

DCPP Monitoring for Japan Nuclear Accident

Martin Wright
RP Sr Engineer
PG&E Diablo Canyon

Who are they going to call ?



- The public and government agencies immediately turned to nuclear power plants for their expertise for this type of event. Other event types *could* include dirty bombs or nuclear devices (be ready).
- DCPD set up a public relations team to field calls from reporters and government agencies. Upper management was involved and approved these updates.



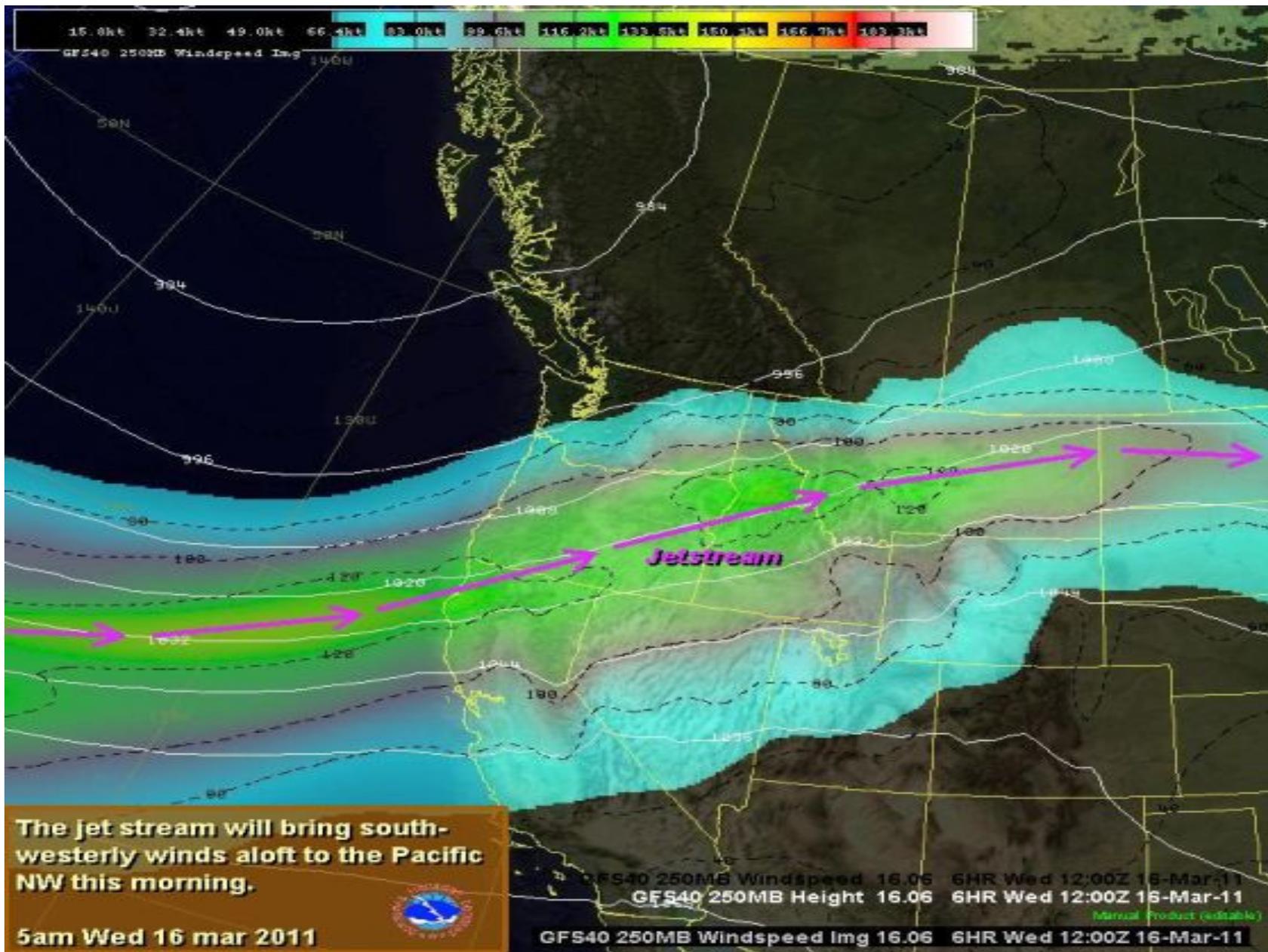
Why should the REMP monitor ?

- Should prove that any isotopes detected are not from your plant
- Proactively sample for affects on your REMP; changes in REMP background / baselines
- Iodine has short half-life and might be missed on monthly or quarterly sampling. You need to make a quick decision and start your sampling
- Opportunity to establish “good neighbor” relationships
- You want to be the first to find isotopes because it’s our business in REMP (we’re the experts)



DCPP Immediate Actions

- Started 24 hour P&I sampling on 3-16-11.
- Setup AMS-4 air samplers for continuous monitoring & trending
- DCPP Chemistry Dept began trending relevant installed plant air monitors :
Plant Vent particulate, iodine, pressurized ion chambers, etc
- PG&E Meteorology Group started jet stream plume modeling and tracking.

