLINATION -50°

Page 3 of 6

Geologist REB

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t	Ag oz/t	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
100 RC-3231		good	tr.	limonite	tan brn	dry	Same as above.	<.0025	0.38	70	Ag = 12	43	55	300	1
105 3232		good	tr.		tan brn	dry	Same as above.	<.0025	0.81	80	Ag = 26	51	67	268	1
110 3233		good	<1%		tan brn	dry	Common gray clay + qtz. vein frags. Some fresh pyrite. Common altered siltstone fragments. rejects 0.007 oz/t Au 2AFA GD Resources 2.533 oz/t Ag Note: Separate fusion: Au/Ag	<.0025	3.35	200	3.09 oz/t	106	575	1490	1
115 3234		good	tr.	partly fresh	orange brn	dry	Primarily Fe-stained siltstone fragments. Some selenite aggsum. tr. fresh pyrite in unoxidized fragments. Moderate to hvy. Fe stain. Au = 0.005 oz/t; 2.531 oz/t Ag	165 0.0048	2.73	160	2.36 oz/t	115	820	3200	2
120 3235		good	5-10%?		tan brn	dry	Zone similar to 110'-115', abundant fine-grd. sulfides (pyrite?) Minor siltstone fragment. Some gray white clay. Common qtz vein fragments. split A .004 oz/t Au; 3.2 oz/t Ag B: 0.005 oz/t Au; 3.35 oz/t Ag	166 0.0049	1.05 (dup)	150	3.11 oz/t	146	2,100	2,598	5
125 3236		good	tr.		orange buff	dry	Primarily oxidized Fe-stained siltstone; qtz. vein fragments.	<.0025	<.05	13	Ag = 5.2	42	93	211	4
130 3237		good	Ø		gray buff	dry	Gray-brn siltstone fragments with weak limonite + Fe-staining on fracture surfaces.	<.0025	<.05						
135 3238		good	Ø		gray buff	dry	Same as above	<.0025	<.05						
140 3239		good	Ø ?	silicified?	gray buff	dry	Weathered, broken + likely altered to silicified (?) siltstone; common qtz. vein fragments.	<.0025	<.05						
145 3240		good	Ø ?	silicified?	buff brn	dry	Mostly silicified siltstone + qtz. vein fragments.	<.0025	<.05	8	1.5	14	28	59	3
150															

7.99 oz/t Ag

7.54 oz/t Au

7.74 oz/t Au

GSI Bondar-Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-10 COORD: N

TOTAL DEPTH 300' E

SIZE 5 1/4" COLLAR ELEV. ±4,930' START 7/21 FINISH 7/22

BEARING N 30° E INCLINATION -50°

Geologist R.E. Barnett

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		Au oz/t	Ag oz/t	As ppb	Sb ppm	Hg ppm	Pb ppm	Zn ppm	Mo ppm
150 RC-3241		good	? Ø ?	weathered	bun-buff	dry	Mostly silicified (?) siltstone + qtz. vein fragments	<.0025	<.05						
155 3242		good	? Ø ?	silica?	buff	dry	Same as above.	<.0025	<.05						
160 3243		good	? Ø ?	silica?	buff	dry	Same clay, but zone essen. the same as above. = Silicified? siltstone + qtz. vein frags.	<.0025	0.07	5	<.2	16	12	32	
165 3244		good	tr.	silica	bun-buff	dry	Common clay, siltstone, silicified siltstone. trace fresh pyrite in qtz. vein frags.	<.0025	<.05	12	0.4	35	21	73	5
170 3245		good	1%-3%	qtz. sericite?	lt. gray	dry	Fresh Rx. -- silicified siltstone w/ common fresh pyrite + minor gray clay	<.0025	<.05	18	0.4	13	15	22	3
175 3246		good	<1%?	qtz.-sericite	lt. gray	dry	Same w/ much less pyrite	<.0025	<.05						
180 3247		good	≤1%	qtz.-sericite	gray	dry	Same slight increase in pyrite content	<.0025	<.05	22	0.5	14	18	13	3
185 3248		good	<1%	sericite?	gray buff	dry	Some spotted siltstone, weak pyrite content, minor clay, bleached? siltstone w/ minor dissem. pyrite.	<.0025	<.05						
190 3249		good	tr.	sericite?	gray buff	dry	less altered gray green siltstone some gray clay.	<.0025	<.05						
195 3250		good		clay sericite	gray buff	dry	increase in bleached siltstone, common white qtz. vein frags.	<.0025	<.05						
200															

weathered rx. ↔ fresh rx.

GSI — Bondar-Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-10 COORD: N

TOTAL DEPTH 300' E

SIZE 5 1/4 COLLAR ELEV. ±4,930' START 7/21 FINISH 7/22

BEARING N10°E INCLINATION -50°

Page 5 of 6

Geologist RSK

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		Au oz/t	Ag oz/t	As ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
200														
RC-4 3251		good	<1%	clay, sericite	lt. gray buff	dry	bleached siltstone ?, common lt. gray-buff clay, slight increase in pyrite.	0.0023	<.05	5	1.2	40	12	113	1
205														
3252		good	tr.	sericite?	gray	dry	Gray-buff siltstone, common white qtz. vein frags. Note green alteration mineral occurrence (grass green, mica-group ?). Rare sulfide grain mass (pyrite)	<.0025	<.05						
210														
3253		good	tr.	sericite?	gray	dry	Same as above	<.0025	<.05						
215														
3254		good	tr.	sericite?	gray	dry	Same as above	<.0025	<.05						
220														
3255		good	tr.	sericite?	gray	dry	rel. unaltered green-gray siltstone tr. fresh pyrite on fractures.	<.0025	<.05						
225														
3256		good	tr.	sericite?	gray	dry	Same as above.	<.0025	<.05						
230														
RC-4 3257		good	<1%	sericite?	gray	dry	Common white qtz. fragments, slight increase in pyrite. Rx. appear more altered -- chlorite?	<.0025	<.05	<5	1.2	55	18	156	2
235														
3258		good	tr.	sericite?	gray	dry	Same as above (less sulfides?, trace white/gray clay).	<.0025	<.05						
240														
3259		good	tr.	sericite?	gray	dry	siltstone more bleached, some clay	<.0025	<.05						
245														
3260		good	tr.	sericite?	gray buff	dry	Bleached siltstone, some clay	<.0025	<.05					
250														

GSI | Bondar-Clegg

PROJECT ELIZABETH CO. ESMERALDA STATE NV.

HOLE NO. E-10 COORD: N

TOTAL DEPTH 300' E

SIZE 5 1/4" COLLAR ELEV. ±4,930' START 7/21 FINISH 7/22

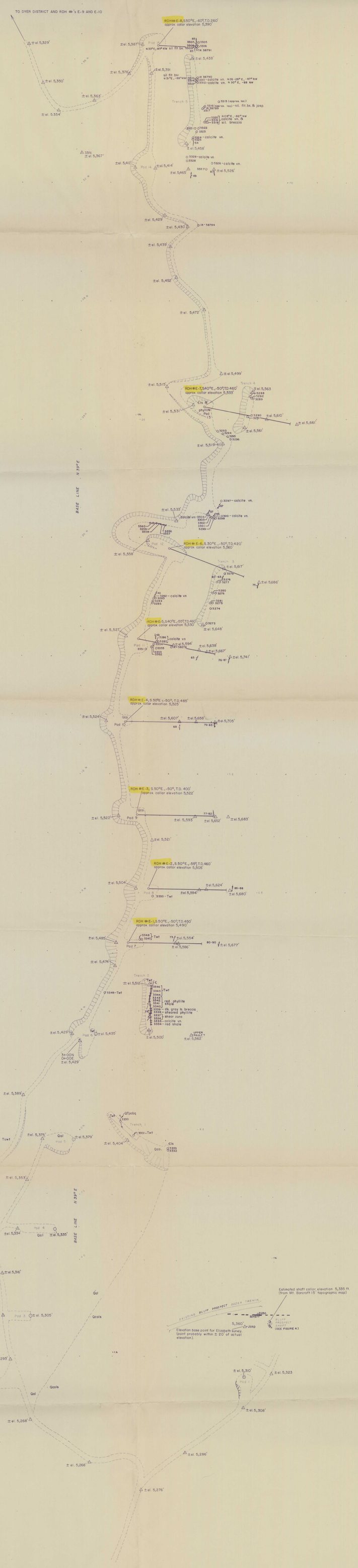
BEARING N30°E INCLINATION -50°

Page 6 of 6

Geologist RE Bennett

DEPTH (ft)	GRAPHIC LOG	% RECOVERY	% SULFIDES	ALTERATION	FINES COLOR	DRY / WET		ANALYSES Au oz/t	Ag oz/t	As ppb	As ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm
25 0							Bleached siltstone								
RC 3261		good	tr.	Sericite?	gray buff	dry		<.0025	<.05						
25 5															
3262		good	tr.	Sericite?	gray buff	dry	Same as above	<.0025	<.05						
26 0															
3263		good	tr.	Sericite?	gray buff	dry	Same as above.	<.0025	<.05						
26 5															
3264		good	tr.	Sericite?	gray buff	dry	Same	<.0025	<.05						
27 0															
K 3265		good	tr.	Sericite?	gray buff	dry	Same slight increase in pyrite	<.0025	<.05	5	0.2	45	10	90	1
27 5															
3266		good	tr.	Sericite?	gray buff	dry	Same	<.0025	<.05						
28 0															
3267		good	tr.	Sericite?	gray	dry	Same	<.0025	<.05						
28 5															
3268		good	tr.	clay sericite	gray	dry	Same w/ some dry	<.0025	<.05						
29 0															
K 3269		good	tr.	sericite?	gray buff	dry	Same w/ some qtz. vein frags. w/ pyrite one chip w/ silver-blue metallic mineral (specularite? molybdenite?)	<.0025	<.05	<5	<.2	36	8	94	2
29 5															
3270		good	tr.	Sericite?	gray buff	dry	Same	<.0025	<.05						
30 0							T.D. Hole E-10 = 300'								

GSI Bondar-Clegg



DATE	NOTES & REVISIONS
8/86	Added drill holes, traces and elevations

Base from Brunton & chain survey with VLF & magnetic survey grid, May 1, 1986 by R.E.B., C.L. & K.E.K.

