

AUXILIARY LITHOLOG RECORD  
(To Accompany Computer Output)

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827313

LARA

PROJECT: Lara

D.D.H.: 182

ITEM: GSW - relog - Mar-23/89

INTERVAL: \_\_\_\_\_

- 179-192.4 - Andesite Crystal + Lap. Tuff with minor felsic interbeds.
- 192.4-194.4 - Fault Zone.
- 194.4-221.0 - F. Tuff - 1% mm-sized q's - locally up to 5%  
- brown micro veinlets throughout = carb alt<sup>c</sup>.  
- unit massive to weakly foliated - quite siliceous-looking.
- 221.0-226.45 - Mineralized Zone & FP tuff.  
- FP tuff well-foliated at contact. - gougy looking.  
221.3-224.9 - primarily q.v with odd FP frag & - sph stringers in zone.  
224.9-226.45 - massive sulphide - primarily sph. - 30% Zn.  
- lower contact sharp at 30° to C.A.
- 226.45-226.85 - bleached f.gr. F. Tuff.
- 226.85-229.6 - crowded FP crystal tuff? 25-30% buff colored 1-2 mm-sized f's. tr. q's.  
- lower contact grad<sup>e</sup> and indistinct.
- 229.6-236.9 - F Tuff - tr. q's. - unit massive u.fgr.
- 236.9-252.1 Q(F)P - c.gr. - 10% q's up to 5cm diam. - all subrounded.  
f's - subrounded. - locally have bluish colour.

Tuff or Flow.  
- contact with above  
F. Tuff fairly sharp.

# AUXILIARY LITHOLOG RECORD

(To Accompany Computer Output)

PROJECT: LaraD.D.H.: 87-171ITEM: GSLW - quick relog - Mar. 25/89.INTERVAL:     

0-3.45 - ob.

3.45-23.5. interlayered Andesitic crystal &amp; lap tuff &amp; FTuff. - fp (10%) f-mgr. - m ep.

FTuff intervals at: 4.7-6.4

7.2-9.8

12.1-19.4

22.05-22.7.

23.5 -

(diorite - m dike at: 17.0-18.25.

- And x<sup>1</sup> Tuff contacts grad<sup>2</sup>.

- locally bleached siliceous zone. - have 2-3% mgr, rounded blue qtz eyes.

23.5-60.7- QFP tuff, flow? - locally looks fragmental - frags stretched in plane of fol<sup>n</sup>.  
- 2-3% blue q's. overall unit m-cgr.

Andesitic crystal tuff at: 37.2-37.9

43.9-44.4.

45.0-46.6

48.0-54.65

59.4-59.8

60.7 -

43.9 - contact sharp at 30° to C.A.

54.65-60.7- good QFP. c.gr. - 10% weakly ep. fsp with 5% bluish q's - somewhat similar to footwall rx. - crystals all rounded  
- upper contact sharp at 30° to C.A.

60.7-85.65 - Andesitic Crystal &amp; Lapilli Tuff with minor ash layers - well-foliated at 30-40° to C.A.

- feldspar porphyritic 15% ep x's.

tr. pyroxene crystals at: 63.65

FP FTuff layers at: 69.5-70.5.

83.0-85.05

- tr. q's

- tr. blue q's.

# AUXILLIARY LITHOLOG RECORD

(To Accompany Computer Output)

PROJECT: Lara

D.D.H.: 171

INTERVAL: \_\_\_\_\_



ITEM: GSW-relog - March 23/89.

85.65-86.0	QP Tuff.	
86.0-93.6	Fault gouge & milled core. - sph stringers, qtz veins (sampled). - fragments of QP- qtz crystals rounded & broken = crystal tuff.	
93.6-116.4	QFP Tuff - q's up to 2mm diam - generally < 1mm. f's in patches up to 5-20% of rock. - unit fgr. different than those higher in hole. - W ser, Carb - little brown veinlets.	tr. py.
116.4-117.7	Fault Zone; milled rock with <u>massive sulphide frags!!</u>	
117.7-118.7	QFP Tuff.	
118.7-119.5	Cherty Zone with 1.5cm wide black fault gouge? at lower contact. - contains 2-3mm frags of F. Tuff. - upper contact of cherty zone is irregular.	
119.5-	- QFP Tuff - fgr. as above 93.6 → fgr. m dille at: 122.9-123.5.	- W ser. tr. py.
131.4 - 158.2	<u>Mineralized Zone.</u>	- stringers of sph, py in same rock type, total sulphide content ≈ 5% in upper part of zone. - best sulphides (including MS (py)) over 0.2m in zone: 139.3 - 158.2.
158.2-173.75	Crowded FP Tuff - tr. blue q's - up to 35% f's. - rounded edges although many crystals still have lath shape. - fault gouge at upper contact	- unit relatively unaltered.
173.75-173.9	fgr. siliceous zone = vein of dike?	
173.9-182.9	- QFP Tuff - fgr. mm sized q's + mm-sized f's - locally brownish weathering due to carb? - this unit looks very similar to hanging wall to zone as noted in holes 129 + 139.	