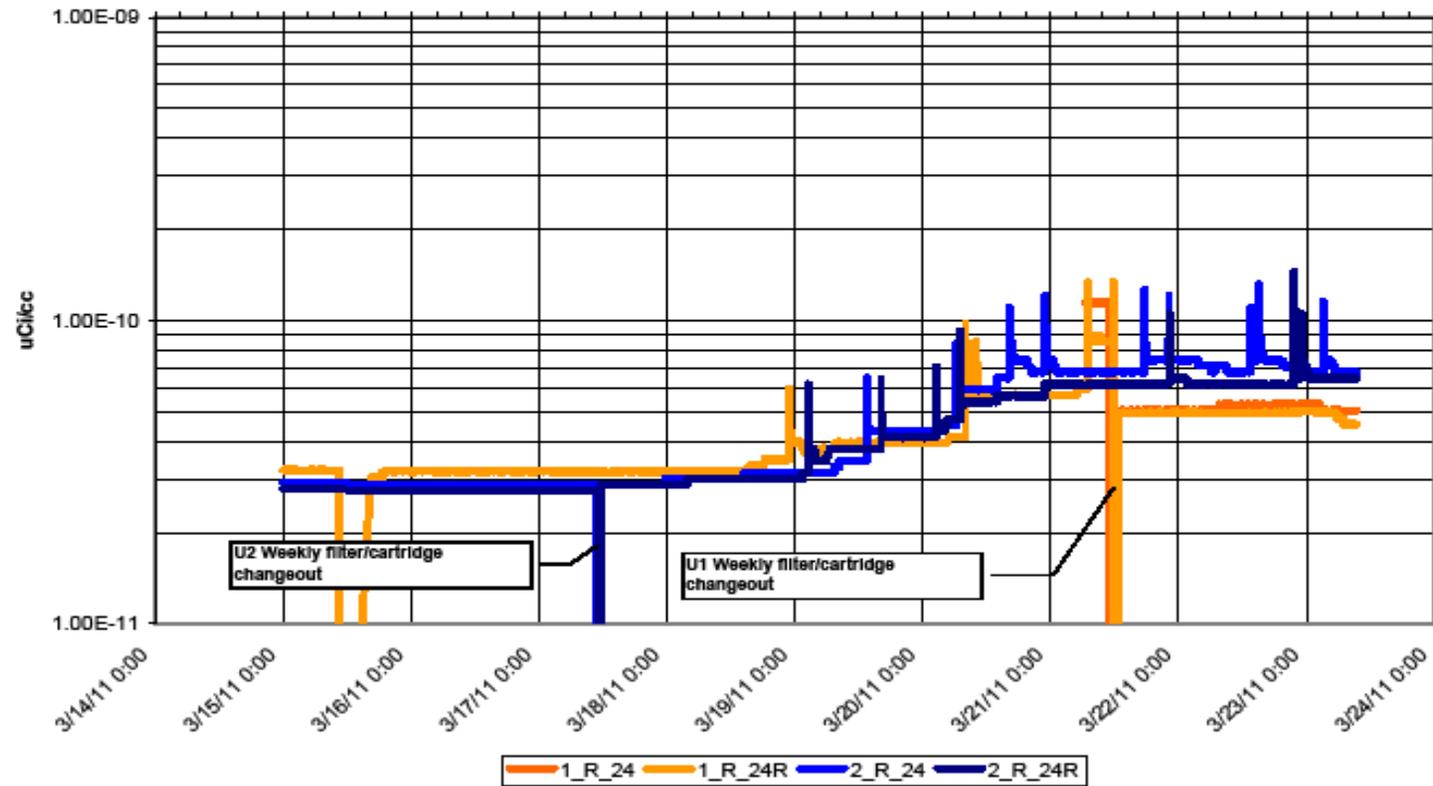


Air Sampling DCPD U1 100' Elevation Penetration Area Outside

Particulate Filter / Iodine Cartridge

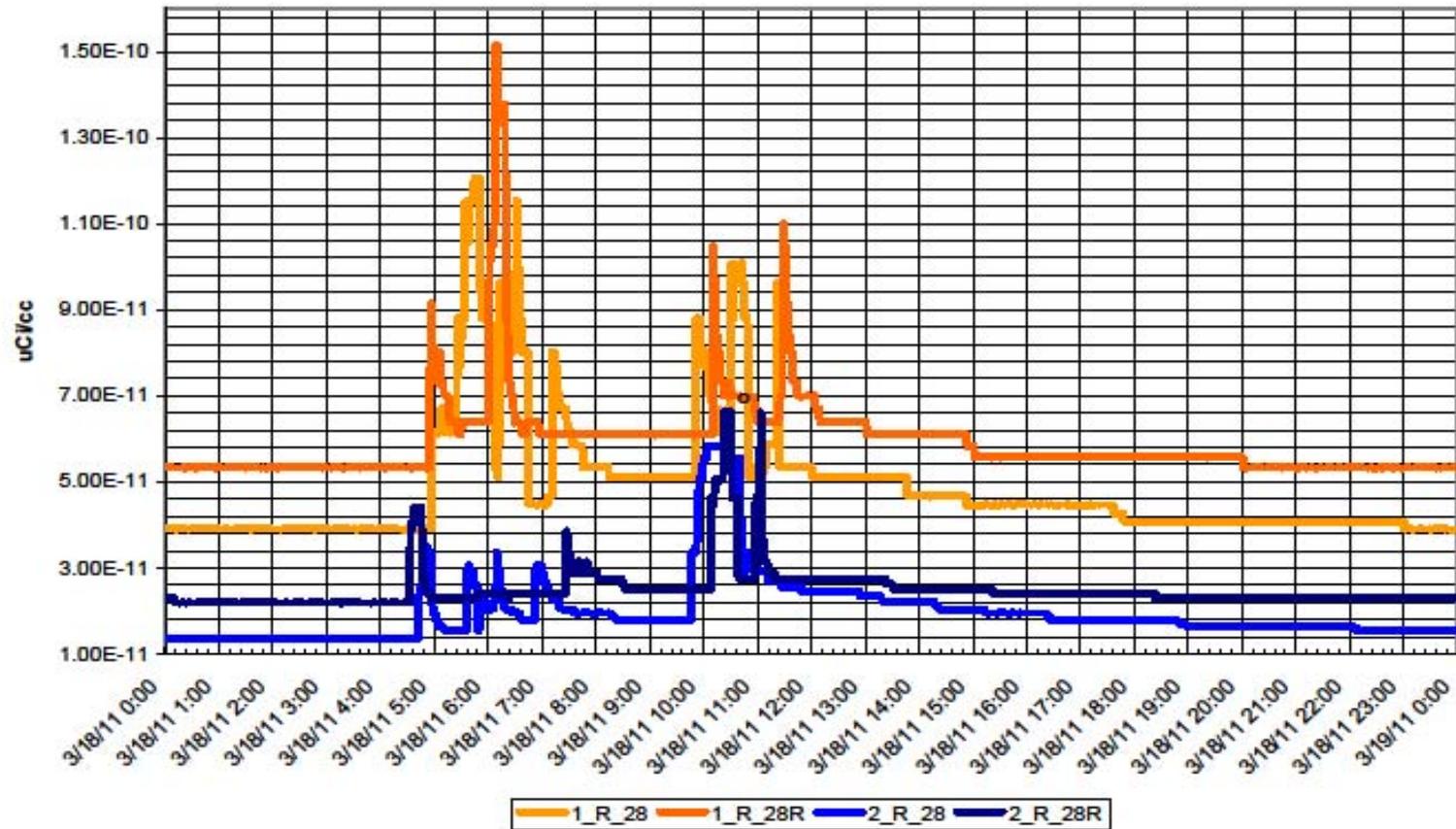
Sampling Period		Cs-137 (μCi/cc)	I-131 (μCi/cc)
From	To		
3/15/11 1600	3/16/11 0400	< 4.37E-13	< 5.09E-13
3/16/11 0400	3/17/11 0400	<3.47E-13	<2.90E-13
3/17/11 0400 Th	3/18/11 0400 Fri	< 2.17E-13	6.35 E-13
3/18/11 0400 Fri	3/19/11 0500 Sat	< 2.67E-13	5.64 E-13
3/19/11 0500 Sat	3/20/11 0030 Sun	< 3.14E-13	1.04 E-12
3/20/11 0030 Sun	3/21/11 0500 Mon	< 2.92E-13	5.07 E-12
3/21/11 0500 Mon	3/22/11 0500 Tue	< 3.68E-13	8.06 E-13
3/22/11 0500 Tue	3/23/11 0500 Wed	< 2.70E-13	< 4.66E-13
3/23/11 0500 Wed	3/24/11 0500 Th	< 2.55E-13	5.65 E-13
3/24/11 0500 Th	3/25/11 0500 Fri	< 3.08E-13	4.90 E-13
3/25/11 0500 Fri	3/26/11 0500 Sat	<2.99E-13	<4.87E-13
3/26/11 0500 Sat	3/27/11 0500 Sun	< 3.00E-13	< 4.12E-13
3/27/11 0500 Sun	3/28/11 0455 Mon	< 3.64E-13	6.05 E-13
3/28/11 0455 Mon	3/29/11 0500 Tue	< 4.06E-13	< 3.58E-13
3/29/11 0500	3/30/11 0650	< 3.29E-13	< 3.48E-13
3/30/11 0650	3/31/11 0505	< 3.23E-13	< 3.41E-13
3/31/11 0505	4/01/11 0500	< 3.23E-13	< 3.41E-13
4/01/11 0500	4/02/11 0430	< 2.57E-13	< 3.13E-13
4/02/11 0430	4/03/11 0510	< 3.44E-13	< 3.03E-13
4/03/11 0510	4/04/11 0449	< 4.53E-13	< 2.54E-13