NOTE: ALL SAMPLES ARE B- SAMPLES UNLESS PREFIXED OTHERWISE.

PLATE 4

LONG LAC MINERAL EXPL. (TEXAS) INC.
1475 Greg St.
Sparks, Nevada 89431

AREA & TYPE OF MAP

ELIZABETH PROJECT

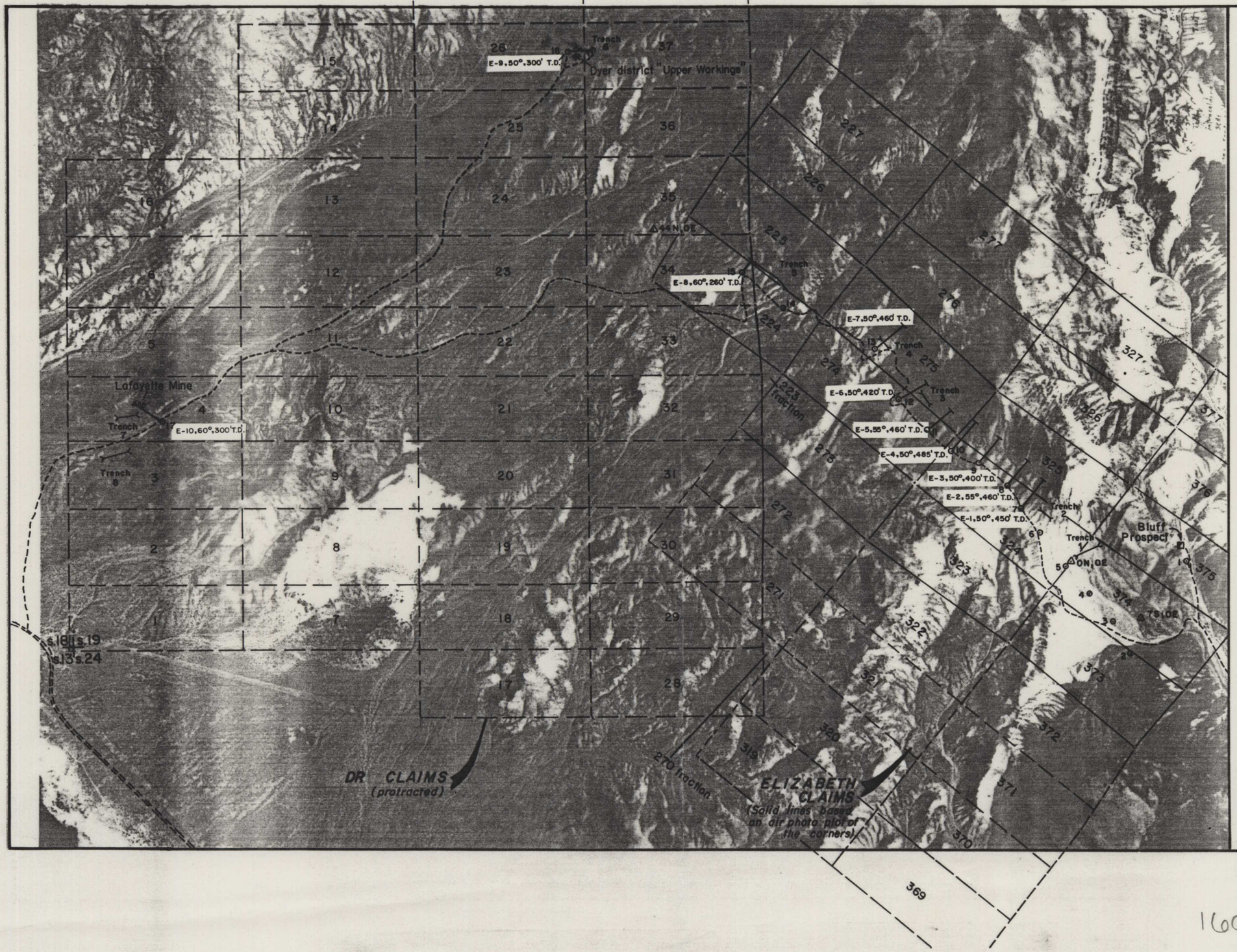
ROAD AND TRENCH SAMPLE LOCATIONS, BRUNTON AND TAPE SURVEY DATA, AND DRILL HOLE LOCATIONS

STATE	COUNTY	SCALE	CON. INT.
NEVADA	ESMERALDA	1" = 100'	—

DATA BY	DRAWN BY	DATE	NO.
R.E.B.	JLF	5/86	EP-P-4

1600 0013 Item 13 (88) (see also logs)

88
Item 13



ELIZABETH PROJECT

CLAIM AND DRILL HOLE LOCATION MAP

Road

Drill site and pad number

Drill hole

Trench

N

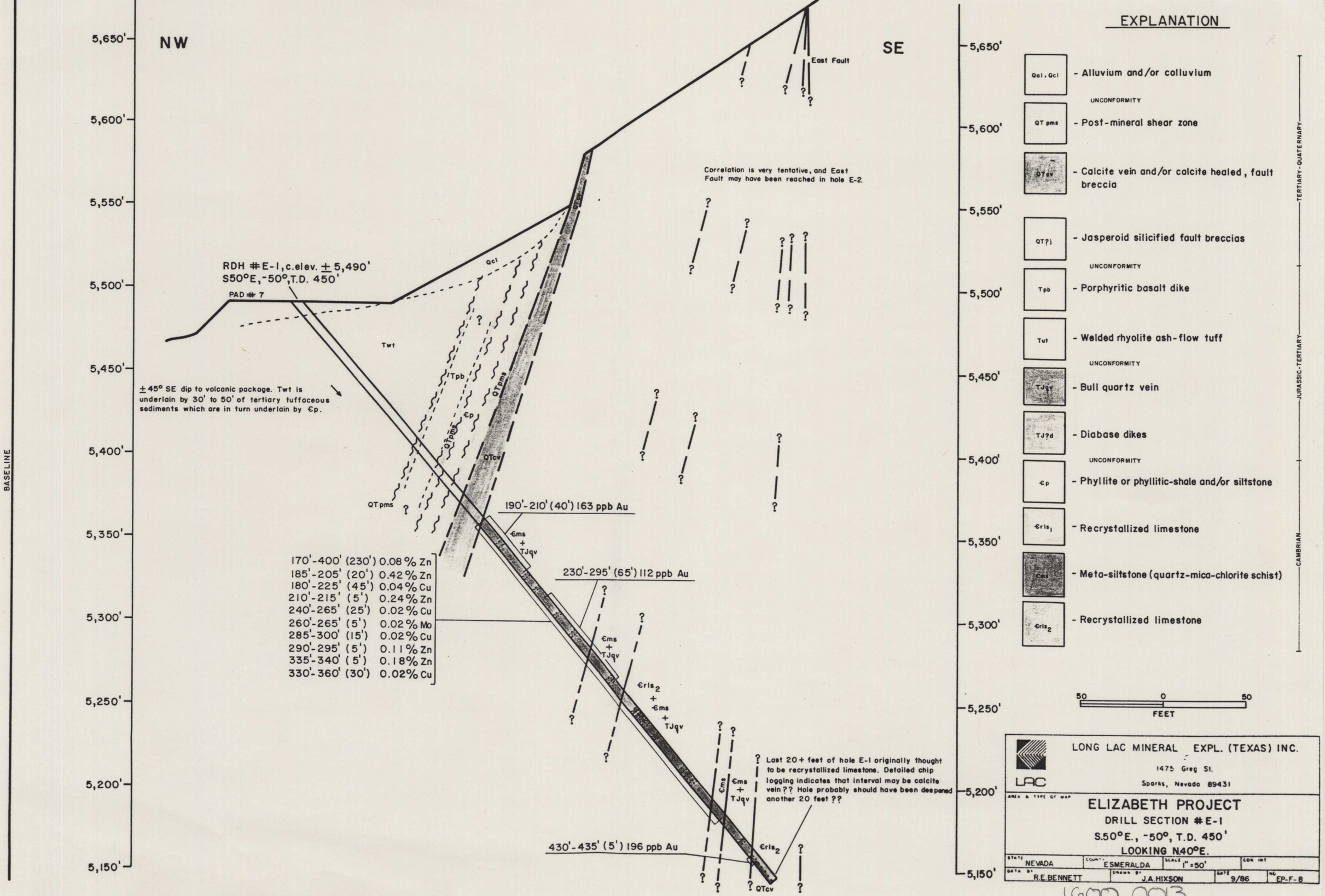
0 500 1000
FEET

FIGURE 3.

