



Alaska Commercial Divers, Inc.

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TLF Location: Rowan Bay
Subject: Log Transfer Facility Bark Monitoring Survey
Survey Date: September 15, 2000
Report Date: November 14, 2000

Survey Protocol and Analytical Methods:

The log transfer facility (LTF) was surveyed by a commercial diver for the extent and degree of lost bark as required by permit stipulation. Greg Updike of Alaska Commercial Divers, Inc; Ketchikan, Alaska was the diver for the LTF.

Five transect lines were established from the center of the entry point given to ACD, Inc. from the US Forest Service and the DGPS was noted. The transects radiated seaward with each transect arranged 30 degrees apart from one another. The transects were at bearings of 330°, 360°, 30°, 60°, and 90°. A compass bearing was established at the beginning of each transect. This bearing was followed until the end of the transect. Measurements of bark deposition depth, and percent of bark coverage was measured by the diver at 15 foot intervals along the transect. Bark depth was measured to the nearest centimeter at each station with a marked stick. If the bark was visible, but less than 1 centimeter deep, the depth was recorded as "trace". The percent of bark coverage was estimated within a 3' x 3' area in the immediate vicinity of the measuring station. Measurements were made along each transect until bark deposits were no longer visible, or until water depth exceeded 60 feet MLLW. The extent of the area covered by bark deposition is reflected by plotting the data on a scaled drawing and estimated by using the formula provided by the USFS.

Observations and Conclusions:

The substrate type at this site was not easy to determine because of the large amount of bark debris. In the areas of less bark cover, the bottom consisted of mud, shells and rock. Transect two had five different measuring station where steel beams were recorded. At 420' three steel "I" beams were found standing on end. The beams stood vertical about 14 feet off the ocean floor and the upper end was below the surface about 12 feet. Other foreign debris was recorded on every transect. This consisted mostly of cables, (see data table for information). Marine life was noted on fifty five of the one hundred fifty five measuring stations. Marine life included sea anemones, sea stars, crabs, shrimp, sea cucumber, fish, jelly fish, and eels.

The continuous cover of bark is calculated to be .3.94 acres and the discontinuous coverage of bark for this area is .05 acres. The total area surveyed was 3.99 acres.

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Dives Performed by: Greg Updike

GREG UPDIKE

LTF Survey - Transect Data Form

Location: Rowan Bay

Latitude: 57° 12.53 N Longitude: 135° 22.32 W

Date: 9-15-00 Time: 08:39 - 12:00

**Transect # 1 (1 OF 2)
Bearing 330 °**

Distance (Feet)	Bark Depth Cm	Water Depth Ft	Bark Cover %	Substrate Type	Metal or Other Foreign Items	Marine Life
0	20	4	100	Unknown	Tire	
15	10	5	100	Unknown		Dead Salmon
30	60	2	100	Unknown		
45	60	2	100	Unknown		
60	70	1	100	Unknown		
75	60	2	100	Unknown		
90	40	2	100	Unknown		
105	25	4	100	Unknown		
120	60	6	100	Unknown		
135	70	9	100	Unknown		
150	30	11	100	Unknown		
165	55	13	100	Unknown	Bathtub	
180	30	12	100	Unknown		Sea Anemone
195	70	11	100	Unknown		
210	65	13	100	Unknown		
225	75	13	100	Unknown	Cables	
240	90	15	100	Unknown	Crab Pot, Cables, Steel	
255	30	16	100	Unknown	Cable	
270	75	15	100	Unknown		
285	60	17	100	Unknown		
300	65	18	100	Unknown		

Transect # 1 (2 OF 2)
Bearing 330 °

Distance (Feet)	Bark Depth Cm	Water Depth Ft	Bark Cover %	Substrate Type	Metal or Other Foreign Items	Marine Life
315	65	19	100	Unknown		Sea Anemone
330	85	20	100	Unknown	Crab Pot	
345	35	20	100	Unknown		
360	70	21	100	Unknown		Sea Star/ Crab
375	50	21	100	Unknown		Sea Anemone
390	75	21	100	Unknown	Cable	
405	70	21	100	Unknown	Big Log	
420	70	16	100	Unknown		Sea Anemone/ Crab
435	70	12	100	Unknown		Sea Anemone/ Crab
450	70	12	100	Unknown	Cable	Sea Star
465	50	9	100	Unknown		Dungeness Crab
480	30	8	100	Unknown		Sea Star
495	35	7	100	sand & shells		
510	10	6	100	sand & shells		
525	10	7	100	sand & shells		
540	25	7	100	sand & shells		Sea Star/ Sea Anemone
555	10	6	100	sand & shells		Sea Star
570	10	6	100	sand & shells		
585	5	5	40	sand & shells		
600	5	4	0	Mud Rock		