## AUXILIARY LITHOLOG RECORD

(To Accompany Computer Output)

PROJECT: LaraD.D.H.: 139ITEM: GSW - relog - March 23/89

INTERVAL: \_\_\_\_\_

0-8.0 - ob.

8.0-30.7 - F. Tuff. 1-2% mm-sized q's.  
 10% brown weathering f's? - similar to hanging wall in hole. 129  
 - brown alt = carbonate.

30.7-39.15 Mineralized Zone - includes black MS 32.9-35.3 = 2.4m. (sph, gal, cp). - have f.g. and trace carb rich (sample 2-14).  
 - matrix to MS is carb-rich.  
 - rest of zone - stringers - host = QP tuff - rounded q's (1-2mm diam).

39.15-44.8 - QFP - 15% f's with 1-2% mm-sized q's - massive - unaltered.  
 - m-cgr.  
 44.8 EOH.

Footwall QFP quite distinctive. - cgr. - massive  
 - unaltered.

## AUXILIARY LITHOLOG RECORD

(To Accompany Computer Output)

PROJECT: LaraD.D.H.: 129ITEM: GSW - relog - Mar. 23/89.

INTERVAL: \_\_\_\_\_

- 0-7.0 - ob. QFP crystal tuff.
- 7.0-46.0 - F Tuff. 10-15% light brown fsp crystals to 1/2 mm - sized q's. - pervasive weak carb - orangy brown veinlets  
 - locally have 25% fsp -  
 { 13.7-15.65 - white q.v.  
 whitish grey on fresh surface.
- 46.0-53.35 - Mineralized Zone - sph-py-ep stringers in FTuff - similar to H. Wall but fs coarser-grained.  
 - zone has thin carb-rich m. dikes with bleached rims. at: 48.8-49.2  
 - lower contact sharp at 80° to C.A. 52.9-53.35 host: FP 50.75-52.9
- 53.35-63.1 F(Q)P - 10-15% fs, 1-2% q's (mm-sized).  
 - all crystals look rounded under microscope - tuff or flow? - T.S.

# AUXILIARY LITHOLOG RECORD

(To Accompany Computer Output)

PROJECT: LaraD.D.H.: 84-12ITEM: relog- GSW- Mar. 22/89.

INTERVAL: \_\_\_\_\_

0-8.23- ob.

8.23-26.2 - F Tuff. 5% mm-sized q's. - well-foliated, fgr. grey  
 - W ser, tr carb veinlets. weathering brown.

fgr. mafic dikes with chills at: 16.76-17.3  
 18.0-18.3  
 18.9-19.5  
 21.6-22.4

most of this unit is split.

26.2-39.0 - - FP dike? / tuff. - foliated.

- 10-15% epidotized f's in fgr. matrix - 5% white qtz-chl veins in unit.  
 - f's aligned parallel to fol<sup>n</sup> - tr. mm-sized q's.  
 - lower contact with FTuff indistinct  
 - have 2 cm wide mass. py-sph at 39.0 - misplaced?

39.0-50.4 - F. Tuff. - 5% mm-sized q's. - W ser. - fgr. well-foliated as above.  
 m dike at: 41.3-42.0.

Sulphide content  
 of hanging wall rx  
 is low < 1% py.

50.4-51.5 - M dike - fgr. grey to greenish grey. - 1% py cubes + diss.

51.5-61.26 - Mineralized Zone - cp-sph - tr. galena - stringers in bleached F Tuff. - siliceous grey look.  
 host rock - looks very similar to Hanging Wall rocks.

61.26- - QFP - bleached white from 61.26 - 71.0 - becoming greyer  
 - q's up to 0.5cm across, - some may be amygdules?  
 (25% q's). - most of q's are subrounded.

Thin section?  
 - flow or crystal tuff  
 - quite crystal rich.

March 13/89  
GSL - review of  
Lara core - possible L-T  
horizon.

hole 86-93 (boxes 1, 2, 8, 9, 10).

11.8-18.6 - felsic tuff with 2-3% py stringers parallel to fol<sup>e</sup>.  
- cherty look from 11.8 to 12.4 due to proximity to diorite. (9.5-11.8).

50.3-57.8 - felsic tuff N-S ser. - contorted & folded foliation - py stringers parallel to this fol<sup>e</sup>. 3-5% py.

57.8-61.0 - felsic ash - v. fgr. - grey - locally look like fragments - interbedded with felsic tuff. fol<sup>e</sup> contorted here also.

