OKEANOS EXPLORER ROV DIVE SUMMARY									
Site Name	North French Frigate Shoals Seamount (Kanehunamoku Seamount)								
Site Name				mount)		A second se			
ROV Lead/Expedition				- Contraction of the second se					
Coordinator	Kelley	Ellio	ott	,				A man	
	Chris Kalley	. (D				and a second			
Science Team Leads	Daniel Wagn	y (B her (Biolo	ology)		The line	É		
	Danior Wagn			,iogy,		the state	-[-		
General Area	Northwestern Hawaiian Islands			n Islands			-		
Descriptor					All A A	$\langle \cdot \rangle$			
	Cruise Season	n		Leg				Dive Number	
ROV DIVE Name	EX1504			2				DIVE02	
	ROV:	\rightarrow				Deep Dis	Deep Discoverer		
Equipment Deployed	Camera Platform:	rm:				Seirios			
		·+		X Depth					
	Scanning Sonar		USBL Position				Heading		
ROV Measurements	Pitch			Roll			\boxtimes	HD Camera 1	
	HD Camera 2		\boxtimes	Low Res Cam 1			\boxtimes	Low Res Cam 2	
	🛛 Low Res Cam 3		\boxtimes	Low Res Cam 4			\boxtimes	Low Res Cam 2	
Equipment	The teleconference call betwo	een	the	e shore-based and	l ship	board science	e te	eam was dropped on a couple of	
Malfunctions	occasions. All other equipme	nt w	vorł	ked properly.					
	Dive Summary: EX1504L2_DIVE02								
		~~~~	~~~	~~~~~	\				
	In Water at: 2015-08-03T20:11:23.406000								
	24°, 23.973 N; 166°, 05.873 W								
	Out Water at: 2015-08-04T04:15:07.718000 N/A ; N/A								
ROV Dive Summary	Off Bottom at: 2015-08-0/T02:55:01 706000								
(From processed	24°, 25.733' N ; 166°, 05.484' W								
ROV data)									
	On Bottom at: 2015-08-03T21:42:15.437000								
	24°, 26.114° N ; 166°, 05.700° W								
	Dive duration: 8:3:44								
	Battam Timor E112146								
	Bottom Time: 5:12:46								
	Max. depth: 2-	2484.9 m							
Special Notes									
			Cł	hris Kelley, EX, UH	I, <u>cke</u>	elley@hawaii.	ed	<u>u</u>	
	Daniel Wagner, EX, PMNM, <u>Daniel.Wagner@noaa.gov</u>								
	Amy Baco-Tavlor. HBOI. FSU. abacotavlor@fsu.edu								
	Scott France, ULL, ULL, <u>france@louisiana.edu</u>								
Scientists Involved	Santiago Herrera, UT & WHOI, <u>sherrera@alum.mit.edu</u>								
(please provide name	Astrid Leitner, UH, UH, <u>aleitner@hawaii.edu</u>								
/ Ina Molodtsova, SI (M						sova, SI (Wasnington, DC), PPSIO, <u>tina@ocean.ru</u> rea Quattrini_USGS_aquattrini@usgs_gov			
		,	Joł	hn R Smith, UH, U	H, jrs	smith@hawaii	.ec		
	Michael Garcia, UH, UH, <u>mogarcia@hawaii.edu</u> Bruce Mundy, IRC, NOAA, <u>hvice.mundy@noaa.gov</u>						<u>edu</u>		
							aa.gov		
	Jonathan Tree, UH, UH, jtree@hawaii.edu								
Purpose of the Dive									
This dive was located or	Kānehunamoku seamount loo	cate	ed r	orth of French Fri	gate	Shoals. Its pr	im	ary objective was to determine the	
lower depth range of a known dense coral and sponge community found in 2007. This was the second of several dives on this leg that									
will be conducted for the	e purpose of identifying the lo	wer	de	pth limit of impor	tant o		of	corals and sponges in the region,	
thereby providing information valuable to NUAA's Deep Sea Coral and Technology Program (DSCTP). The target start point of the div was on a small relatively flat area located at a depth of 2500m, which transitioned into a steep slope at approximately 2490m. The pla									
was on a small relatively flat area located at a depth of 2500m, which transitioned into a steep slope at approximately 2480m. The plan									

of the dive was to survey up the steep slope to a final target depth of approximately 2270m, documenting in particular the abundance of corals and sponges.