Transect # 2 (1 OF 2)
Bearing 360 °

Distance (feet)	Bark Depth Cm	Water Depth Ft	Bark Cover %	Substrate Type	Metal or Other Foreign Items	Marine Life
0	20	8	100	Unknown		
15	2	8	100	Unknown		
30	1	8	60	Unknown		
45	2	9	60	Unknown	Cable	
60	5	12	100	Unknown		Eel
75	30	13	100	Unknown	Pop Cans	Dungeness Crab
90	40	16	100	Unknown		
105	60	17	100	Unknown		
120	25	18	100	Unknown		
135	5	18	100	Unknown		Sea Anemone
150	15	21	100	Unknown	Cable	Crab
165	40	24	100	Unknown		
180	35	26	100	Unknown		Sea Cucumber
195	30	28	100	Unknown	Log/ Tire	
210	40	29	100	Unknown		Crab
225	30	28	100	Unknown	Cable, I beam, Anchor & Chain	Crab
240	55	30	100	Unknown	Steel Beam	Sea Snails, Sea Anemones
255	45	33	100	Unknown	Steel Beam	
270	40	34	100	Unknown		
285	45	35	100	Unknown		
300	70	35	100	Unknown		Crab

Transect # 2 (2 OF 2)
Bearing 360 °

Distance (feet)	Bark Depth Cm	Water Depth Ft	Bark Cover %	Substrate Type	Metal or Other Foreign Items	Marine Life
315	40	35	100	Unknown	Cable	Crab
330	25	34	100	Unknown	Cable	Crab
345	35	34	100	Unknown		Crab
360	70	34	100	Unknown		Crab
375	35	30	100	Unknown	Cable/ Steel Beam	Crab/ Sea Anemone
390	80	34	100	Unknown		Crab
405	70	33	100	Unknown		Crab
420	33	26	100	Unknown	(3) Steel I Beams*	Fish, Crab, Jelly Fish
435	70	32	100	Unknown		Crab
450	35	32	100	Unknown		Crab
465	30	30	100	Unknown		
480	40	30	100	Unknown		Crabs (mating)
495	30	31	100	Unknown		Crabs
510	20	29	100	Unknown		
525	90	30	100	Unknown	Boom Chain	
540	25	29	100	Unknown		Crab
555	25	30	100	Unknown		
570	40	30	100	Unknown		
585	5	29	100	Unknown		
600	5	30	100	Unknown	Cable	Shrimp/ Crab
615	5	29	100	Unknown		
630	5	29	100	Unknown		Shrimp
645	5	29	100	Unknown		Halibut/ shrimp
660	5	29	100	Unknown	Rope	Shrimp
675	5	29	100	Unknown		Eel, Shrimp, Sea Star
690	10	28	100	Unknown	Cable	Shrimp
705	10	28	100	Unknown		Shrimp
720	10	28	100	Unknown		Shrimp
735	5	28	60	Unknown		Shrimp
750	1	28	5	Mud		

