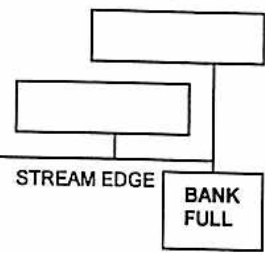
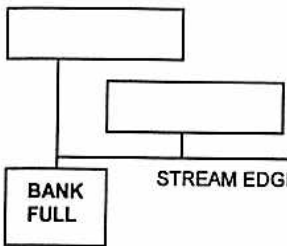


(At foot bridge crossing)

FLOW DATA SHEET

Mean Velocity¹ = 6/10ths Depth
 Surface Velocity² = 6/10ths Depth x 2
 Bottom Velocity³ = 6/10ths Depth / 2



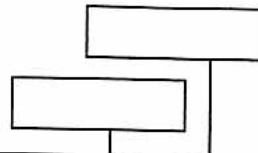
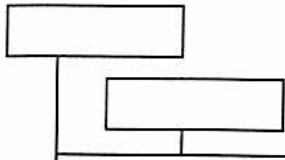
Stream Edge Width (feet)	0.2 ft	7 ft	8 ft	9 ft	10 ft	11 ft	12 ft	13 ft	13.1										
Stream Edge Depth (feet)	0.9 ft	0.9 ft	0.9 ft	1.0 ft	1.0	0.9 ft	1.1 ft	1.1 ft											
Flow Rate Width (ft/sec)	0																		
Flow Rate Depth (ft/sec)	0																		
Substrate/ % Vegetation	0																		
% Plant Coverage	0																		
Mean Velocity ¹ (ft/sec)	0.01	0.09	0.20	0.12	0.25	0.38	0.51	0.45											
Surface Velocity ² (ft/sec)	0																		
Bottom Velocity ³ (ft/sec)	0																		

DATE 6/15/2008	HYDROLAB				(GPS) Elev = 3019 ft. (N) 20° 50.374' (W) 155° 32.917' --- Transect Line
TIME 3:18 PM	WIDTH (feet)				
OBSERVER Leina Ala/Kelly	TEMPERATURE (°C)				
REACH	DISSOLVED OXYGEN (mg/L)				
TRANSECT#	CONDUCTIVITY (mS/cm)				
DAR_CODE	pH				
STREAM Lalakea	TURBIDITY (NTU)				
TRIBUTARY	TOTAL SUSPENDED SOLIDS (mg/L)				

FLOW DATA SHEET

Mean Velocity¹ = 6/10ths Depth
 Surface Velocity² = 6/10ths Depth x 2
 Bottom Velocity³ = 6/10ths Depth / 2

15 June 2004



BANK FULL

STREAM EDGE

Left middle Right

STREAM EDGE

BANK FULL

Stream Edge Width (feet)	1	2	3																
Stream Edge Depth (feet)	1.4	1.4	1.4																
Flow Rate Width (ft/sec)																			
Flow Rate Depth (ft/sec)																			
Substrate/ % Vegetation																			
% Plant Coverage																			
Mean Velocity ¹ (ft/sec)	1.25	1.63	1.12																
Surface Velocity ² (ft/sec)	1.39	1.26	1.04																
Bottom Velocity ³ (ft/sec)	0.93	1.26	1.07																

DATE	15 June 2004	HYDROLAB		
TIME	1331 hrs.	WIDTH (feet)		
OBSERVER	BE/DJP	TEMPERATURE (°C)		
REACH		DISSOLVED OXYGEN (mg/L)		
TRANSECT#		CONDUCTIVITY (mS/cm)		
DAR_CODE		pH		
STREAM	Lalakea Diversion	TURBIDITY (NTU)		
TRIBUTARY	Tunnel	TOTAL SUSPENDED SOLIDS (mg/L)		

Lalakea Tunnel - Last Flow prior to gage taking out

Transect Line

Gage Height in Tunnel = 1340 hrs = 1.45 ft
 Took out Gage at 1340 ft

FLOW ↓

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: Jessip
 ISA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Lalakea ELEVATION: 2,019 Ft (ft.)
 DATE: June 15 2004 TIME: 2:00 AM TO _____ AM
Mo. Day Yr. (START) (PM) (STOP) PM

SUBSTRATE TYPE (%):
 SEDIMENT 0% SAND 0% GRAVEL 0%
 COBBLE 3% BOULDERS 35% BEDROCK 40%
 DETRITUS _____

HABITAT TYPE: SURVEY AREA (l" x w" x h"): _____
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

Mostly limu ama'ama'o
 few organisms

gauge station
 below diversion

COMMENTS:
 Random No.: 8, 5
 N 20° 05.311
 W 155° 36.030
 Site No.: _____

STREAM SURVEY FORM

SURVEY TYPE: RANDOM NONRANDOM OBSERVER: Leiohu
 HSA CODE: _____ TEMPERATURE: _____ (°C)
 NAME: Lalakea ELEVATION: 1879 (ft.)
 DATE: Jun-15 2004 TIME: 1:40 AM TO _____ AM
Mo. Day Yr. (START) (PM) (STOP) PM

SUBSTRATE TYPE (%):
 SEDIMENT _____ SAND _____ GRAVEL 10%
 COBBLE 45% BOULDERS 40% BEDROCK 5%
 DETRITUS _____

HABITAT TYPE: SURVEY AREA (l" x w" x h"): _____
 POOL SIDE POOL PLUNGE POOL RUN RIFFLE CASCADE
 NO WATER DIRTY WATER

SPP: SIZE ♂ ♀ ?

Bprie (16)
 'opri
 (crayfish)
 crayfish

COMMENTS:
 Random No.: 2, 1
 N 20° 05.280
 W 155° 36.030
 Site No.: _____