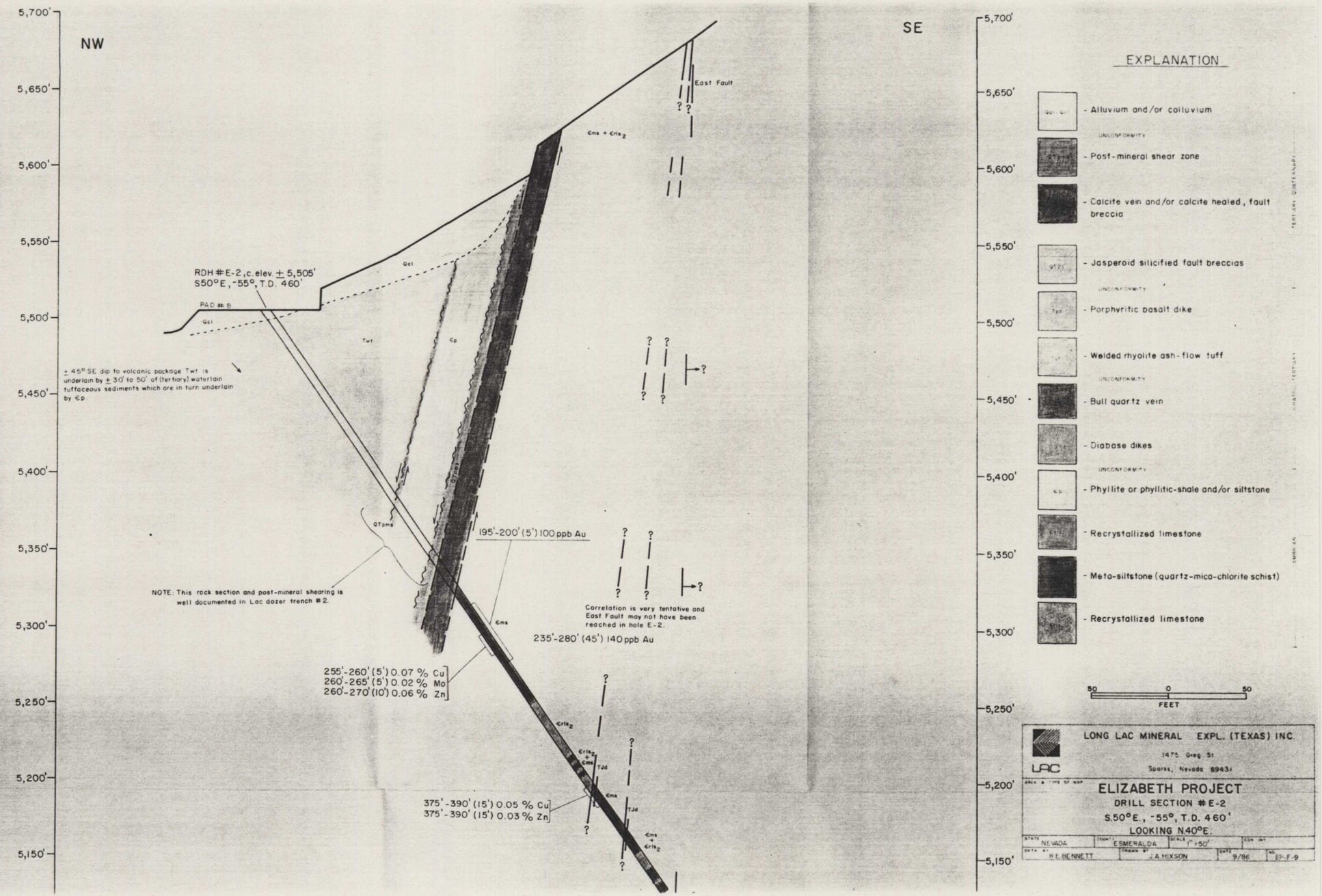
LONG LAC MINERAL EXPL. (TEXAS) INC.
1475 Greg St.
Sparks, Nevada 89431