* See Report

Transect # 3
Bearing 30 °

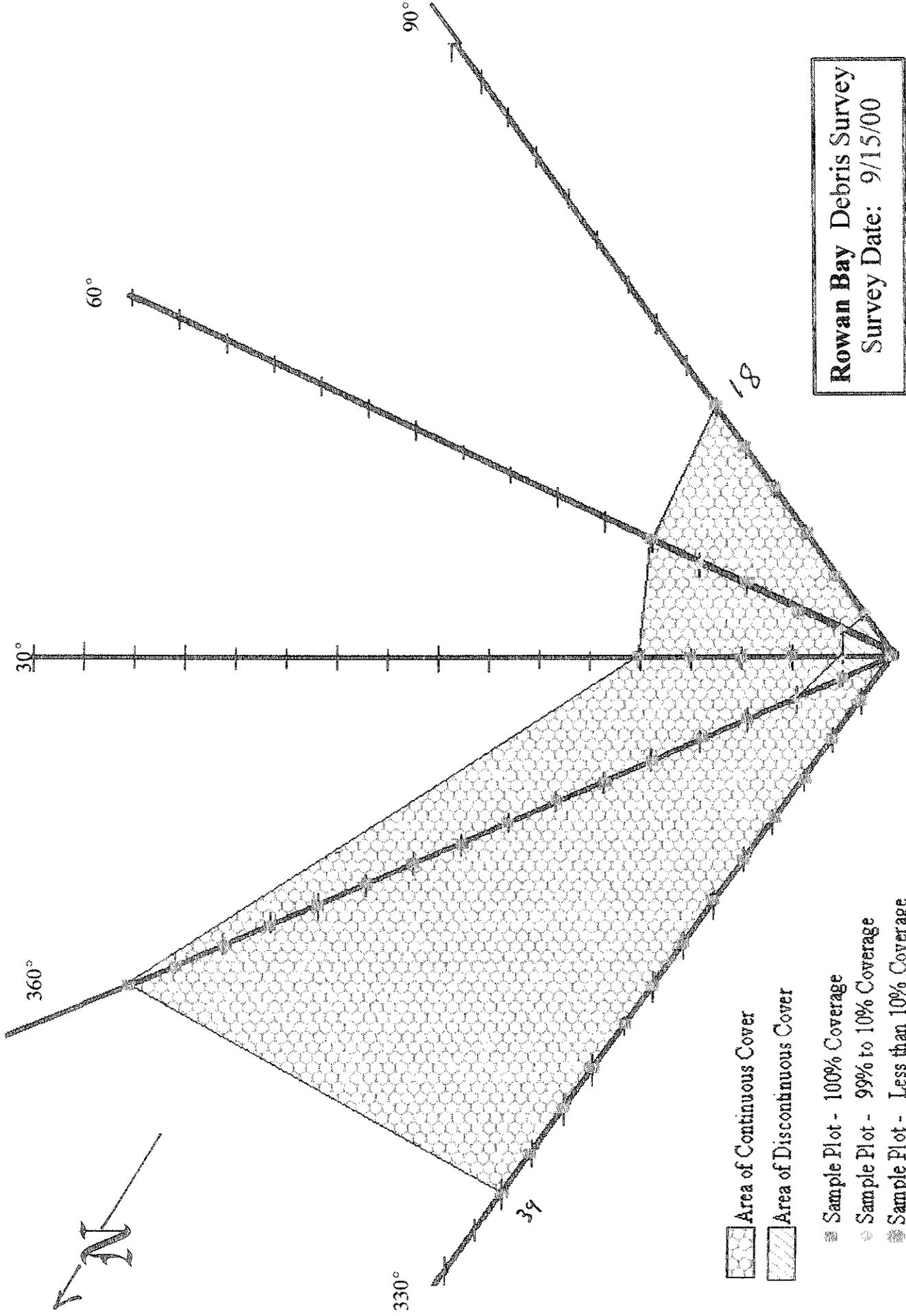
Distance (Feet)	Bark Depth Cm	Water Depth Ft	Bark Cover %	Substrate Type	Metal or Other Foreign Items	Marine Life
0	30	7	100	Unknown		
15	30	9	100	Unknown		
30	1	11	50	Unknown		
45	5	10	40	Unknown	Cable	
60	70	13	100	Unknown		Eel
75	75	19	100	Unknown		
90	50	23	100	Unknown		Eel
105	60	25	100	Unknown		Crab
120	60	30	100	Unknown		
135	40	33	100	Unknown		
150	30	35	100	Unknown		
165	40	39	100	Unknown	Cable	Sea Star/ Crab
180	25	43	100	Unknown		Sea Anemone
195	30	46	100	Unknown	Pop Can	
210	20	50	100	Unknown		
225	5	49	100	Unknown		
240	5	50	100	Unknown		Crab
255	5	55	100	Silt Mud		
270						
285						
300						

