**From:** Nancy Rumrill
**To:** Charles D Hunt
**Subject:** Re: Seep lat / longs - request from Meghan too, please
**Date:** 12/10/2009 05:41 PM

Ok, thank you. I will get the seep locations from her. I've sent one e-mail request already on any other seeps that she may know about. Nancy

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Nancy Rumrill
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San Francisco, CA 94105
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▼ Charles D Hunt ---12/10/2009 04:20:06 PM---Nancy, there's a distinction that causes me to direct you to Meghan as the primary source for lat/lo

From: Charles D Hunt <cdhunt@usgs.gov>
To: Nancy Rumrill/R9/USEPA/US@EPA
Date: 12/10/2009 04:20 PM
Subject: Re: Seep lat / longs - request from Meghan too, please

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Nancy, there's a distinction that causes me to direct you to Meghan as the primary source for lat/longs on the seeps. That is, for our samples, I had others collecting the samples while I GPS'ed from the shorebreak and got the bottles into the cooler. So our recorded lat longs are not actually directly over the seeps but they're close, and I considered them adequate for our mapping purposes along the beach. Samples typically were no more than 5-10 m off the beach, within the GPS precision we were getting.

Meghan on the other hand has a waterproof bag for her GPS and does actually record exact locations out in the water. The seeps are not far offshore, but there'll be a difference between my lives and hers. So please request the seep locations from Meghan, those will be more accurate and should be considered the primary data source for seep locations. She'll have them recorded as algae samples but she has notations of which algae sample is at which seep.

--Chip

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| From:       |
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  |Charles D Hunt/WRD/USGS/DOI                                                                                                                                |
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| To:         |
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  |Charles D Hunt/WRD/USGS/DOI@USGS                                                                                                                           |
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| Cc:         |
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  |rumrill.nancy@epa.gov                                                                                                                                      |
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| Date:       |
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  |12/10/2009 01:59 PM                                                                                                                                        |
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| Subject:    |
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  |Seep lat / longs                                                                                                                                           |
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Latlongs are shown on these pages from our database; Meghan Dailer may have additional sites of interest, ehe GPSs everything she does. Meghan may number or name these seeps differently, we've got them by sample numbers.

Sample L1 (Seep 1?)

http://nwis.waterdata.usgs.gov/hi/nwis/gwdata?search_site_no=205612156413101&search_site_no_match_type=exact&format=station_list&sort_key=site_no&group_key=NONE&TZoutput=0&radio_parm_cds=all_parm_cds&qw_attributes=0&inventory_output=0&rdb_inventory_output=file&qw_sample_wide=wide&rdb_qw_attributes=0&date_format=YYYY-MM-DD&rdb_compression=file&list_of_search_criteria=search_site_no

Sample L2 (Seep 2?)

http://nwis.waterdata.usgs.gov/hi/nwis/gwdata?search_site_no=205612156413102&search_site_no_match_type=exact&format=station_list&sort_key=site_no&group_key=NONE&TZoutput=0&radio_parm_cds=all_parm_cds&qw_attributes=0&inventory_output=0&rdb_inventory_output=file&qw_sample_wide=wide&rdb_qw_attributes=0&date_format=YYYY-MM-DD&rdb_compression=file&list_of_search_criteria=search_site_no

Here's a map, our samples L2 and L5 are at the same seep 2, just sampled different times that day to make sure we captured a good result.

[attachment "Fig_C02_lahaina_samples.pdf" deleted by Charles D Hunt/WRD/USGS/DOI]

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Pacific Islands Water Science Center
- http://hi.water.usgs.gov
Ground-Water Quality and its Relation to Land Use on Oahu -
http://pubs.usgs.gov/wri/wri034305/
Nutrient Flux to Coastal Waters, Wastewater Injection Modeling -
http://pubs.usgs.gov/sir/2006/5283/
Wastewater and Nutrient Source Tracking for Beach Monitoring -
http://hi.water.usgs.gov/studies/project_source_tracking.html

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