U1 & U2 RM-24/24R
Plant Vent Iodine Monitor

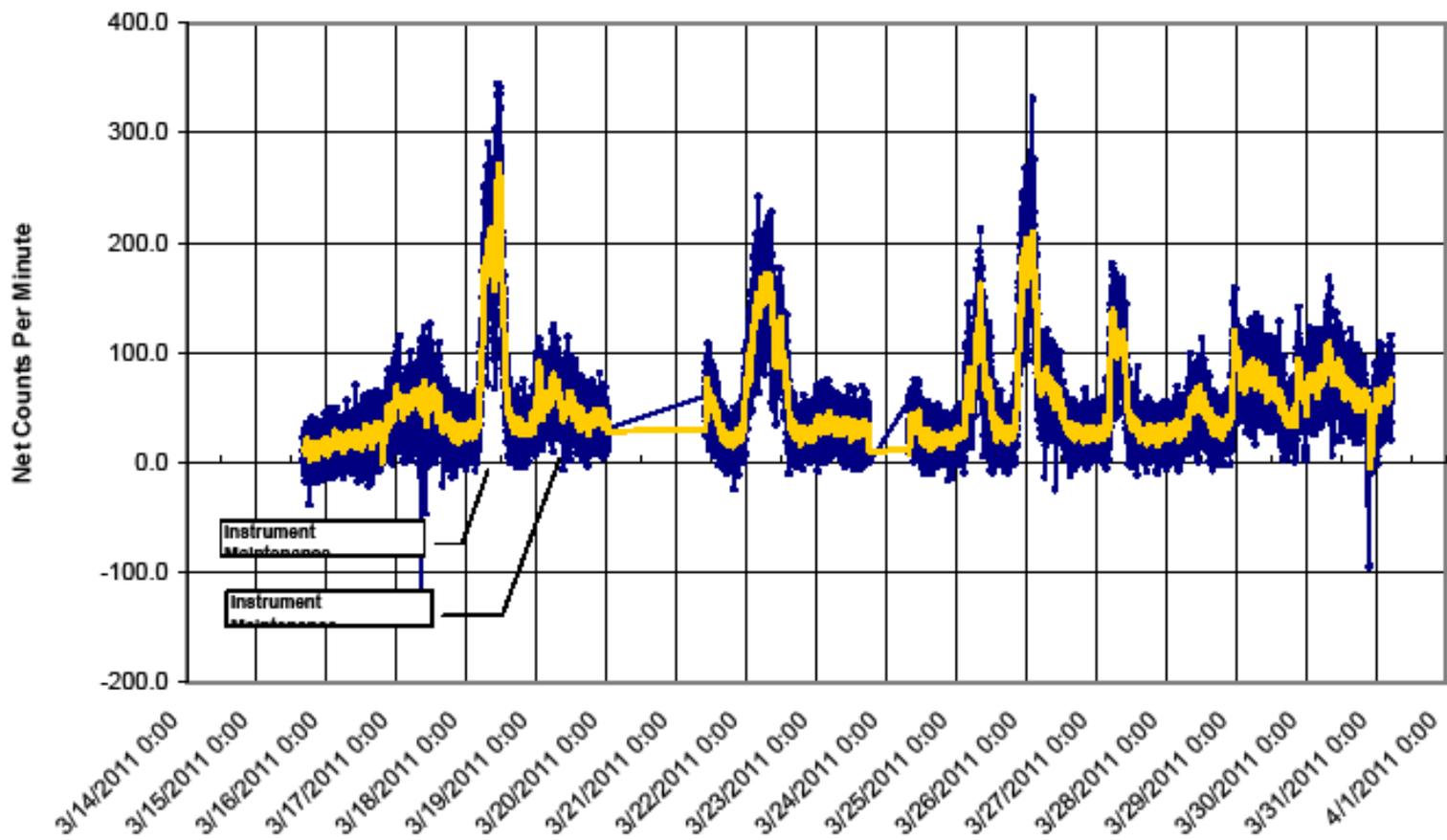


RM 28 / 28R Plant Vent Particulate Monitors U-1 / U-2

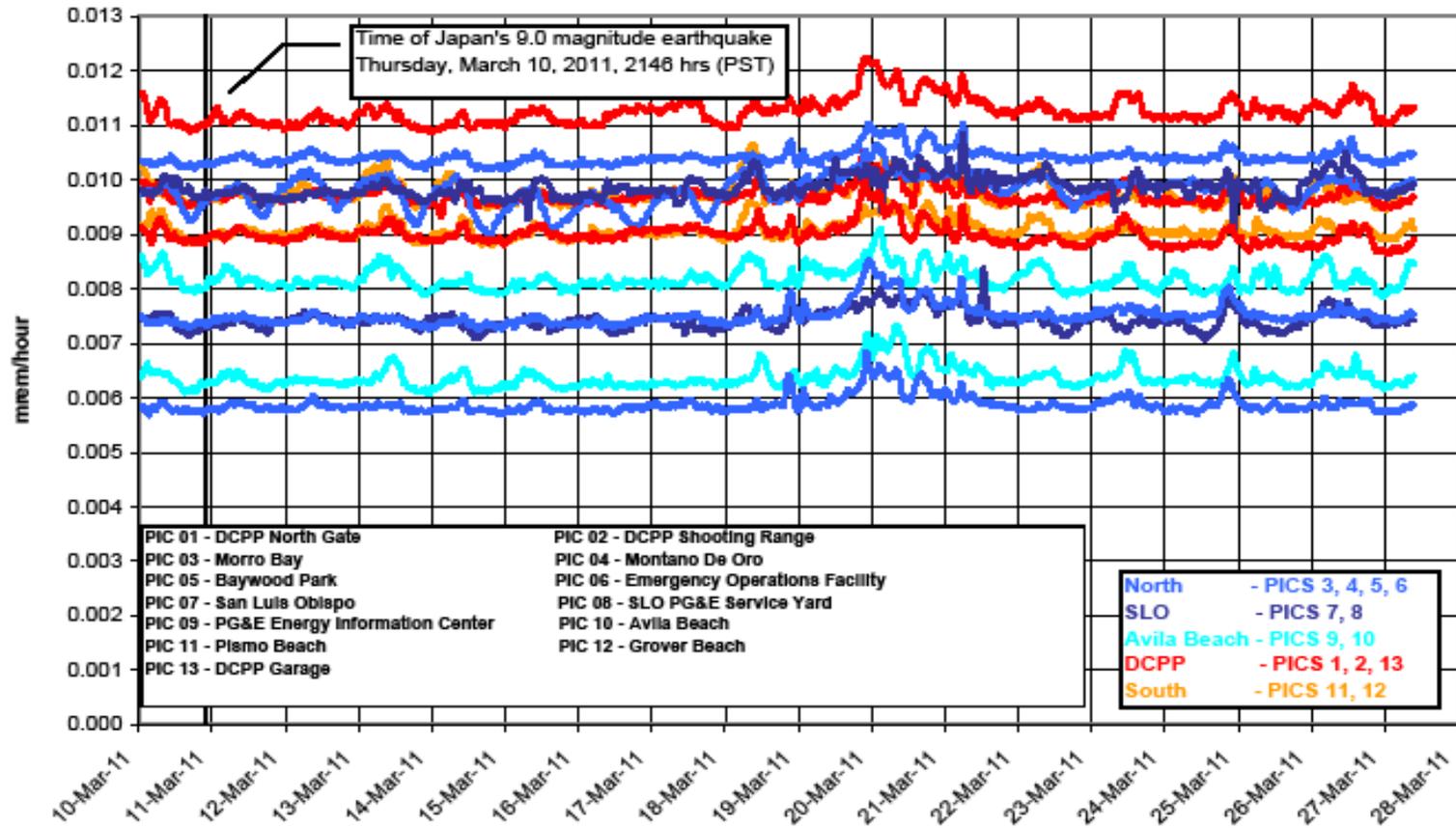
U1 & u2 RM-28/28R



**AMS-4 Airborne Particulate Detector
DCPP U1 100' Penetration Area Near Outside Grating**



PG&E Pressurized Ion Chambers In San Luis Obispo County



Pressurized Ion Chamber

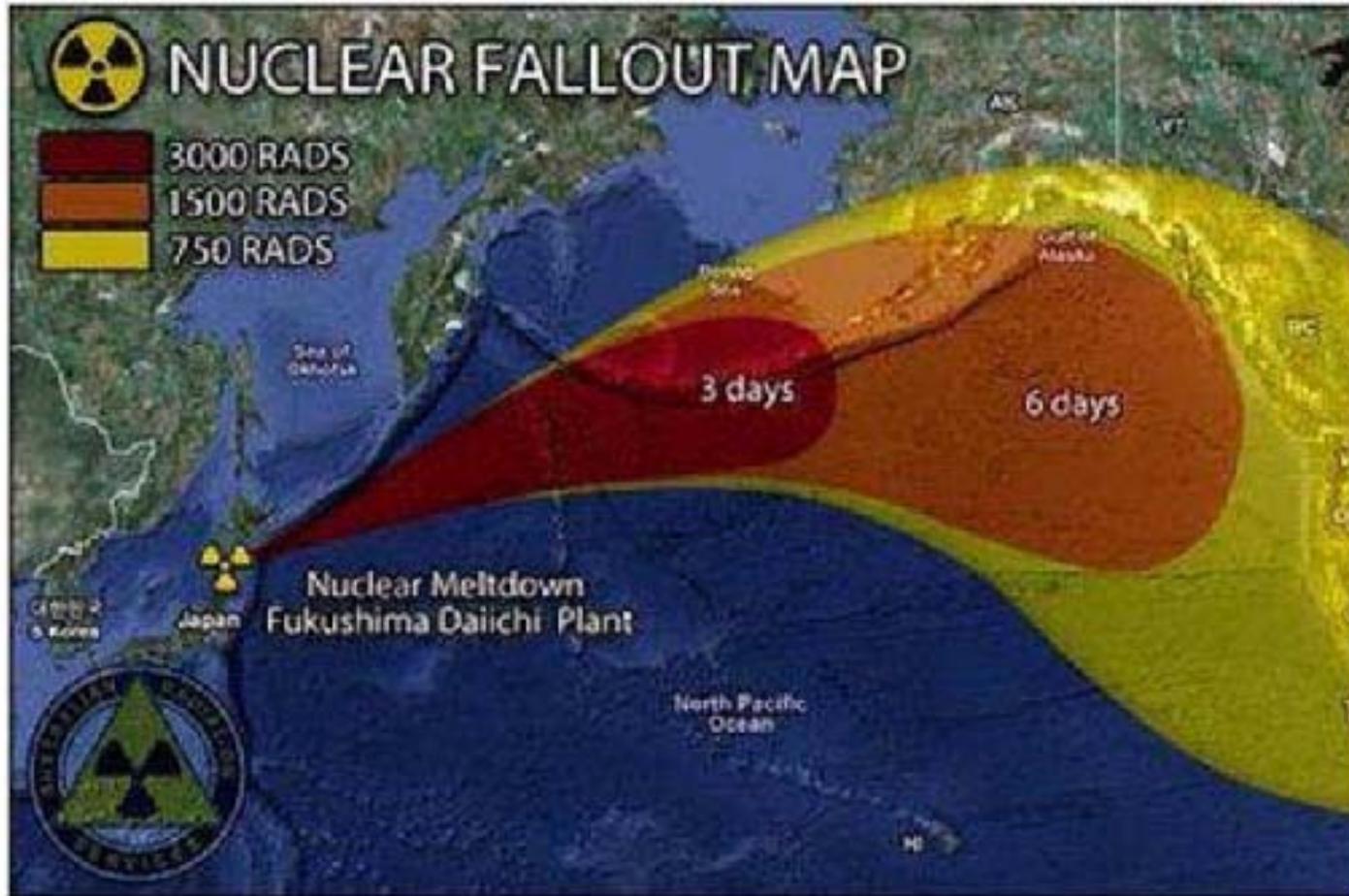




Politics and Public Hysteria

- After the tsunami and reports of Daiichi Nuclear Plant's damage, the public started to *freak out*.
- Anti-nukes fed the hysteria.
- Reporters wanted to come watch our technicians perform milk sampling (we said no). PG&E did not want our picture linked with the Fukushima Event.
- Senator Feinstein and Congresswoman Capps “visited” DCPP (both are anti-nuke)
- DCPP “was” in the last phases of License Renewal at the time of the Fukushima event.

Propaganda on web



Ebay craze for KI

potassium iodide items - Get great deals on Health Beauty, Sporting Goods items on eBay.com!

http://shop.ebay.com/i.html?_trkparms=65%3A12%7C66%3A2%7C39%3A1%7C72%3A4726...