EP-F-3

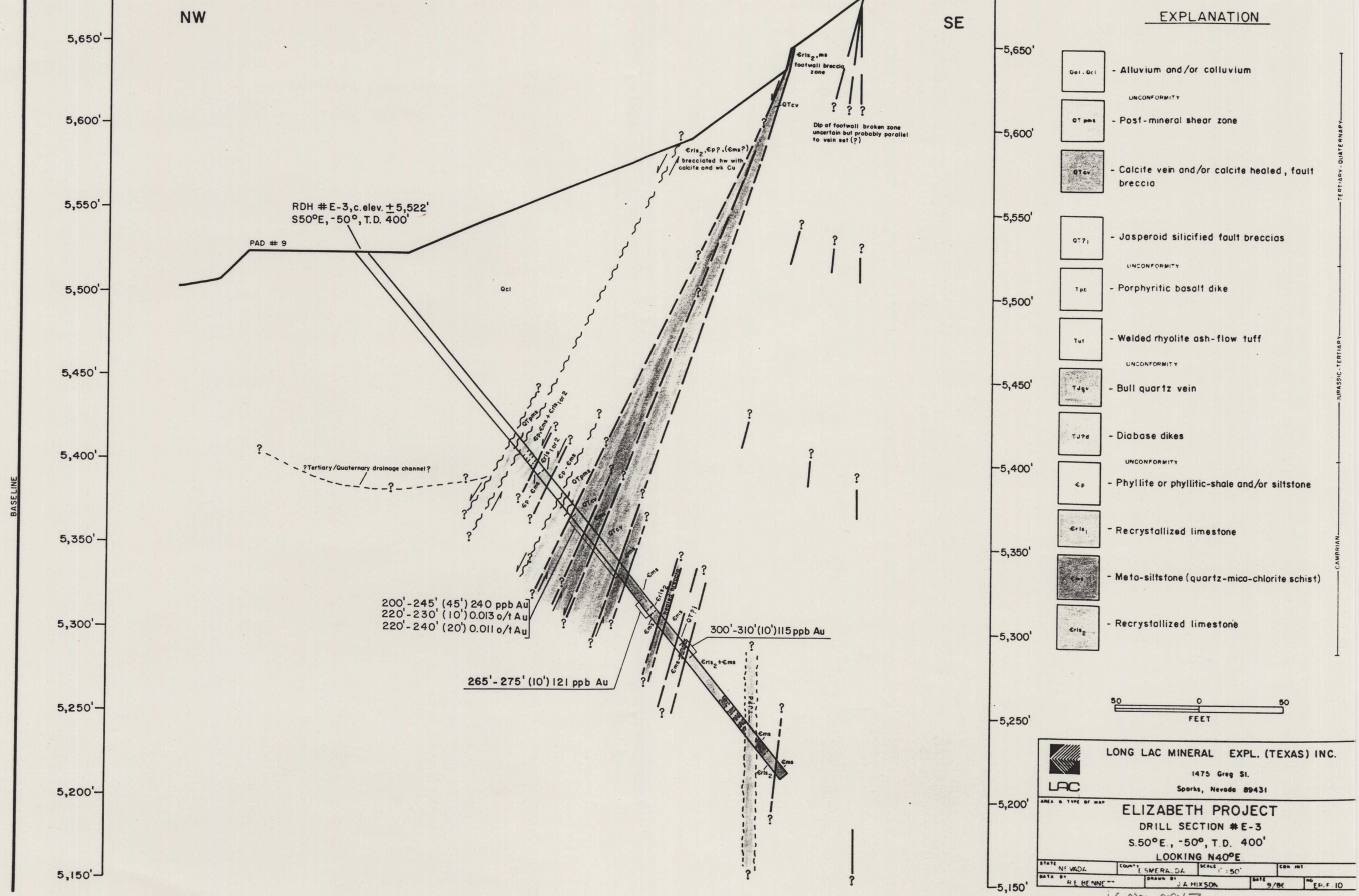
1600 0013


NW
SE
5,650'
5,600'
5,550'
5,500'
5,450'
5,400'
5,350'
5,300'
5,250'
5,200'
5,150'
BASELINE
East Fault
Correlation is very tentative, and East Fault may have been reached in hole E-2.
RDH #E-1, c.elev. ± 5,490'
S50°E, -50°, T.D. 450'
PAD # 7
Qcl
Twt
Tpb
QTpms
€p
QTcv
± 45° SE dip to volcanic package. Twt is underlain by 30' to 50' of tertiary tuffaceous sediments which are in turn underlain by €p.
190'-210' (40') 163 ppb Au
€ms + TJqv
230'-295' (65') 112 ppb Au
€rls2 + €ms + TJqv
430'-435' (5') 196 ppb Au
Last 20+ feet of hole E-1 originally thought to be recrystallized limestone. Detailed chip logging indicates that interval may be calcite vein ?? Hole probably should have been deepened another 20 feet ??
170'-400' (230') 0.08 % Zn
185'-205' (20') 0.42 % Zn
180'-225' (45') 0.04 % Cu
210'-215' (5') 0.24 % Zn
240'-265' (25') 0.02 % Cu
260'-265' (5') 0.02 % Mo
285'-300' (15') 0.02 % Cu
290'-295' (5') 0.11 % Zn
335'-340' (5') 0.18 % Zn
330'-360' (30') 0.02 % Cu
EXPLANATION
Qal, Qcl - Alluvium and/or colluvium
UNCONFORMITY
QT pms - Post-mineral shear zone
QTcv - Calcite vein and/or calcite healed, fault breccia
QT?j - Jasperoid silicified fault breccias
UNCONFORMITY
Tpb - Porphyritic basalt dike
Tut - Welded rhyolite ash-flow tuff
UNCONFORMITY
TJqv - Bull quartz vein
TJ?d - Diabase dikes
UNCONFORMITY
€p - Phyllite or phyllitic-shale and/or siltstone
€rls1 - Recrystallized limestone
€ms - Meta-siltstone (quartz-mica-chlorite schist)
€rls2 - Recrystallized limestone
TERTIARY-QUATERNARY
JURASSIC-TERTIARY
CAMBRIAN
50 0 50
FEET
LONG LAC MINERAL EXPL. (TEXAS) INC.
1475 Greg St.
Sparks, Nevada 89431
LAC
AREA & TYPE OF MAP
ELIZABETH PROJECT
DRILL SECTION #E-1
S.50°E., -50°, T.D. 450'
LOOKING N40°E.
STATE NEVADA
COUNTY ESMERALDA
SCALE 1" = 50'
CON INT
DATA BY R.E. BENNETT
DRAWN BY J.A. HIXSON
DATE 9/86
NO. EP-F-8

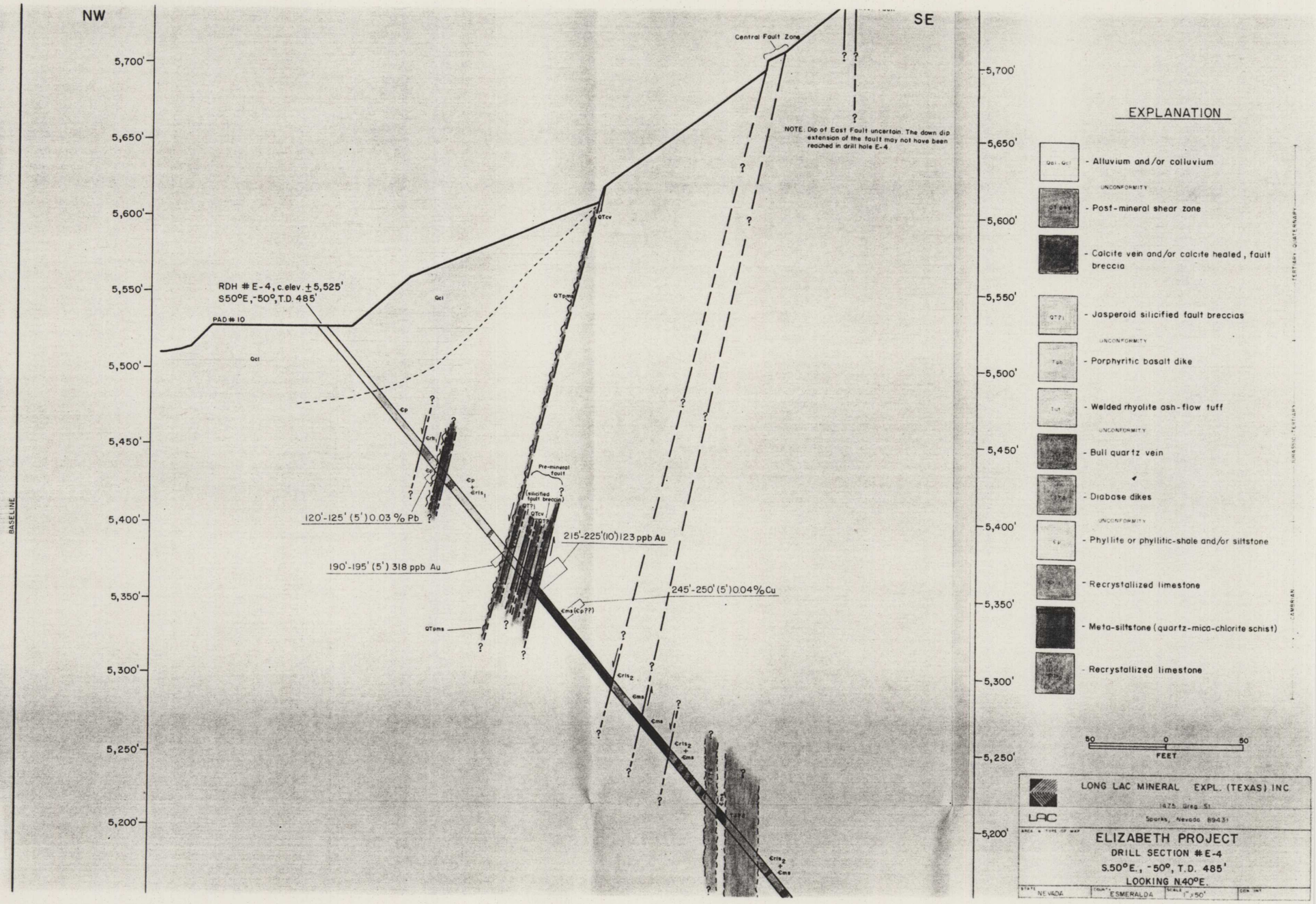
1600 0013


NW
SE
5,700'
5,650'
5,600'
5,550'
5,500'
5,450'
5,400'
5,350'
5,300'
5,250'
5,200'
5,150'
RDH #E-2, c. elev. ± 5,505'
S50°E, -55°, T.D. 460'
PAD #6
Qal
Twt
Ep
QTpms
Ems + Ers2
East Fault
± 45° SE dip to volcanic package Twt is underlain by ± 30' to 50' of (tertiary) waterlain tuffaceous sediments which are in turn underlain by Ep.
NOTE: This rock section and post-mineral shearing is well documented in Lac dozer trench #2.
195'-200' (5') 100 ppb Au
Correlation is very tentative and East Fault may not have been reached in hole E-2.
235'-280' (45') 140 ppb Au
255'-260' (5') 0.07 % Cu
260'-265' (5') 0.02 % Mo
260'-270' (10') 0.06 % Zn
Ers2
Ers2 + Ems
TJd
Ems
375'-390' (15') 0.05 % Cu
375'-390' (15') 0.03 % Zn
EXPLANATION
- Alluvium and/or colluvium
UNCONFORMITY
- Post-mineral shear zone
- Calcite vein and/or calcite healed, fault breccia
- Jasperoid silicified fault breccias
UNCONFORMITY
- Porphyritic basalt dike
- Welded rhyolite ash-flow tuff
UNCONFORMITY
- Bull quartz vein
- Diabase dikes
UNCONFORMITY
- Phyllite or phyllitic-shale and/or siltstone
- Recrystallized limestone
- Meta-siltstone (quartz-mica-chlorite schist)
- Recrystallized limestone
50 0 50
FEET
LONG LAC MINERAL EXPL. (TEXAS) INC.
1475 Greg St
Sparks, Nevada 89431
LAC
ELIZABETH PROJECT
DRILL SECTION #E-2
S.50°E., -55°, T.D. 460'
LOOKING N.40°E.
STATE NEVADA
COUNTY ESMERALDA
SCALE 1" = 50'
DATE BY R.E. BENNETT
DRAWN BY J.A. HIXSON
DATE 9/86
NO. EP-F-9