Transect # 4
Bearing 60 °

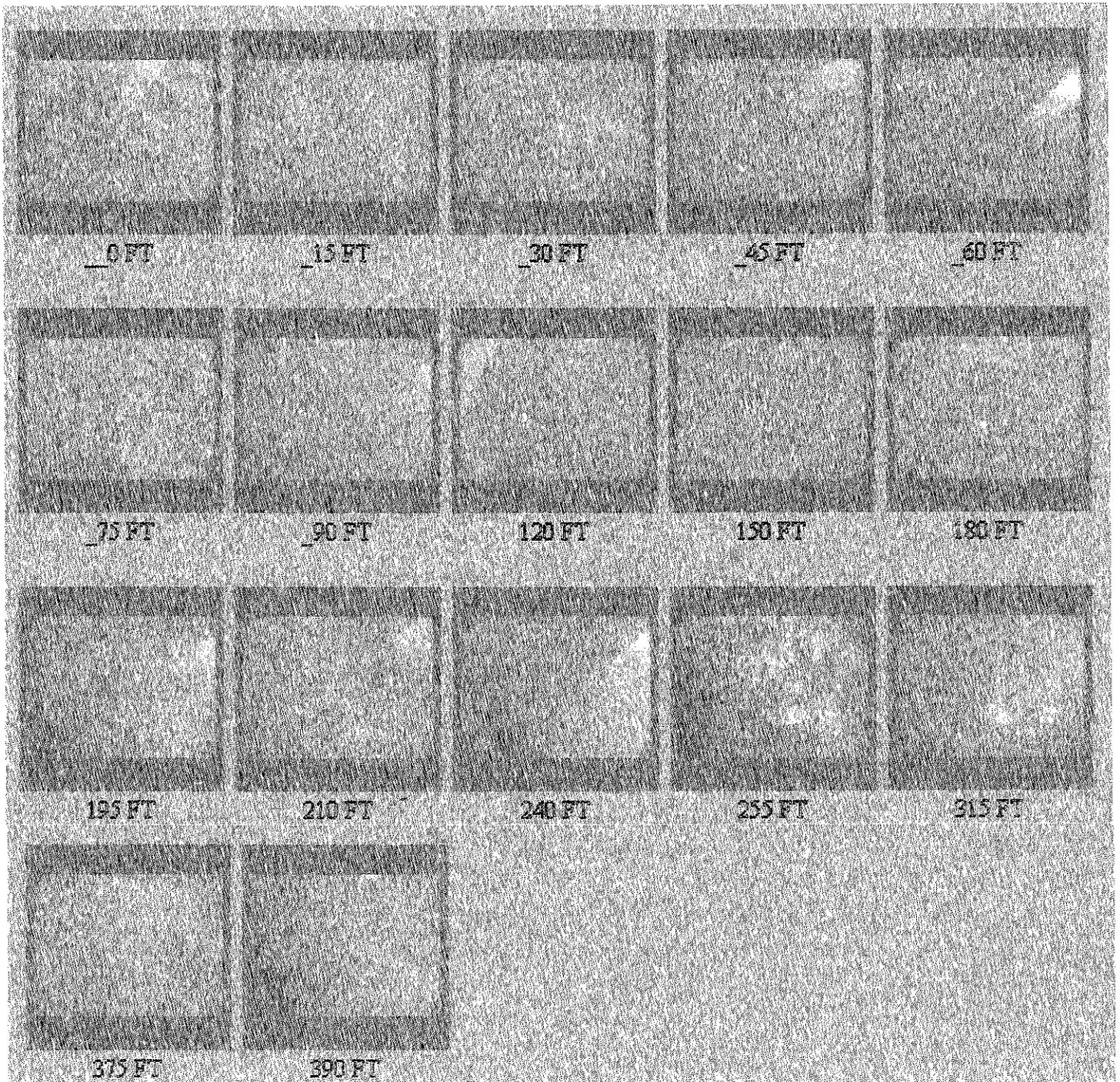
Distance (Feet)	Bark Depth Cm	Water Depth Ft	Bark Cover %	Substrate Type	Metal of Other Foreign Items	Marine Life
0	35	9	100	Unknown		
15	10	10	70	Unknown		
30	10	10	100	Unknown	Cable	
45	10	10	100	Unknown	Cable	
60	25	11	100	Unknown		
75	30	14	100	Unknown		
90	20	19	100	Unknown		
105	75	26	100	Unknown		
120	35	29	100	Unknown		
135	20	33	100	Unknown		
150	30	35	100	Unknown		
165	40	37	100	Unknown	Tire	Sea Anemone
180	0	40	0	Rock		
195	20	48	100	Unknown		
210	5	54	100	Unknown	Cable	
225	10	55	100	Unknown		
240	5	59	100	Silt & Mud		
255						
270						
285						
300						