Show only

- Expedited shipping
- Returns accepted
- Free shipping
- Completed listings
- [Choose more...](#)

Location

- US Only
- North America
- Worldwide
- [Choose more...](#)

Distance

[Customize preferences](#)

Matching eBay Stores

- [I Got It All Mall](#) (6)
- [Sweet Southern Skies](#) (7)
- [NutraBio](#) (5)
- [silkleen chemicals](#) (6)

[See all matching eBay Stores](#)

All items Auctions only Buy It Now Products & reviews  Shipping to 93423 | [Customize view](#) [Ab](#)

View as: Price + Shipping: highest first Page 1 of 17 [Co](#) [eB](#)

	POTASSIUM IODIDE Nuclear Protection for the Family More options	Buy It Now \$3,500.00 +\$16.00 shipping	29d 21h 3m
	Radiation Emergency Tablet Family Pack Potassium Iodide Potassium Iodide For New borns, Children, and Adults! One-day shipping available Enlarge	0 Bids Buy It Now \$2,500.00 \$5,000.00 Free shipping	4d 0h 19m
	IOSAT Potassium Iodide Radiation Pills Tablets 2-17 KI ON HAND NOW!!! I SHIP TODAY! OMG LOOK!!! EXP Date 2-2017	Buy It Now or Best Offer \$2,000.00 Free shipping	29d 20h 33m
	Potassium Iodide ACS Grade KI 25 Kg	Buy It Now \$1,625.00 +\$50.00 shipping	10d 17h 26m
	Potassium Iodide Oral Solution -- CHILDREN KIDS INFANTS FREE OVERNIGHT SHIPPING WITHIN USA	0 Bids Buy It Now \$1,500.00 \$3,000.00 Free shipping	3h 8m

Price
\$ to \$ >>

Seller
eBay Top-rated sellers
[Specify sellers...](#)

Buying formats
Auction
Buy It Now
[Choose more...](#)

Show only
Expedited shipping
Returns accepted
Free shipping
Completed listings
[Choose more...](#)

Location
US Only
North America
Worldwide
[Choose more...](#)

Distance
[Customize preferences](#)

Matching eBay Stores

All items Auctions only Buy It Now Products & reviews **US 18** Shipping to 93423 | [Customize view](#) [Ab](#)

View as: Price + Shipping: highest first Page 1 of 5 Co eBi

	SAIC Mailroom Scale Metal Detector Radiation Package		Buy It Now or Best Offer	\$50,000.00 +\$500.00 shipping	22d 0h 11m
---	--	---	---------------------------------	--	-------------------

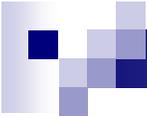
	Radiac AN/UDR-13 Radiation Detector Geiger Counter		0 Bids	\$3,500.00	5h 58m
	Expedited shipping available		Buy It Now	\$5,000.00	Free shipping

	NEW EOI Black Body Radiation Source FTIR IR Detector		Buy It Now or Best Offer	\$2,200.00 +\$86.00 shipping	1d 9h 58m
---	--	--	---------------------------------	--	------------------

	PROFESSIONAL RADIATION DETECTOR DOSIMETER GEIGER COUNTE		Buy It Now	\$1,914.95 +\$185.00 shipping	28d 19h 53m
--	---	--	-------------------	---	--------------------

	UltraRadiac ANUDR13 Radiation Dosimeter Geiger Detector		Buy It Now	\$1,899.99 +\$29.50 shipping	29d 17h 10m
	One-day shipping available				

	PROFF Radiation Level Measuring / dosimeter detector		Buy It Now or Best Offer	\$1,760.00 +\$35.00 shipping	26d 17h 52m
---	--	--	---------------------------------	--	--------------------