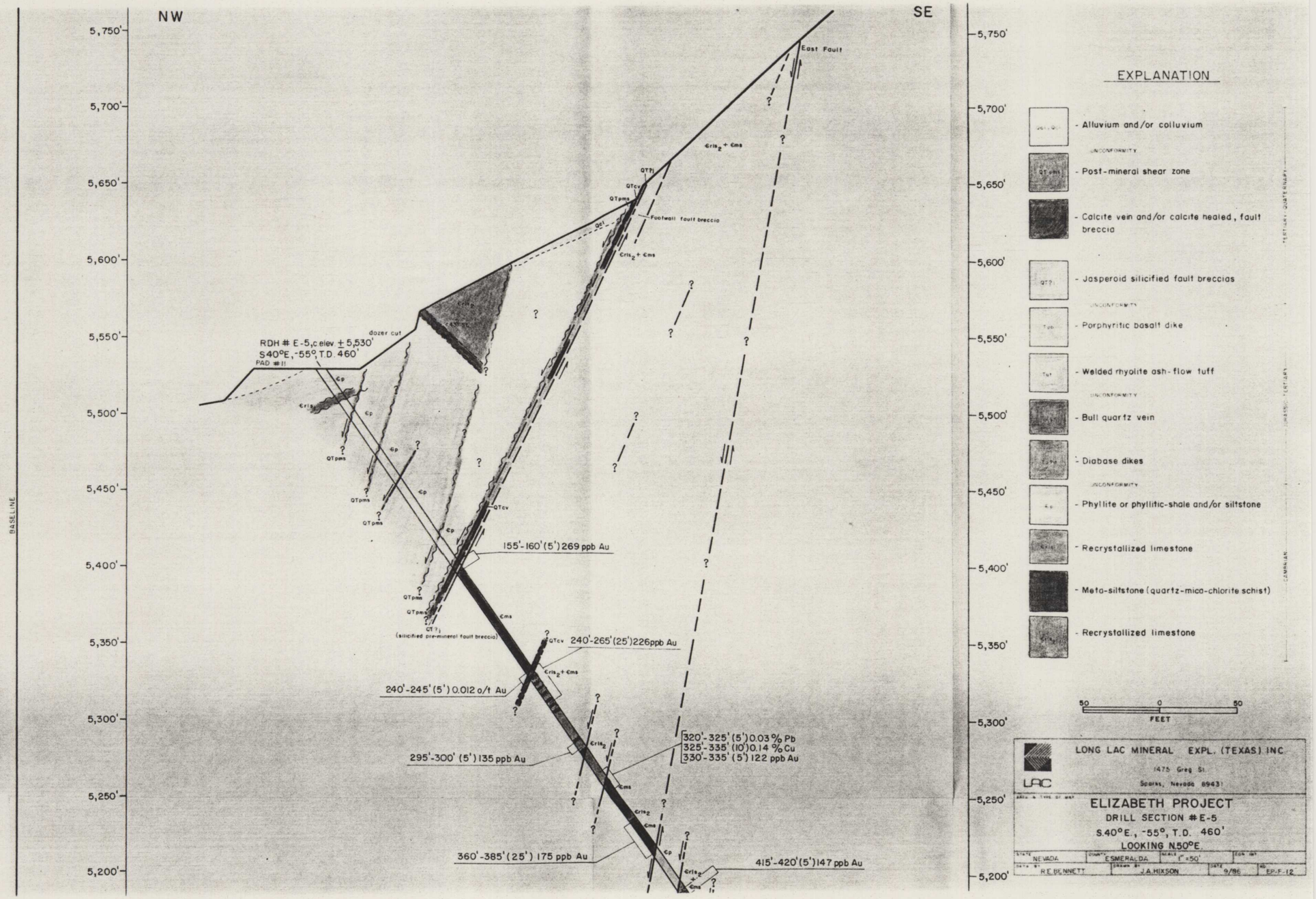
1600 0013


NW
SE
5,650'
5,600'
5,550'
5,500'
5,450'
5,400'
5,350'
5,300'
5,250'
5,200'
5,150'
BASELINE
RDH # E-3, c. elev. ±5,522'
S50°E, -50°, T.D. 400'
PAD # 9
Qcl
?Tertiary/Quaternary drainage channel?
QTcv
Dip of footwall broken zone uncertain but probably parallel to vein set (?)
brecciated hw with calcite and wk Cu
200'-245' (45') 240 ppb Au
220'-230' (10') 0.013 o/t Au
220'-240' (20') 0.011 o/t Au
265'-275' (10') 121 ppb Au
300'-310' (10') 115 ppb Au
EXPLANATION
Qal, Qcl - Alluvium and/or colluvium
UNCONFORMITY
QT pms - Post-mineral shear zone
QTcv - Calcite vein and/or calcite healed, fault breccia
QT?j - Jasperoid silicified fault breccias
UNCONFORMITY
Tpt - Porphyritic basalt dike
Tut - Welded rhyolite ash-flow tuff
UNCONFORMITY
Tqv - Bull quartz vein
TJ?d - Diabase dikes
UNCONFORMITY
Ꞓp - Phyllite or phyllitic-shale and/or siltstone
Ꞓris1 - Recrystallized limestone
Ꞓms - Meta-siltstone (quartz-mica-chlorite schist)
Ꞓris2 - Recrystallized limestone
TERTIARY-QUATERNARY
JURASSIC-TERTIARY
CAMBRIAN
50 0 50
FEET
LONG LAC MINERAL EXPL. (TEXAS) INC.
1475 Greg St.
Sparks, Nevada 89431
LAC
AREA & TYPE OF MAP
ELIZABETH PROJECT
DRILL SECTION # E-3
S.50°E., -50°, T.D. 400'
LOOKING N40°E
STATE NEVADA
COUNTY ESMERALDA
SCALE 1" = 50'
CON INT
DATA BY R.E. BENNETT
DRAWN BY J.A. HIXSON
DATE 9/86
NO. EP. F. 10