## **Description of the Dive:**

The ROV landed at 2460m on a slope close to the wall. There were pillow flows with some tubes that were covered with a moderate density of primnoids, isidids, antipatharians (*Bathypathes alternata*) and sponges. A modest current was flowing from the west towards the east. A chrysogorgid specimen, which had commensal gooseneck barnacles, was collected close to the ROV landing site at a depth of 2452m. According to Scott France, this specimen resembles *Chrysogorgia pinnata* and if so, is a new record for Hawaiian waters, and if not, is likely a new species. A second biological sample, a black coral of the genus *Parantipathes* sp., was collected close-by at a depth of 2463m. This specimen also represents either a new record or new species. As the ROV moved up the slope, the density of animals remained moderate and was dominated by primnoids, isidids and black corals, with occasional sponges and crinoids. A drift test was performed approximately 2.5h into the dive and the current was minimal. A Mn-crusted pillow basalt was collected at 2407m. The density of animals remained moderate until a depth of 2240m, when high densities of primnoids, isidids and sponges came into view. The density of animals continued to be very high through the end of the dive. A second Mn-crusted basalt was picked up at 2243m, but broke up into two pieces, and only half of it ended up being collected. The ROV left the bottom at 2237 m, having covered approximately 850m in a total bottom time of 5:22. While the ROV did not quite reach the depth of the dive, indicate that a dense coral and sponge community extends down to a depth of approximately 2250m in this area, tapering off to a modest density community to at least 2460m. Only a handful of fishes were observed during the dive.

## Animals observed during the dive are listed below:

Cnidarians	Gorgonians	Chrysogorgia geniculata			
		Chrysogorgia pinnata? (collected)			
		Chrysogorgiid sp (unidentified)			
		Iridogorgia magnispiralis			
		Metallogorgia melanotrichos			
		Unbranched isidids			
		Unidentified branched isidids			
		Isidella sp?			
		Keratoisis sp			
		Isidella trichotoma			
		Isidisis/Jasonisis sp			
		Calyptrophora sp			
		Parastellata/CAndidella/Paracalytrophora?			
		Corallium sp			
	Alcyonaceans	Anthomastus fisheri?			
	Stoloniferans	Unidentified stoloniferan			
	Pennatulaceans	Anthoptilum sp?			
	Antipatharians	Bathypathes alternata			
		Parantipathes sp. (collected)			
		Stauropathes sp			
	Actiniarians	Exocoelactis sp			
	Hydrozoans	Hydromedusa?			
		Hydroids (on crinoid)			
Sponges I	Hexactinellids	Caulophacus (Caulodiscus) sp			
		Poliopogon sp (various)			
		Tretopleura sp1A and sp1B			
		Farrrea nr occa erecta			
		Chonelasmatinae new genus			
		Bolosominae			
		Bolosoma sp			
	Demosponges				
Echinoderms	Asteroids	Unidentified asteroids			
	Ophiuroids	Unidentified ophiuroids			
	Crinoids	Bathycrinus sp			
		Comatulina unidentified			
		Sarametra triserialis (id from Nicole Morgan)			
Arthropods	Shrimp	Nematocarcinus tenuirostris			
	Squat lobsters	Uroptychus sp			
		Munididae? unidentified			

Barnades       Scalpelidae undentified         Mellusia       Castropods       Castropod undentified         Fishas       Macrounds       Copphaenoldes sp         Beins of Komba sp       Nezumia or Komba sp         Eels       Synaphobranchus brevidorsalis			Munidopsis r	nitida/subsquamosa		
Dead baracle plates         Fibles       Macrounds         Corphaenoldes sp         Nexruis or Kumba sp         Eals       Synaphobranchus brevidorsalis		Barnacles	Scalpellidae	unidentified		
Mellusia       Gastropodis       Gastropodie       Governalised         Pehes       Macrounds       Coryphaenolodies sp       Nexumia or Kumba sp         Nexumia or Kumba sp       Synaphobranchus brevidorsalis			Dead barnad	le plates		
Histee         Macroundis         Coryphaemodes sp           Eets         Synaphobranchus brevidorsalis             Overall Map of Dive Area         Actual track of ROV dive           Image: Contract of the Dive Area         Actual track of ROV dive           Image: Contract of the Dive Area         Actual track of ROV dive             Image: Contract of the Dive Area         Actual track of ROV dive             Image: Contract of the Dive Area         Actual track of ROV dive             Image: Contract of the Dive Area         Actual track of ROV dive             Image: Contract of the Dive Area         Actual track of ROV dive             Image: Contract of the Dive Area         Actual track of ROV dive             Image: Contract of the Dive Area         Actual track of ROV dive             Image: Contract of the Dive Area         Actual track of ROV dive             Image: Contract of the Dive Area         Actual track of ROV dive             Image: Contract of the Dive Area         Image: Contract of the Dive Area             Image: Contract of the Dive Area         Image: Contract of the Dive Area             Image: Contract of the Dive Area         Image: Contract of the Dive Area             Image: Contract of Dive Area         Image: Contract of the Dive Area	Mollusks	Gastropods	Gastropod u	nidentified		