Transect # 5
Bearing 90 °

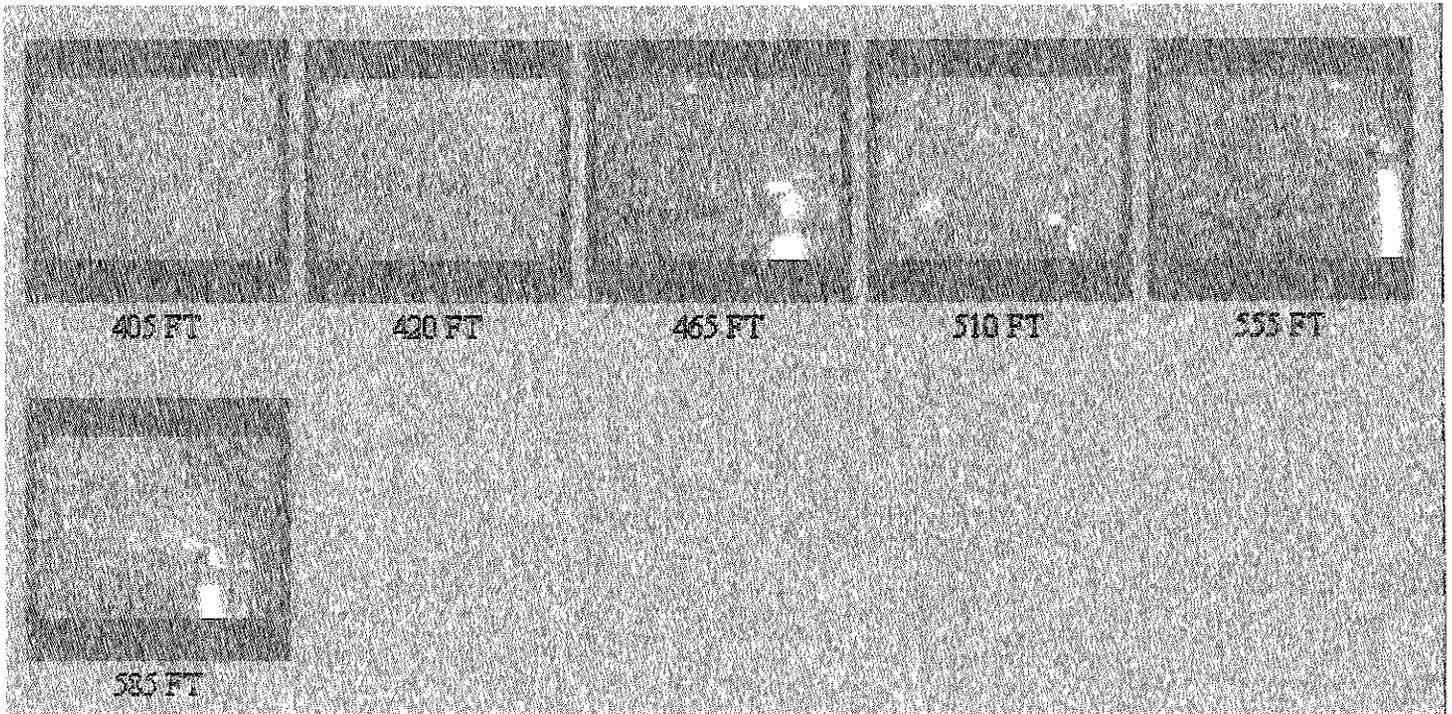
Distance (feet)	Bark Depth Cm	Water Depth Ft	Bark Cover %	Substrate Type	Metal or Other Foreign Items	Marine Life
0	25	10	100	Unknown		
15	1	9	10	Unknown		Crab
30	20	8	100	Unknown		
45	20	9	100	Unknown		
60	70	12	100	Unknown		
75	90	16	100	Unknown		Sea Star
90	30	17	100	Unknown		
105	60	17	100	Unknown		
120	30	16	100	Unknown		Sea Anemone
135	25	13	100	Unknown		
150	35	17	100	Shells		
165	30	21	100	Unknown		Sea Star
180	45	25	100	Unknown		
195	40	32	100	Unknown		
210	10	39	100	Unknown		
225	15	44	100	Unknown		
240	10	45	100	Unknown		Eel, Sea Anemone
255	10	52	100	Unknown		
270	10	57	100	Unknown		Sea Anemone
285	5	60	100	Unknown		
300						