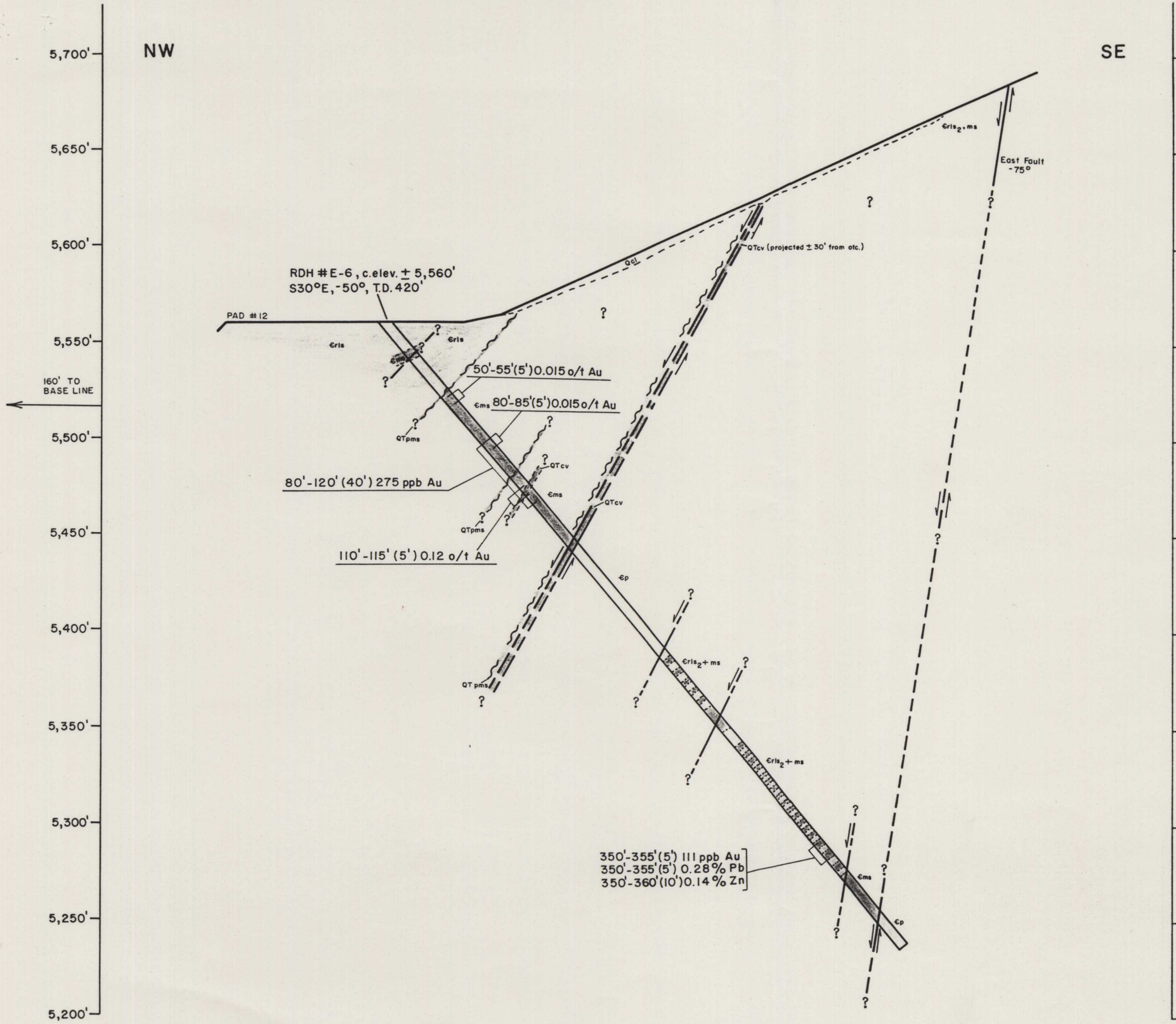
1600 0013


NW
SE
5,700'
5,650'
5,600'
5,550'
5,500'
5,450'
5,400'
5,350'
5,300'
5,250'
5,200'
BASELINE
Central Fault Zone
NOTE. Dip of East Fault uncertain. The down dip extension of the fault may not have been reached in drill hole E-4
RDH # E-4, c.elev. ±5,525'
S50°E, -50°, T.D. 485'
PAD # 10
Qal
QTcv
QTpms
Cp
Cp + Crls1
Pre-mineral fault
(silicified fault breccia)
120'-125' (5') 0.03 % Pb
190'-195' (5') 318 ppb Au
215'-225' (10') 123 ppb Au
245'-250' (5') 0.04 % Cu
Cms (Cp?)
Crls2
Cms
Crls2 + Cms
EXPLANATION
- Alluvium and/or colluvium
UNCONFORMITY
- Post-mineral shear zone
- Calcite vein and/or calcite healed, fault breccia
- Jasperoid silicified fault breccias
UNCONFORMITY
- Porphyritic basalt dike
- Welded rhyolite ash-flow tuff
UNCONFORMITY
- Bull quartz vein
- Diabase dikes
UNCONFORMITY
- Phyllite or phyllitic-shale and/or siltstone
- Recrystallized limestone
- Meta-siltstone (quartz-mica-chlorite schist)
- Recrystallized limestone
TERTIARY QUATERNARY
TERTIARY
JURASSIC-TERTIARY
CAMBRIAN
50 0 50
FEET
LONG LAC MINERAL EXPL. (TEXAS) INC.
1475 Greg St.
Sparks, Nevada 89431
LAC
AREA & TYPE OF MAP
ELIZABETH PROJECT
DRILL SECTION # E-4
S.50°E., -50°, T.D. 485'
LOOKING N.40°E.
STATE NEVADA
COUNTY ESMERALDA
SCALE 1" = 50'
CON. INT.

1600 0013


NW
SE
5,750'
5,700'
5,650'
5,600'
5,550'
5,500'
5,450'
5,400'
5,350'
5,300'
5,250'
5,200'
BASELINE
East Fault
Footwall fault breccia
dozer cut
RDH # E-5, c elev ± 5,530'
S40°E, -55°, T.D. 460'
PAD #11
155'-160'(5') 269 ppb Au
240'-265'(25')226ppb Au
240'-245'(5') 0.012 o/t Au
295'-300' (5') 135 ppb Au
320'-325' (5')0.03 % Pb
325'-335' (10')0.14 % Cu
330'-335' (5') 122 ppb Au
360'-385'(25') 175 ppb Au
415'-420'(5')147 ppb Au
(silicified pre-mineral fault breccia)
EXPLANATION
- Alluvium and/or colluvium
UNCONFORMITY
- Post-mineral shear zone
- Calcite vein and/or calcite healed, fault breccia
- Jasperoid silicified fault breccias
UNCONFORMITY
- Porphyritic basalt dike
- Welded rhyolite ash-flow tuff
UNCONFORMITY
- Bull quartz vein
- Diabase dikes
UNCONFORMITY
- Phyllite or phyllitic-shale and/or siltstone
- Recrystallized limestone
- Meta-siltstone (quartz-mica-chlorite schist)
- Recrystallized limestone
50 0 50
FEET
LONG LAC MINERAL EXPL. (TEXAS) INC.
1475 Greg St.
Sparks, Nevada 89431
ELIZABETH PROJECT
DRILL SECTION #E-5
S.40°E., -55°, T.D. 460'
LOOKING N.50°E.
NEVADA
ESMERALDA
1" = 50'
R.E. BENNETT
J.A. HIXSON
9/86
EP-F-12

1600 0013



EXPLANATION

- Qal, Qcl — Alluvium and/or colluvium

UNCONFORMITY

- QT pms — Post-mineral shear zone
- QTcv — Calcite vein and/or calcite healed, fault breccia
- QT?j — Jasperoid silicified fault breccias

UNCONFORMITY

- Tpt — Porphyritic basalt dike
- Tut — Welded rhyolite ash-flow tuff

UNCONFORMITY

- TJqv — Bull quartz vein
- TJ?d — Diabase dikes

UNCONFORMITY

- €p — Phyllite or phyllitic-shale and/or siltstone
- €rls1 — Recrystallized limestone
- €ms — Meta-siltstone (quartz-mica-chlorite schist)
- €rls2 — Recrystallized limestone

TERTIARY-QUATERNARY

JURASSIC-TERTIARY

CAMBRIAN

50 0 50
FEET

1600 0013

LONG LAC MINERAL EXPL. (TEXAS) INC.
1475 Greg St.
Sparks, Nevada 89431

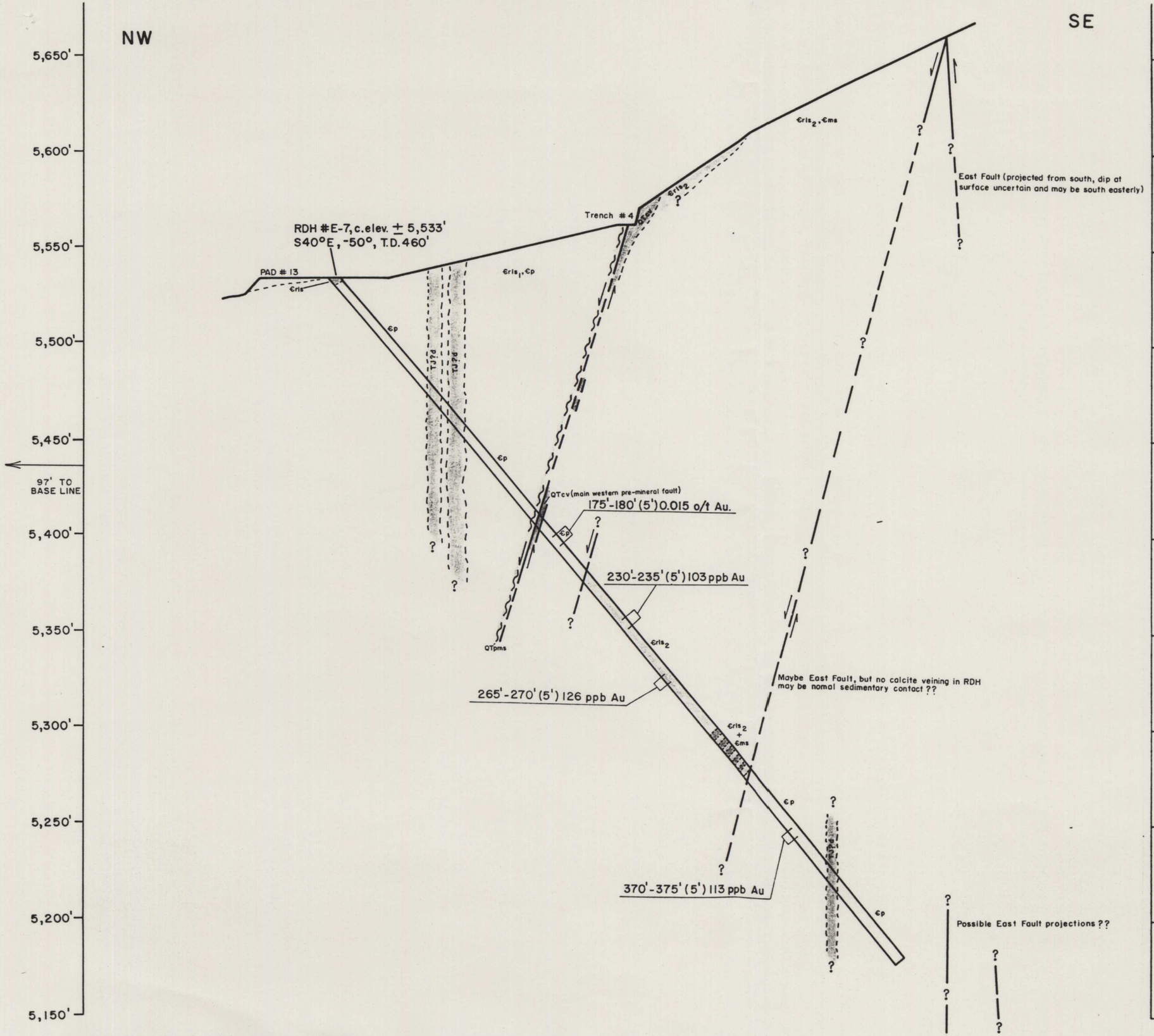
AREA & TYPE OF MAP

ELIZABETH PROJECT

DRILL SECTION # E-6
S.30°E., -50°, T.D. 420'
LOOKING N60°E

STATE	COUNTY	SCALE	CON INT
NEVADA	ESMERALDA	1" = 50'	