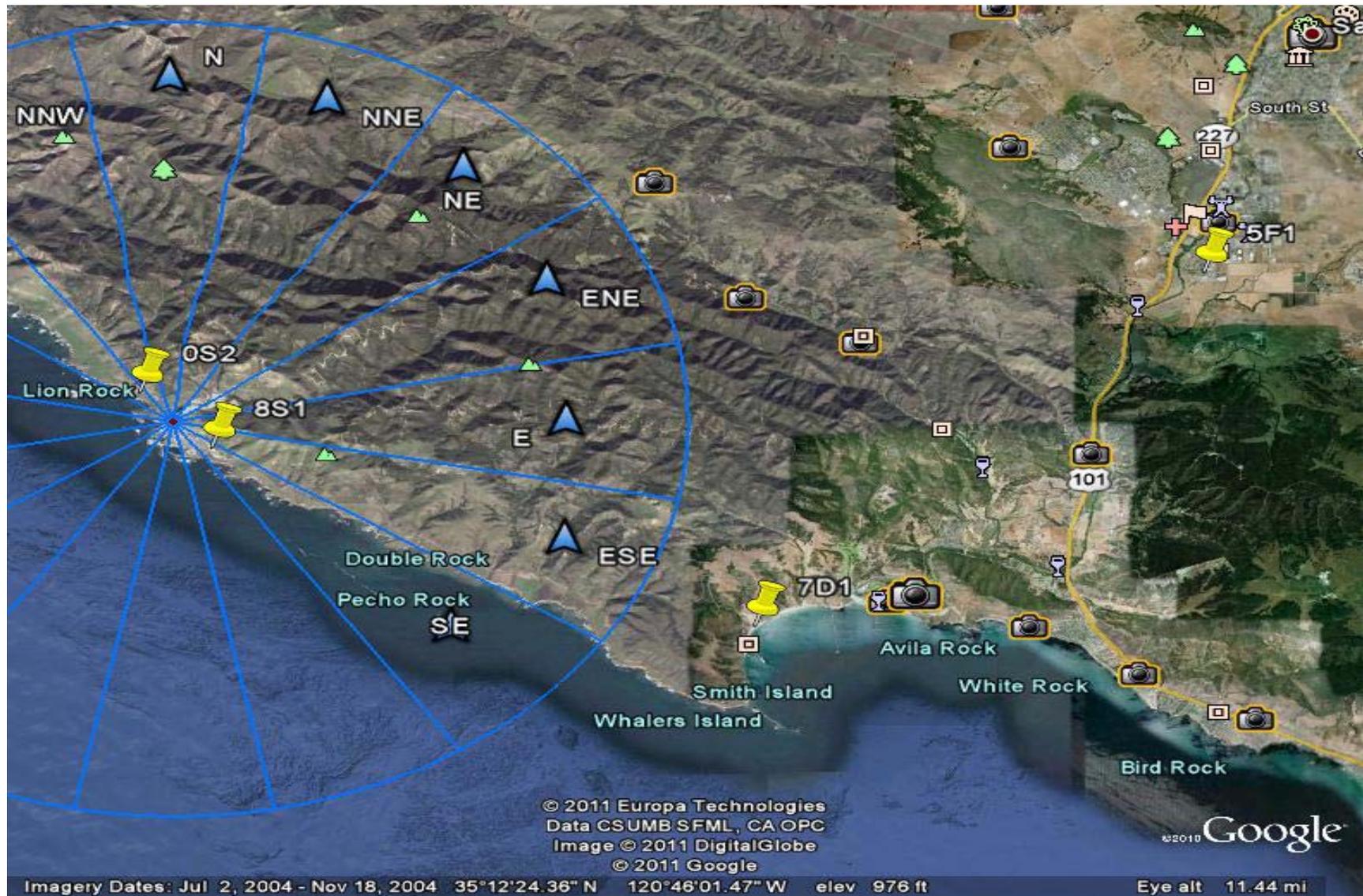
DCPP REMP Additional Efforts

- **NOTE:** We did not change anything with the routine ODCM REMP processes, those requirements all continued as normal
- We co-located additional P&I air samplers onsite, at site boundary, in Avila Beach, and San Luis Obispo (also weekly gamma spec & Total Strontium)
- Started rain sampling after each rain event onsite and offsite
- Began weekly milk sampling in addition to the monthly sample
- Took supplemental vegetation samples throughout the county
- Began weekly “sticky pad” monitoring on and off site
- Added additional meat sampling from Hearst Ranch 37 miles NNW
- Added Strontium, Tritium, HTD to additional sampling analysis suites
- Setup weekly conference calls with west coast plants, Ken Sejkora, and our REMP Lab (GEL).
- Sent daily emails to colleagues and interested parties
- Updated NEI website database daily
- Updated California Department of Public Health with data each day

Co-located air samplers at 4 locations



Co-located air samplers at 4 locations (0S2, 8S1, 7D1, 5F1)



Air Sample Data

Station	Start Date	Pull Date	Time	Total Vol m3	I-131 pCi/m3	I-132 pCi/m3	Te-132 pCi/m3	Cs-134 pCi/m3	Cs-137 pCi/m3	Total Sr pCi/m3	Gr Beta pCi/m3
3-10-11 at 2146 PST Japan Tsunami and Fukushima Nuclear Event											
7D1	3/16/11	3/18/11	1700	146.2	0.48	0.03	0.03	< 0.006	0.004	< 2.17E-3	0.333
Rain Event	3-19-11	0.35"									
Rain Event	3-20-11	2.93"									
Rain Event	3-21-11	0.34"									
Rain Event	3-23-11	0.99"									
5F1	3/16/11	3/23/11	0726	517.8	1.65	0.03	0.05	0.010	0.014	< 1.89E-3	0.123
7D1	3/18/11	3/23/11	0750	377.4	1.77	ND	0.04	ND	0.015	< 1.61E-3	0.136
8S1	3/16/11	3/23/11	0923	566.0	1.37	0.02	0.02	0.016	0.010	< 1.17E-3	0.115
0S2	3/16/11	3/23/11	0948	573.2	1.56	ND	0.05	0.012	0.016	< 1.49E-3	0.126
5F1	3/16/11	3/23/11	0724	422.8	1.54	N/A	N/A	N/A	N/A	N/A	0.114
7D1	3/16/11	3/23/11	0748	419.7	1.68	N/A	N/A	N/A	N/A	N/A	0.129
8S2	3/18/11	3/23/11	0912	429.7	1.59	N/A	N/A	N/A	N/A	N/A	0.108
8S1	3/16/11	3/23/11	0921	424.7	1.52	N/A	N/A	N/A	N/A	N/A	0.112
MT1	3/16/11	3/23/11	1044	428.9	1.59	N/A	N/A	N/A	N/A	N/A	0.126
1S1	3/16/11	3/23/11	0940	432.7	1.51	N/A	N/A	N/A	N/A	N/A	0.118
0S2	3/18/11	3/23/11	0946	427.6	1.48	N/A	N/A	N/A	N/A	N/A	0.112
Rain Event	3-24-11	0.07"									
Rain Event	3-25-11	0.55"									
Rain Event	3-27-11	0.31"									

Air sample data continued

Station	Start Date	Pull Date	Time	Total Vol m3	I-131 pCi/m3	I-132 pCi/m3	Te-132 pCi/m3	Cs-134 pCi/m3	Cs-137 pCi/m3	Total Sr pCi/m3	Gr Beta pCi/m3
5F1	3/23/11	3/30/11	0754	549.6	0.33	ND	ND	0.011	0.012	< 8.33E-4	0.142
7D1	3/23/11	3/30/11	0820	565.4	0.31	ND	ND	0.007	0.010	< 8.58E-4	0.128
8S1	3/23/11	3/30/11	0849	570.4	0.36	ND	ND	0.013	0.014	< 8.42E-4	0.151
0S2	3/23/11	3/30/11	0909	562.7	0.39	ND	ND	ND	0.015	< 8.73E-4	0.139
5F1	3/30/11	4/6/11	0813	562.1	0.07	ND	ND	< 0.007	< 0.005	< 9.47E-4	0.028
7D1	3/30/11	4/6/11	0835	557.1	0.06	ND	ND	< 0.005	< 0.004	< 9.42E-4	0.024
8S1	3/30/11	4/6/11	0915	566.8	0.05	ND	ND	< 0.006	< 0.005	< 9.06E-4	0.028
0S2	3/30/11	4/6/11	0945	558.5	0.06	ND	ND	< 0.006	< 0.006	< 9.25E-4	0.029
Rain Event 4-7-11 0.02"											
5F1	4/6/11	4/13/11	0720	556.9	< 0.026	ND	ND	< 0.006	< 0.005	< 8.79E-4	0.066
7D1	4/6/11	4/13/11	0745	558.2	< 0.022	ND	ND	< 0.006	< 0.005	< 8.82E-4	0.040
8S1	4/6/11	4/13/11	0827	588.6	< 0.026	ND	ND	< 0.005	< 0.004	< 8.78E-4	0.031
0S2	4/6/11	4/13/11	0853	569.7	0.015	ND	ND	< 0.005	0.003	< 8.88E-4	0.035
5F1	4/13/11	4/20/11	0643	550.3	0.010	ND	ND	< 0.005	< 0.004	< 5.9E-04	0.024
7D1	4/13/11	4/20/11	0715	547.9	< 0.011	ND	ND	< 0.006	< 0.005	< 5.6E-04	0.023
0S2	4/13/11	4/20/11	0822	563.1	< 0.015	ND	ND	< 0.005	< 0.005	< 6.4E-04	0.019

Air sample data continued

Station	Start Date	Pull Date	Time	Total Vol m3	I-131 pCi/m3	I-132 pCi/m3	Te-132 pCi/m3	Cs-134 pCi/m3	Cs-137 pCi/m3	Total Sr pCi/m3	Gr Beta pCi/m3
5F1	4/20/11	4/27/11	0743	562.8	< 0.013	ND	ND	< 0.005	< 0.004	N/A	0.012
7D1	4/20/11	4/27/11	0807	567.1	< 0.012	ND	ND	< 0.005	< 0.006	N/A	0.012
8S1	4/20/11	4/27/11	0832	588.6	< 0.010	ND	ND	< 0.006	< 0.004	N/A	0.011
0S2	4/20/11	4/27/11	0855	570.8	< 0.012	ND	ND	< 0.004	< 0.004	N/A	0.014
5F1	4/27/11	5/4/11	0751	560.0	< 0.010	ND	ND	< 0.005	< 0.004	N/A	0.016
7D1	4/27/11	5/4/11	0821	560.5	< 0.010	ND	ND	< 0.005	< 0.004	N/A	0.018
8S1	4/27/11	5/4/11	0844	585.2	< 0.010	ND	ND	< 0.004	< 0.004	N/A	0.017
0S2	4/27/11	5/4/11	0905	567.7	< 0.006	ND	ND	< 0.005	< 0.005	N/A	0.017