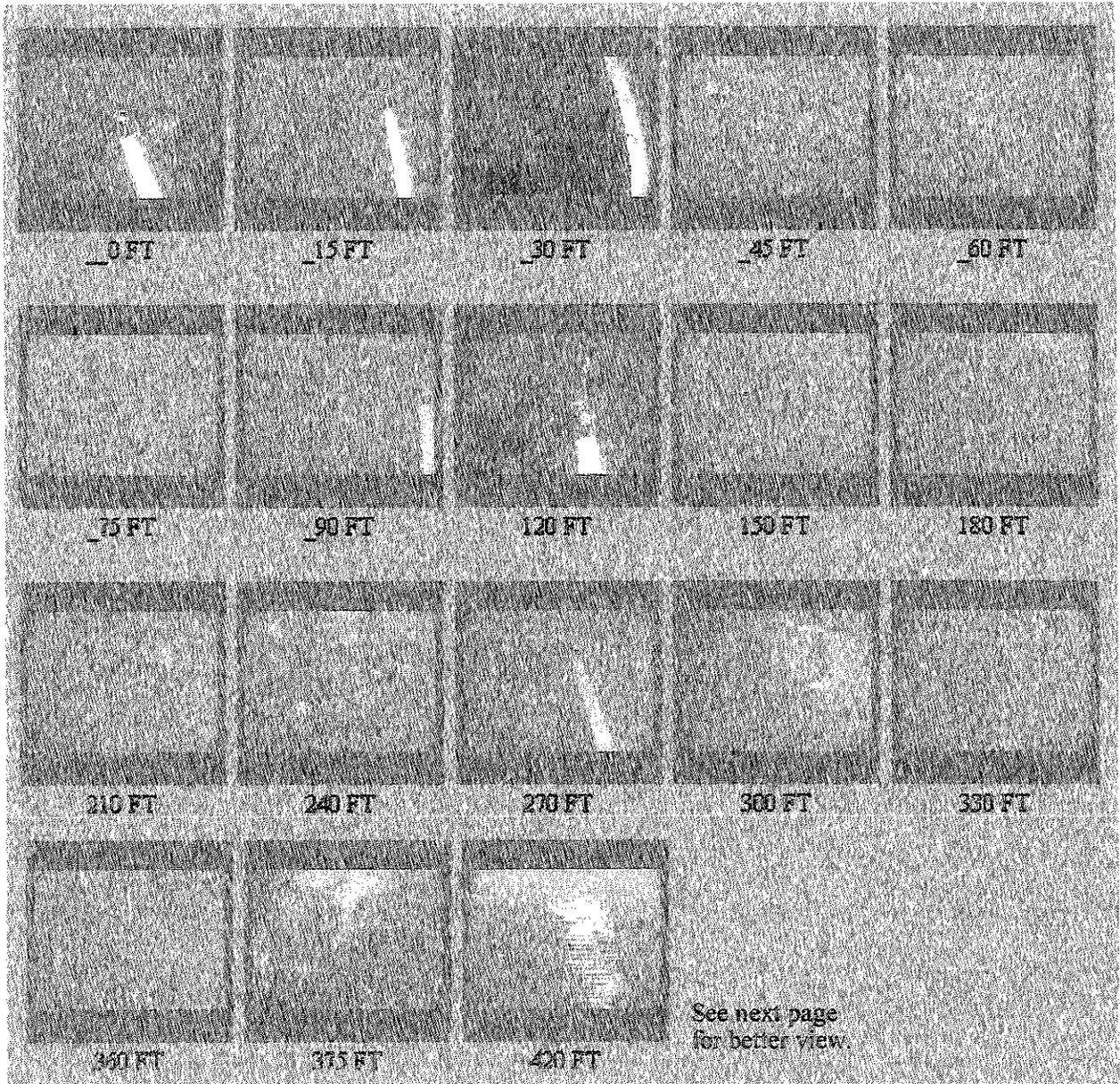
Rowan Bay Transect #1
9/15/00



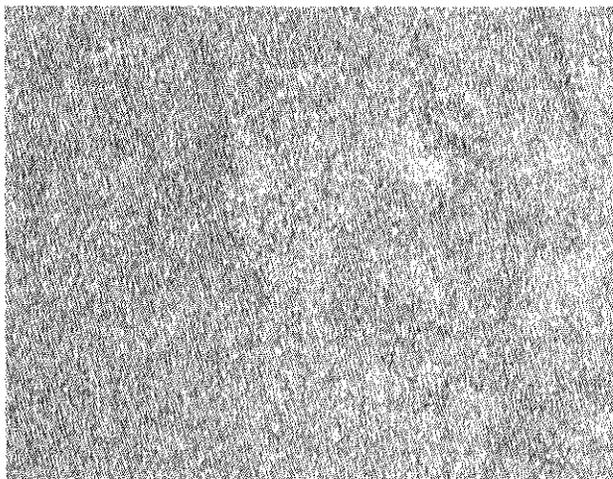
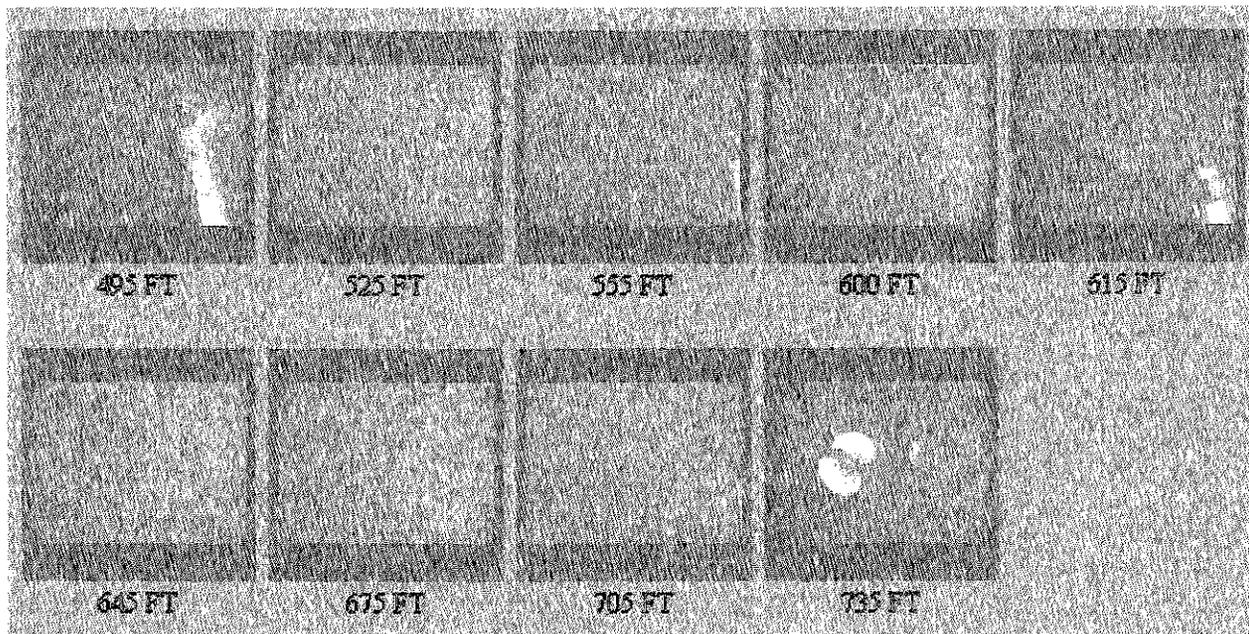
Rowan Bay Transect #1 (Cont.)
9/15/00