Network of Auroba sp       Actual track of ROV dive         Overall Map of Dive Area       Actual track of ROV dive         Image: transport of the dive site of the dive site of the dive site. Plenned dive sit and end points are shown as green and red dist, respectively.       Image: transport of the dive site. Plenned dive site and end points are shown as green and red dist, respectively.         Image: transport of the dive site. Plenned dive site and end points are shown as green and red dist, respectively.       Image: transport of the dive.         Representative Photos of the Dive       Image: transport of the dive.       Image: transport of the dive.         Chrysogoriga of pinnata collected at the beginning of the dive.       Image: transport of the subfamily Chonelasmatinae.         Sample LD       Stree of the Size of the dive.       Stree of the subfamily Chonelasmatinae.         Sample LD       Stree of the Size of the dive.       Stree of the subfamily Chonelasmatinae.	Fishes	Macrourids	Coryphaenoi	des sp		
Overall Map of Dive Area       Actual track of ROV dive         Image: state of the dive Area       Image: state of the dive Area         Image: state of the dive Area       Image: state of the dive Area         Image: state of the dive Site Paraned dive State and end points are shown as green and red dots, respectively.       Image: state of the dive Area         Image: state of the dive Site Paraned dive State and end points are shown as green and red dots, respectively.       Image: state of the dive.         Representative Photos of the Dive       Image: state of approximation of the dive.         Image: state of pinnata collected at the beginning of the dive.       Image: state of approximation of the dive.         Samples Collected       Image: state of approximation of the dive.         Sample ID       Extremo grate of pinnata collected at the beginning of the dive.         Sample ID       Extremo grate of pinnata collected at the beginning of the dive.         Sample ID       Extremo grate of pinnata collected at the beginning of the dive.         Sample ID       Extremo grate of pinnata collected at the beginning of the dive.         Sample ID       Extremo grate of pinnata collected at the beginning of the dive.         Sample ID       Extremo grate of pinnata collected at the beginning of the dive.         Sample ID       Extremo grate of pinnata collected at the dive of pinnata collected at the dive of pinnata collected at the dive of pinnata collected at the dinterve pinnata col		Eolo	Nezumia or i	Numba sp		
Overall Map of Dive Area       Actual track of ROV dive         Image: Divergence of Dive Area       Image: Divergence of D		Leis	Synaphobrai		1	
Overall Map of Dive Area       Actual track of ROV dive         Image: Constraint of the Dive of						
Overall Map of Dive Ares       Actual track of ROV dive <ul> <li></li></ul>						
Image: Section 2 of the Diversity of the Di	Overall Map o	f Dive Area		Actual track of ROV dive		
Bathymetry data for the dive site. Planned dive start and end points are shown as green and red dots, respectively.     Hypack screen grab showing waypoints dropped during actual ROV dive.       Representative Photos of the Dive       Image: Soft and the Dive       Soft and the Dive <td colspam<="" th=""><th>24'25'0'N-</th><th></th><th>h</th><th>AUDOM AUDOM A POWOR HISS A SUBOR A SUB</th><th></th></td>	<th>24'25'0'N-</th> <th></th> <th>h</th> <th>AUDOM AUDOM A POWOR HISS A SUBOR A SUB</th> <th></th>	24'25'0'N-		h	AUDOM AUDOM A POWOR HISS A SUBOR A SUB	
Representative Photos of the Dive         Image: September 2 in the Dive       Image: September 2 in the Dive         Image: September 2 in the Dive       Image: September 2 in the Dive         Chrysogorgia of pints at the beginning of the dive.       New genus of sponge in the subfamily Chonelasmatinae.         Sample ID       EX1504L2_20150803220724_D2_Dive02- SPECO1BIO         Date (UTC)       2015/08/03	Bathymetry dat points are show	a for the dive site. Planned dive star vn as green and red dots, respective	rt and end ely.	Hypack screen grab showing wa ROV d	ypoints dropped during actual ive.	