DATA BY	DRAWN BY	DATE	NO.
W. E. HENNETT	L. HINSON	9/86	EP.E.13



EXPLANATION

- Qal, Qcl - Alluvium and/or colluvium
- UNCONFORMITY
- QT pms - Post-mineral shear zone
- QT cv - Calcite vein and/or calcite healed, fault breccia
- QT ?j - Jasperoid silicified fault breccias
- UNCONFORMITY
- Tpt - Porphyritic basalt dike
- Tut - Welded rhyolite ash-flow tuff
- UNCONFORMITY
- TJqv - Bull quartz vein
- TJ?d - Diabase dikes
- UNCONFORMITY
- €p - Phyllite or phyllitic-shale and/or siltstone
- €ris1 - Recrystallized limestone
- €ms - Meta-siltstone (quartz-mica-chlorite schist)
- €ris2 - Recrystallized limestone

TERTIARY QUATERNARY

JURASSIC-TERTIARY

CAMBRIAN

50 0 50
FEET

1600 0013

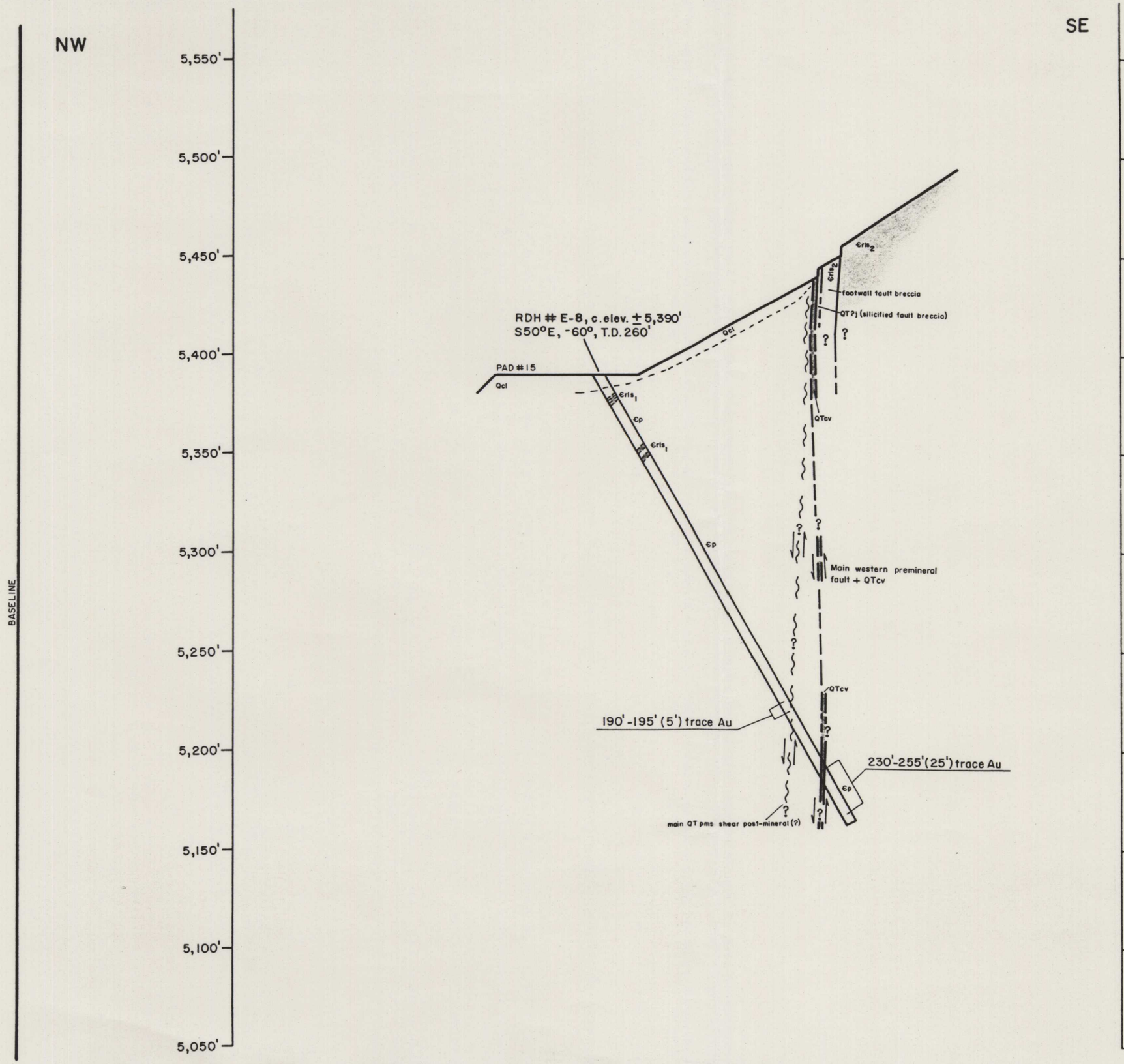
LONG LAC MINERAL EXPL. (TEXAS) INC.
1475 Greg St.
Sparks, Nevada 89431

AREA & TYPE OF MAP

ELIZABETH PROJECT

DRILL SECTION # E-7
S40°E., -50°, T.D. 460'
LOOKING N50°E

STATE NEVADA	COUNTY ESMERALDA CO.	SCALE 1"=50'	CON INT
DATA BY H. E. HENNING	DRAWN BY L. HIXSON	DATE 9/86	NO. ED-E-14



EXPLANATION

- Qal, Qcl — Alluvium and/or colluvium

UNCONFORMITY

- QT pms — Post-mineral shear zone
- QT ps — Calcite vein and/or calcite healed, fault breccia
- QT?j — Jasperoid silicified fault breccias

UNCONFORMITY

- Tpt — Porphyritic basalt dike
- Tut — Welded rhyolite ash-flow tuff

UNCONFORMITY

- TJqv — Bull quartz vein
- TJpd — Diabase dikes

UNCONFORMITY

- €p — Phyllite or phyllitic-shale and/or siltstone
- €ris1 — Recrystallized limestone
- €ms — Meta-siltstone (quartz-mica-chlorite schist)
- €ris2 — Recrystallized limestone

TERTIARY, QUATERNARY

JURASSIC, TERTIARY

CAMBRIAN

50 0 50
FEET

1600 0013

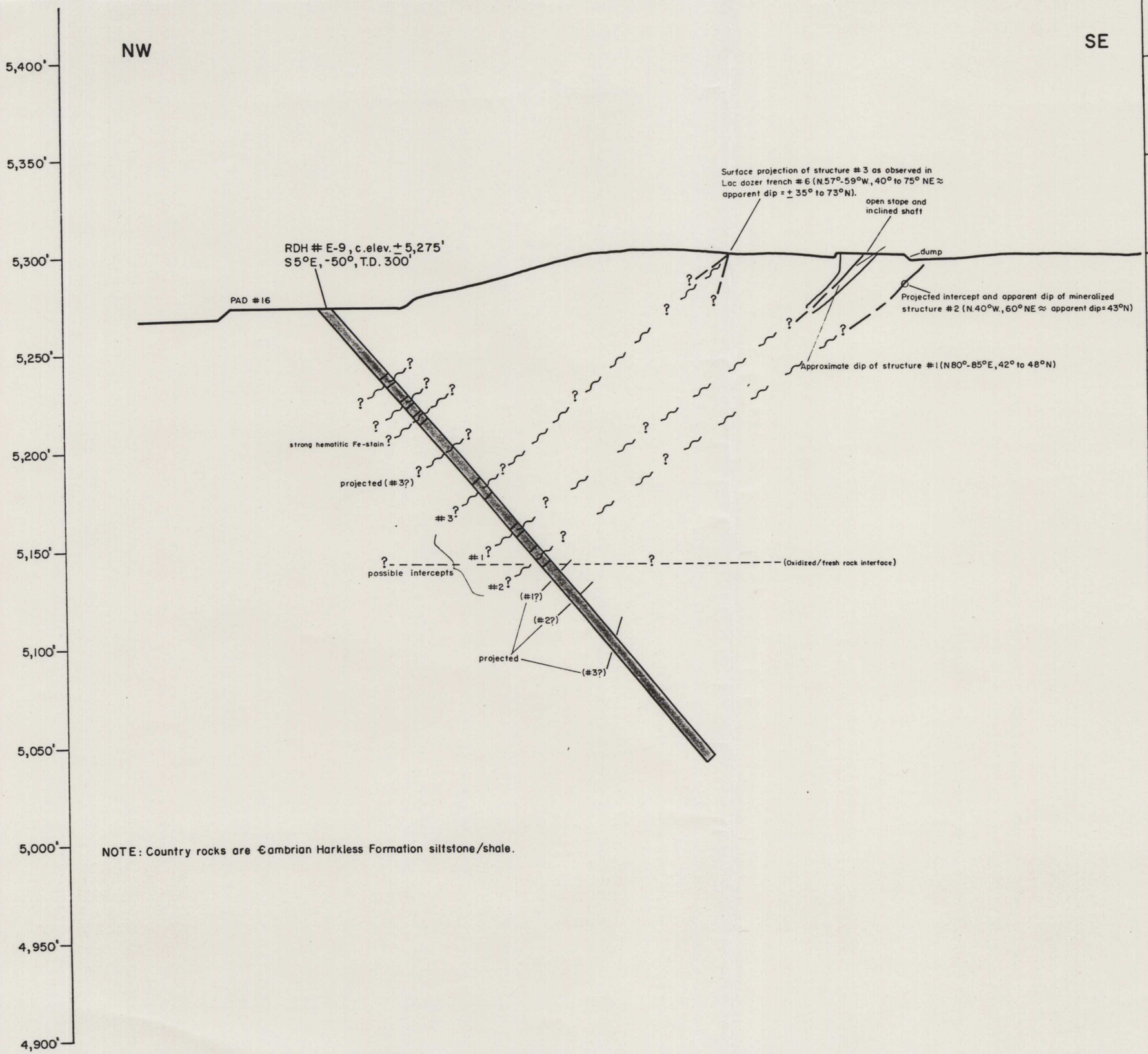
LONG LAC MINERAL EXPL. (TEXAS) INC.
1475 Greg St.
Sparks, Nevada 89431