Rowan Bay Transect #2
9/15/00



Rowan Bay Transect #2 (con.)
9/15/00

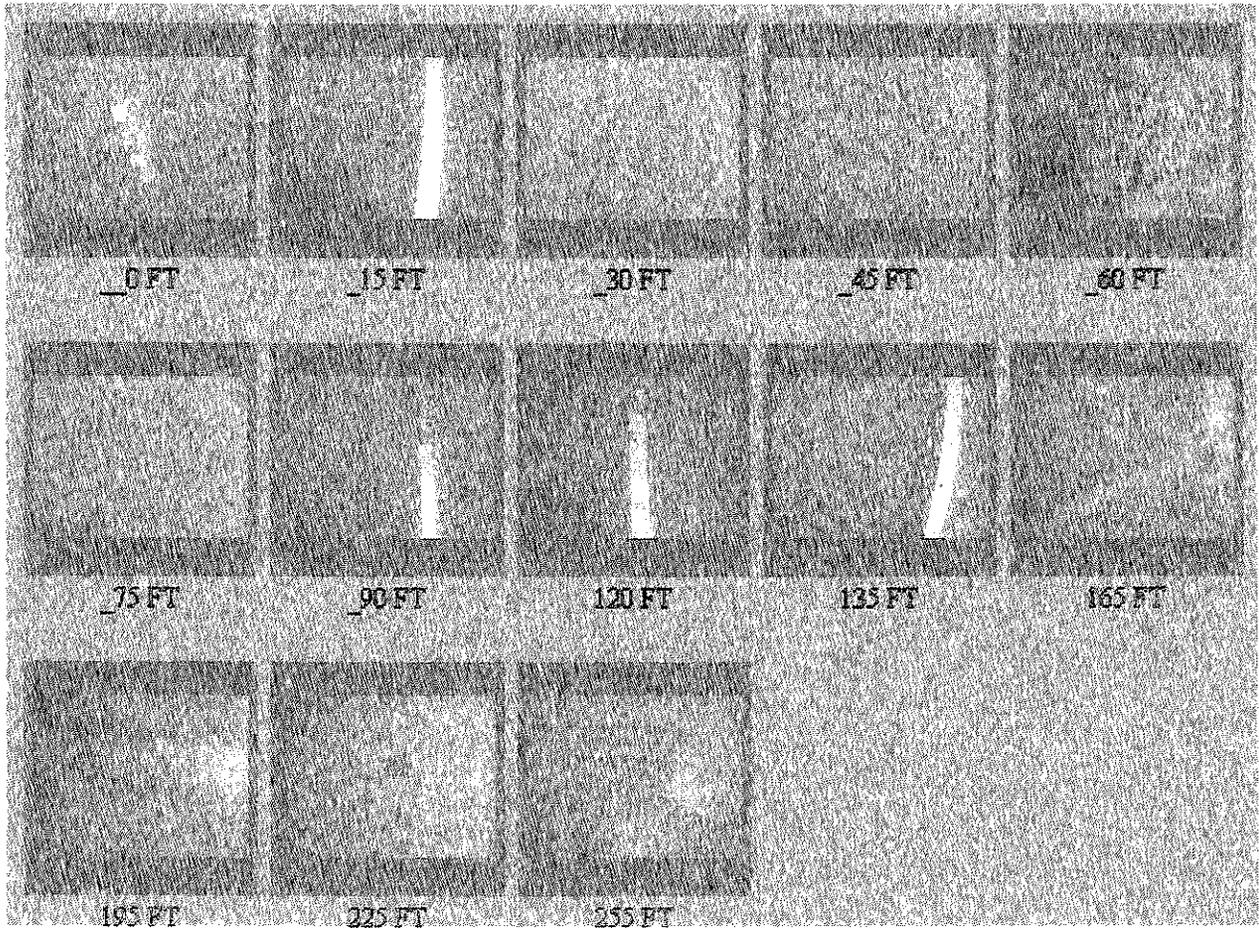


Shrimp Observed at 645 FT Measuring Station.