Samples ID       EX1504L2_20150803220724_D2_Dive02_ SPEC01BIO       SHORE SOLICE         Date (UTC)       2015/08/03	Representativ	e Photos of the Dive				
Chrysogorgia cf pinnata collected at the beginning of the dive.       New genus of sponge in the subfamily Chonelasmatinae.         Samples Collected       EX1504L2_20150803220724_D2_Dive02_ SPEC01BIO         Date (UTC)       2015/08/03						
Samples Collected           Sample ID         EX1504L2_20150803220724_D2_Dive02_ SPEC01BIO           Date (UTC)         2015/08/03	Chrysogorgia c	f pinnata collected at the beginning	of the dive.	New genus of sponge in the subfar	nily Chonelasmatinae.	
Sample ID         EX1504L2_20150803220724_D2_Dive02_ SPEC01BIO           Date (UTC)         2015/08/03	Samples Colle	ected				
Date (UTC) 2015/08/03	Sample ID	EX1504L2_2015080322072 SPEC01BIO	4_D2_Dive02_			
	Date (UTC)	2015/08/03				

Time (UTC)	22:07:24	
Depth (m)	2452	and a second
Temperature (°C)	1.71246	to at
Oxygen (mL/L)	3.35526	the the
Field ID(s)	Chrysogorgia pinnata?	
Comments	Commensal barnacles and an amphipod wer on the sample when it was brought to the sur	e on the coral at the time of collection. Only the barnacles remained face.
Sample ID	EX1504L2_20150803220724_D2_Dive02_ SPEC01BIO_C01	dets increased at 1920
Date (UTC)	2015/08/03	
Time (UTC)	22:07:24	1 miles to de to de to de to de to
Depth (m)	2452	CONTRACTOR OF STATE
Temperature (°C)	1.71246	a hard the second se
Oxygen (mL/L)	3.35526	The Property of the Subsection
Field ID(s)	Commensal gooseneck barnackles	A Contraction of the second seco
Comments	Barnacles attached to branch of Chrysogorgi	a pinnata?
Sample ID	EX1504L2_20150803225145_D2_Dive02_ SPEC02BIO	
Date (UTC)	2015/08/03	
Time (UTC)	22:51:45	
Depth (m)	2464	Constant in a second in the
Temperature (°C)	1.72883	
Oxygen (mL/L)	3.28626	Million allasta communication
Field ID(s)	Parantipathes sp.	and the second se
Comments	The specimen collected is the top half of a co	olony.
Sample ID	EX1504L2_20150804001604_D2_Dive02_ SPEC03GEO	
Date (UTC)	2015/08/04	
Time (UTC)	00:16:04	Vesterin General December 2015 Network 2015 Time (UTC): August 2015 Time (UTC): August 2015
Depth (m)	2407	Pietel IID: Manganese Southed Statutt Location: Nr Frenk Program Statutt Souther Latitiongs: 24 41251 r 1:108.09422 Bipth: 2407 m
Temperature (°C)	1.69045	
Oxygen (mL/L)	3.33598	
Field ID(s)	Manganese crusted basalt	
Comments	A small ophioroid was on the rock at the time	e it was collected.
Sample ID	EX1504L2_20150804022802_D2_Dive02_ SPEC04GEO	
Date (UTC)	2015/08/04	

Time (UTC)	02:28:02		4.	-	Sector Sector	
Depth (m)	2243			Real States	-	
Temperature (°C)	1.9046		and the			
Oxygen (mL/L)	2.91523					
Field ID(s)	Manganese crust	ed basalt		Press		
Comments	The rock broke in half upon collection, and only one half of the rock ended up being collected.					
Please direct inquiries to:		NOAA Office of Ocean Ex 1315 East-West Highway Silver Spring, MD 20910 (301) 734-1014	ploration & Research (SSMC3 10 th Floor)			