61.0-66.9 - intermediate - greenish grey tuff. - contact at 61.0 is sharp but irregular ( $\approx 60-70^\circ$  to C.A.).  
- N-S chl. 5% diss. py  
- 5% white "specks" = fsp crystals - similar to L-T but no chert.

hole 87-188 (boxes 3, 4, 5, 6, 7)

14.5-19.5 - felsic FP tuff. 5% f's, grey, f.gr. - tr. cht frags.

19.5-31.4 - Intermediate tuff/chert with minor ash beds - greenish grey.  
- similar to L-T package.  
Chert layers at 19.5-19.6

20.25-21.45 - bedding 50° at 20.9m.

22.5-22.8 - bedding 55° at 22.5m.

1-2% py - primarily as c.gr. stringers.

31.4-41.2 - Felsic Tuff - light grey, f.gr. - intense sericite alt<sup>e</sup>.  
- cherty layer at 37.1 - bedding = 50°

41.2-41.75 - Diorite.

hole 87-191. (boxes 1, 2, 12, 13, 14).

3.65-6.7 - F Tuff - S ser - bleached whitish grey

6.7-15.0 - FTuff. FP - relatively unaltered  
5% py  $\pm$  ep, sph stringers.

6.7-73.5 - FTuff/Ash. - patchy M-S ser-sil.

73.5-79.5 - CHT with ashy layers. - contorted / folded bedding near upper contact.  
78.6 m - Bedding  $25^\circ$  to C.A.

79.5-83.4 - Intermediate Tuff/Ash M chl.  
- py stringers. including mass. py at 80.2-80.5 <sup>subhedral.</sup> py cubes.  
up to 1cm across.

73.5-83.4. similar to L-T I Tuff<sup>-CHT</sup> package.

hole 87-195 (boxes 22, 23, 24, 25, 26, 27). (143.2 - cut core)

136.25-164.8 - F Tuff tr. q's. - weak chl. ; tr-1% py stringers.  
- cut core sever silver dollar syndrome. - hard to see original textures.

\* 161.1-161.7 - mafic dike with chilled, bleached (light brown) contacts.  
- have 5% mm-sized euhedral fsp crystals - perv. carb aH<sup>+</sup>

\* this was previously logged as a mudstone - no way!

164.8-172.2 - I. Tuff - greenish grey, M-chl.  
↗ - clastic - look.

similar to L-T I Tuff. - no cherty beds noted in boxes looked at



hole 87-193. (boxes 1,2,3,4,-14) 2-3% mm-sized f's.

3.7-13.2 - Felsic Tuff - patches with 5% mm-sized q's. - bleached at top due to surface weathering.

- becoming greenish gray near lower contact.

13.2-24.4 - well-bedded chert with minor I ash layers. - parts of this have been sampled.

I ash previously called IDT.

bedding: 14.3m - 80°

14.8m - 75°

23.0m - 60°

Zn up to 100 ppm

Ba up to 6200 ppm.

24.4-27.0 - ITuff - 5% anhedral white species = f's set in W chl matrix.

- appears to become f.gr. down hole. ∴ tops up hole?

27.0-31.2 - bedded chert + chl ash.

bedding 28.4 - 60°

31.0 - 55°

31.2-66.2 FTuff - patchy sericite; zones near upper contact with 3-5% v. fgr. py + py stringers.

- locally have white-rimmed pits - fsp? or some type of alt<sup>±</sup> - unit massive -

60.25-66.2 - unit more chloritic - still have tr. q's.

66.2-82.58. I Tuff with chert beds (rare) + argillitic matrix near upper contact. ITuff-W-Mchl, 3% fsp X<sup>1.5</sup>.

66.2-66.3 - arg.

67.2-67.5 - arg with FT & chert frags. (10%).

68.9 - chert frags.

- tr. op in q.v's.

hole 87-192 (boxes 1-14 incl)

3.9-43.5. - Felsic Ash. - siliceous look, tr. q's + f's - locally looks cherty but no good chert beds noted. Ba contents low for chert. (2000ppm Ba = felsic volc.)

- foliated m dikes/diorite at: 37.3-37.5
- 38.4-39.3
- 41.75-42.1
- 42.67-43.5.

43.5-49.1 - I Tuff. fsp-phyrlic (5% white specks) beds + ashy beds. w-m chl; generally well-foliated.

49.1-56.7 - Diorite.

56.7-59.75 - Well-bedded Chert/Ash. - all core sampled.  
 - 2-3% v.f.gr. disc py + stringers. bedding. 60° to C.A. at 56.7m.  
 50° to C.A. at 59.0

- contact indistinct due to blocky core.

59.75-67.3 - - Felsic Tuff - 1% mm-sized sub-rounded q's.  
- unit has a very siliceous/cherty look.

67.3-85.2 - - I Tuff/Ash with the odd cherty layer.  
 - Tuffaceous parts have 3-5% white anhedral fsp crystals.  
 73.7-73.9 chert - bedding at 45° to C.A. (73.9m)