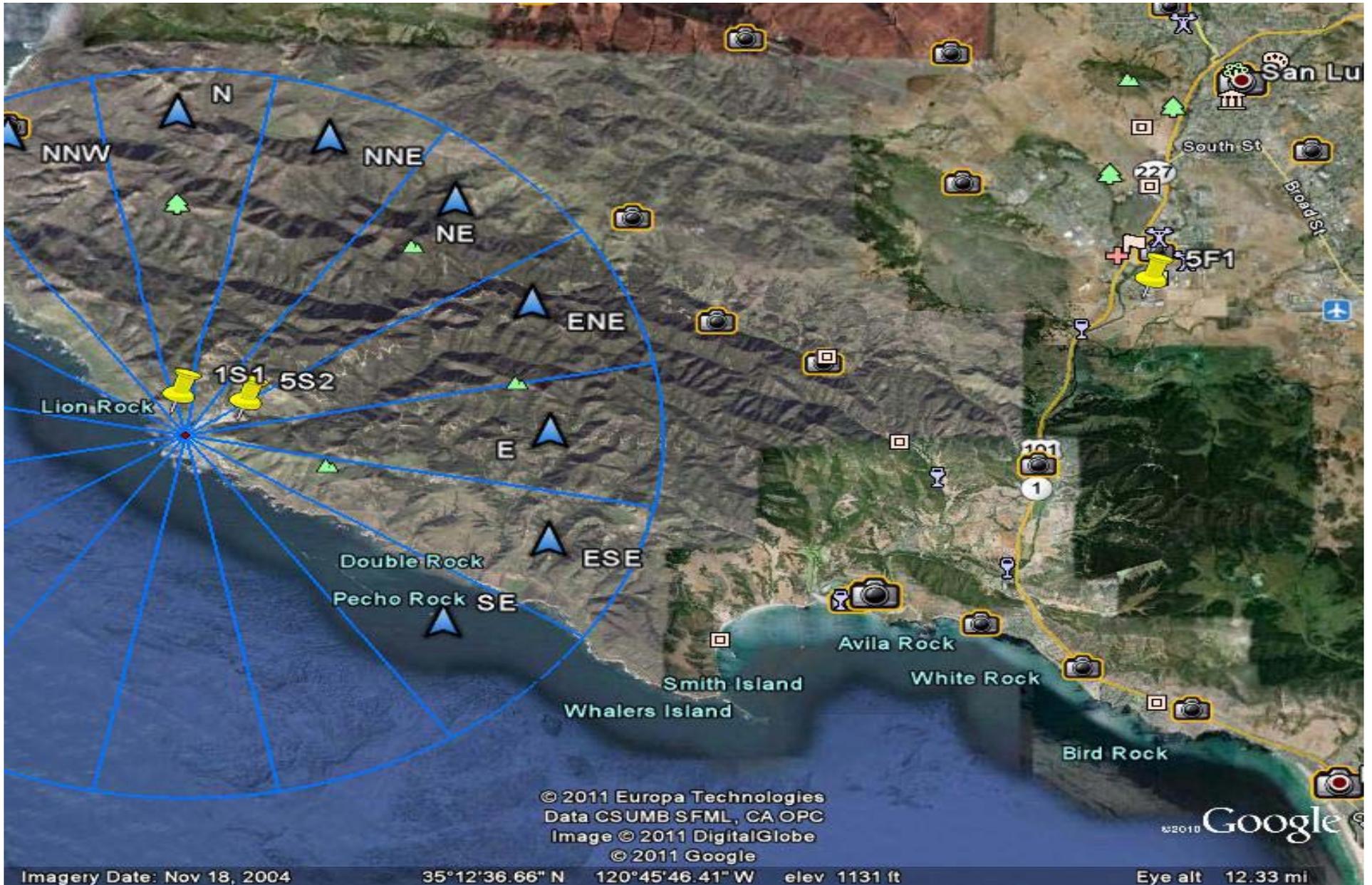
Station Locations: **0S2** is NW DCP North Gate Site Boundary at 0.5 miles, **8S1** is SE at 0.5 miles, **7D1** is ESE at 6.6 miles, **5F1** is ENE at 10.2 miles in San Luis Obispo

The Iodine 131 reported is from charcoal cartridge. All other isotopes are from the particulate filter.

High-Tech Rain Collection



Rain sampling locations (1S1, 5S2, 5F1)



Rain Sampling Data

Station	Date	Time	I-131 pCi/L	I-132 pCi/L	Te-132 pCi/L	Cs-134 pCi/L	Cs-137 pCi/L	Total Sr pCi/L	Tritium pCi/L	Gr Beta pCi/L	Gr Alpha pCi/L
3-10-11 at 2146 PST Japan Tsunami and Fukushima Nuclear Event											
Rain Event 3-19-11 0.35"											
OS2	3/19/11	0900	96.10	8.52	11.82	2.69	2.42	< 0.789	< 223	60.50	3.29
Rain Event 3-20-11 2.93"											
Rain Event 3-21-11 0.34"											
1S1	3/21/11	1100	233.90	19.17	24.02	10.70	8.75	< 0.343	< 233	42.20	< 0.937
5S2	3/21/11	1000	217.30	22.73	28.25	10.02	10.18	< 0.429	< 236	63.80	1.62
5F1	3/21/11	0800	277.10	20.38	24.92	4.81	4.69	< 0.417	< 232	103.00	< 1.24
Rain Event 3-23-11 0.99"											
1S1	3/23/11	1430	68.80	ND	ND	< 2.58	< 1.95	< 0.951	< 219	12.70	< 1.9
5S2	3/23/11	1400	70.70	ND	ND	< 2.99	< 2.48	< 0.620	< 218	10.60	< 2.77
5F1	3/23/11	1530	124.00	ND	ND	4.73	3.29	< 0.675	< 219	25.80	< 2.71
Rain Event 3-24-11 0.07"											
1S1	3/24/11	1436	474.00	16.30	24.90	17.10	16.20	< 0.554	< 220	66.20	< 2.29
5S2	3/24/11	1430	522.00	19.90	25.60	23.40	25.40	< 0.583	< 220	166.00	5.27
5F1	3/24/11	0800	183.00	8.35	12.50	5.29	4.46	< 0.63	< 216	50.00	< 2.29
Rain Event 3-25-11 0.55"											
1S1	3/25/11	0930	226.90	ND	19.55	13.51	13.59	< 0.597	< 238	64.00	< 2.68
5S2	3/25/11	0900	234.70	23.22	25.03	14.73	15.99	< 0.521	< 237	101.00	< 2.66
5F1	3/25/11	0800	98.14	6.76	10.41	8.87	7.16	< 0.575	< 236	68.50	< 2.10
Rain Event 3-26-11 0.19"											
1S1	3/28/11	0913	156.00	7.19	6.98	15.70	12.10	< 0.589	< 355	51.90	< 2.22
5S2	3/28/11	0900	140.00	ND	8.08	9.94	9.04	< 0.641	< 247	48.80	< 2.04
5F1	3/28/11	0730	157.00	ND	ND	3.84	5.32	< 0.758	< 249	30.90	< 1.85
Rain Event 3-27-11 0.31"											
Rain Event 4-7-11 0.02" Total Rain = 5.75" since Fukushima Event											
5F1	4/9/11	1900	13.90	ND	ND	< 2.42	2.20	N/A	N/A	N/A	N/A
Station Locations: OS2 is NW DCP North Gate Site Boundary at 0.5 miles, 1S1 is NNW at 0.4 miles, 5S2 is ENE at 0.6 miles, 5F1 is ENE at 10.2 miles in San Luis Obispo											