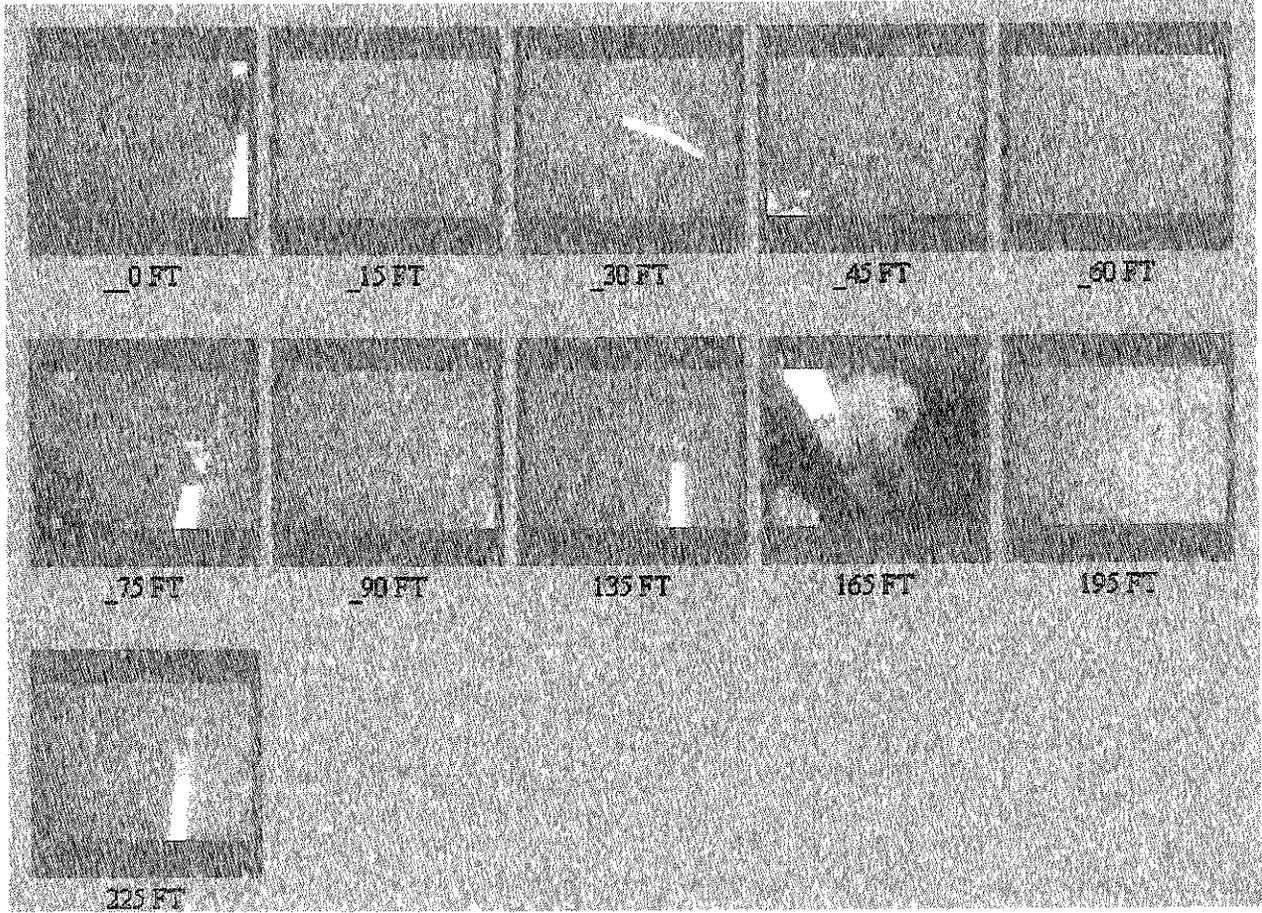


Jelly Fish observed at 420 FT.

Rowan Bay Transect # 3
9/15/00



Rowan Bay Transect # 4
9/15/00



Rowan Bay Transect # 5
9/15/00