AREA & TYPE OF MAP

ELIZABETH PROJECT

DRILL SECTION # E-8
S.50°E., -60°, T.D. 260'
LOOKING N40°E

STATE	COUNTY	SCALE	CON INT
NEVADA	ESMERALDA	1"=50'	
DATA BY	DRAWN BY	DATE	NO.
		9/80	E-8 F 15



NOTE: Country rocks are Cambrian Harkless Formation siltstone/shale.

EXPLANATION

- Alluvium and/or colluvium

UNCONFORMITY

- Post-mineral shear zone
- Calcite vein and/or calcite healed, fault breccia
- Jasperoid silicified fault breccias

UNCONFORMITY

- Porphyritic basalt dike
- Welded rhyolite ash-flow tuff

UNCONFORMITY

- Bull quartz vein
- Diabase dikes

UNCONFORMITY

- Phyllite or phyllitic-shale and/or siltstone
- Recrystallized limestone
- Meta-siltstone (quartz-mica-chlorite schist)
- Recrystallized limestone

TERTIARY QUATERNARY

JURASSIC TERTIARY

CAMBRIAN

50 0 50
FEET

1600 0013

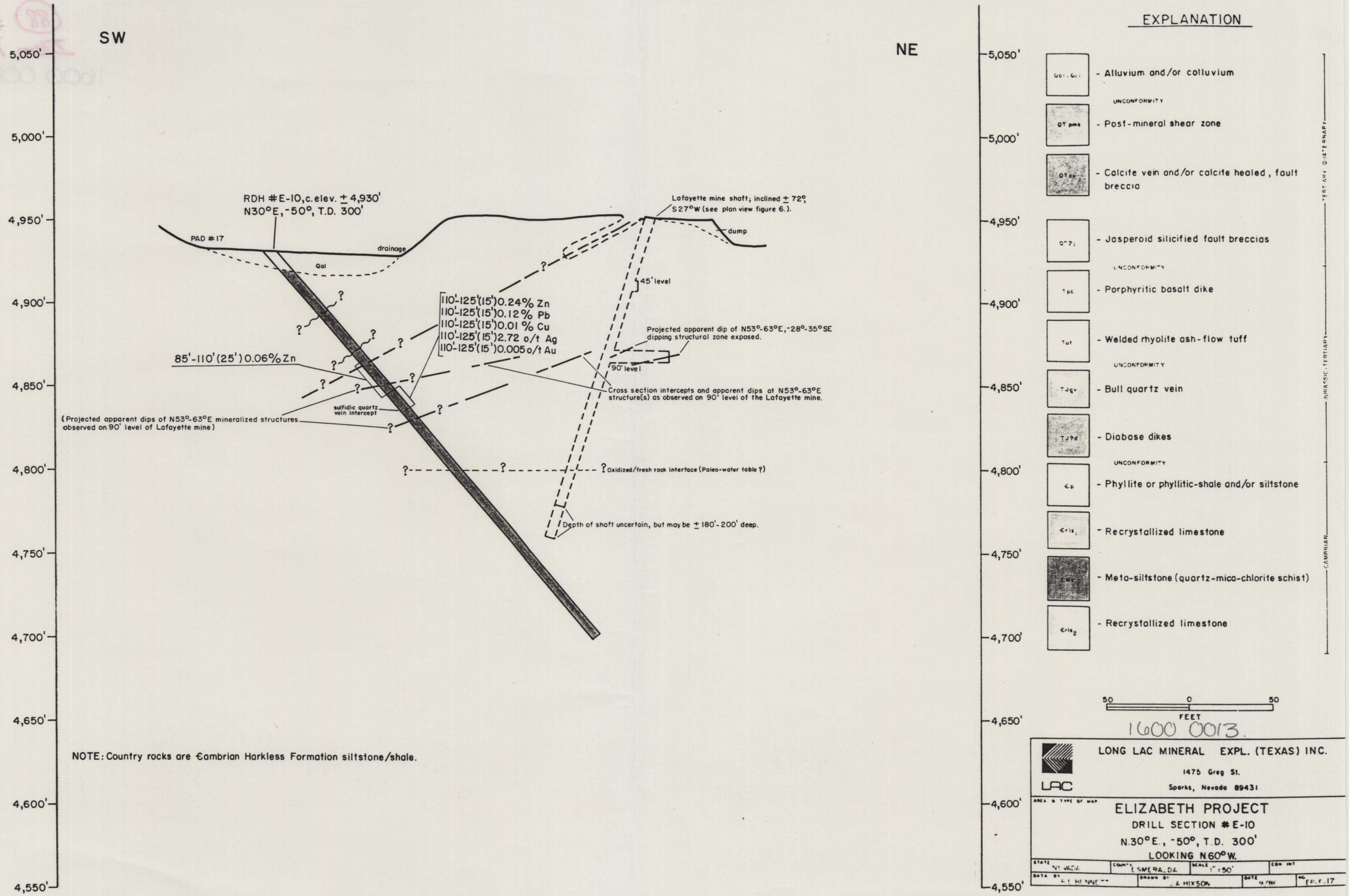
LONG LAC MINERAL EXPL. (TEXAS) INC.
1475 Greg St.
Sparks, Nevada 89431

AREA & TYPE OF MAP

ELIZABETH PROJECT

DRILL SECTION # E-9
S. 5° E., -50°, T.D. 300'
LOOKING N 85° E.

STATE NEVADA	COUNTY SMERAL DL	SCALE 1" = 50'	COORD INT
DATA BY R. L. HENNETT	DRAWN BY J. L. HIXSON	DATE 4/86	NO. EP. E. 16


SW
NE
5,050'
5,000'
4,950'
4,900'
4,850'
4,800'
4,750'
4,700'
4,650'
4,600'
4,550'
RDH #E-10, c. elev. ± 4,930'
N30°E, -50°, T.D. 300'
PAD #17
drainage
Qal
Lafayette mine shaft; inclined ± 72°, S27°W (see plan view figure 6.).
dump
45' level
110'-125'(15')0.24% Zn
110'-125'(15')0.12% Pb
110'-125'(15')0.01 % Cu
110'-125'(15')2.72 o/t Ag
110'-125'(15')0.005 o/t Au
Projected apparent dip of N53°-63°E, -28°-35°SE dipping structural zone exposed.
85'-110'(25')0.06% Zn
90' level
Cross section intercepts and apparent dips at N53°-63°E structure(s) as observed on 90' level of the Lafayette mine.
sulfidic quartz vein intercept
(Projected apparent dips of N53°-63°E mineralized structures observed on 90' level of Lafayette mine)
Oxidized/fresh rock interface (Paleo-water table ?)
Depth of shaft uncertain, but may be ± 180'-200' deep.
NOTE: Country rocks are Cambrian Harkless Formation siltstone/shale.
EXPLANATION
Qal, Qcl - Alluvium and/or colluvium
UNCONFORMITY
QT pms - Post-mineral shear zone
QT cv - Calcite vein and/or calcite healed, fault breccia
QT ?j - Jasperoid silicified fault breccias
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UNCONFORMITY
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TJ?d - Diabase dikes
UNCONFORMITY
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Ꞓris1 - Recrystallized limestone
Ꞓms - Meta-siltstone (quartz-mica-chlorite schist)
Ꞓris2 - Recrystallized limestone
TERTIARY QUATERNARY
JURASSIC-TERTIARY
CAMBRIAN
50 0 50
FEET
1600 0013.
LONG LAC MINERAL EXPL. (TEXAS) INC.
1475 Greg St.
Sparks, Nevada 89431
LAC
AREA & TYPE OF MAP
ELIZABETH PROJECT
DRILL SECTION #E-10
N.30°E., -50°, T.D. 300'
LOOKING N60°W.
STATE Nevada
COUNTY ESMERALDA
SCALE 1" = 50'
CON INT
DATA BY
DRAWN BY J. HIXSON
DATE 4/86
NO. EP.E.17