Vegetation sampling

(ATAS about 30 miles NNE of DCP)



ATAS 1 = Fescue Grass

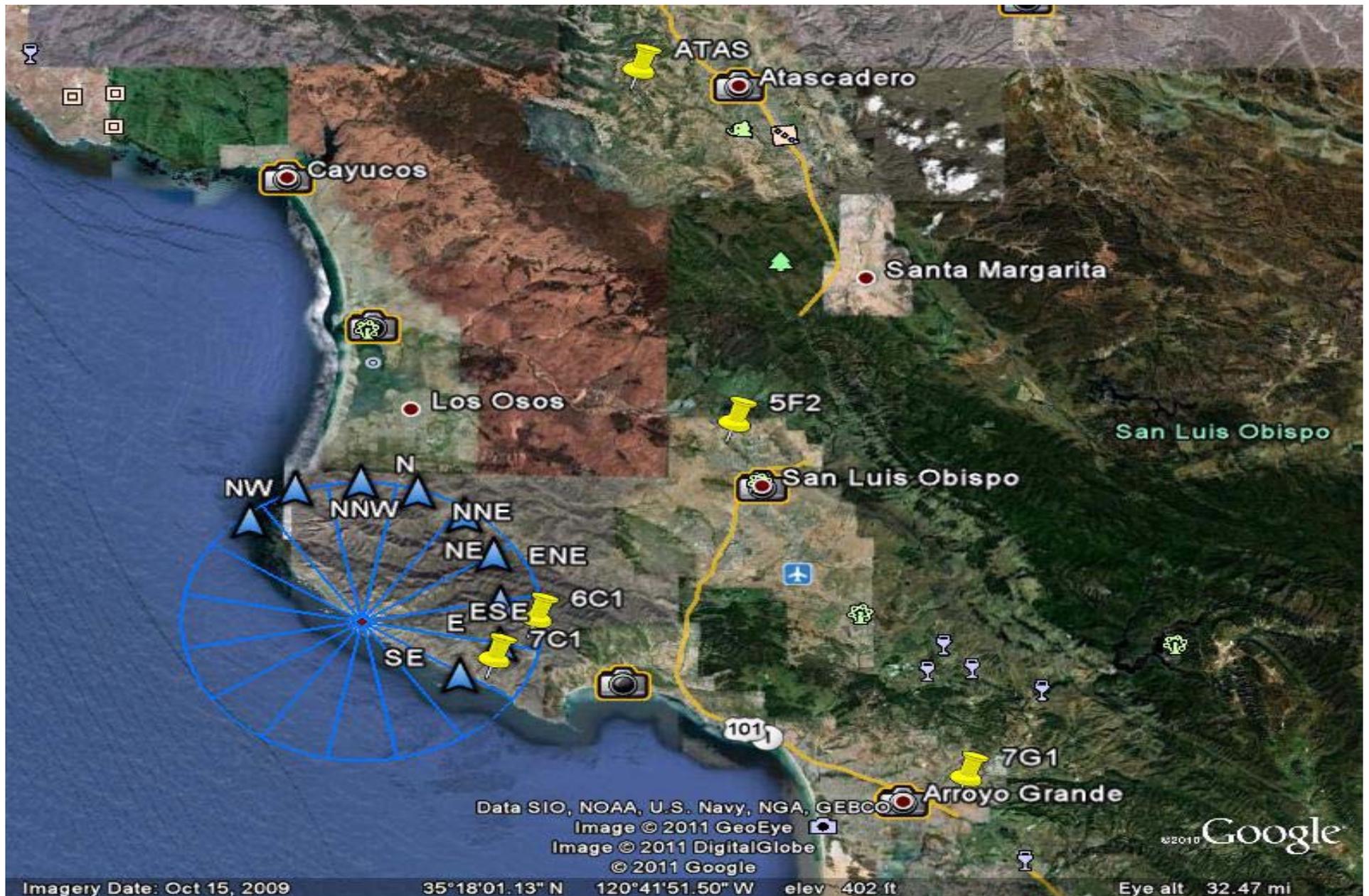


ATAS 2 = Milk Thistle



ATAS 3 = Miner's Lettuce

Vegetation sampling locations (ATAS, 5F2, 6C1, 7C1, 7G1)



Vegetation Data Continued

Station	Date	Time	I-131	I-132	Te-132	Cs-134	Cs-136	Cs-137	Total Sr	Carbon-14	Gross Beta	Gross Alpha
			pCi/kg	pCi/kg	pCi/kg	pCi/kg	pCi/kg	pCi/kg	pCi/kg	pCi/kg	pCi/kg	pCi/kg
Rain Event 4-7-11 0.02"			Total Rain = 5.75" since Fukushima Event									
5F2	4/11/11	0800	15.90	ND	ND	73.00	ND	72.80	< 114	N/A	N/A	N/A
6C1	4/14/11	1600	67.71	ND	ND	171.60	ND	154.10	N/A	N/A	N/A	N/A
5F2	4/18/11	0800	18.90	ND	ND	27.80	ND	34.60	< 95.2	N/A	N/A	N/A
5F2	4/25/11	0756	< 18.4	ND	ND	< 16.7	ND	< 12.1	< 92.0	N/A	N/A	N/A
Atas 1	4/27/11	0705	< 23.0	ND	ND	31.10	ND	44.00	N/A	< 1,510	5,090	N/A
Atas 2	4/27/11	0700	< 13.1	ND	ND	< 9.41	ND	< 8.07	N/A	< 1,390	4,290	N/A
Atas 3	4/27/11	0710	< 9.77	ND	ND	9.85	ND	17.10	N/A	< 1,380	6,050	N/A
5F2	5/2/11	0811	< 34.1	ND	ND	20.10	ND	17.90	N/A	N/A	N/A	N/A
7G1	5/2/11	0950	< 35.6	ND	ND	< 8.95	ND	< 10.5	N/A	N/A	N/A	N/A
7C1	5/2/11	1034	< 30.4	ND	ND	9.00	ND	10.40	N/A	N/A	N/A	N/A

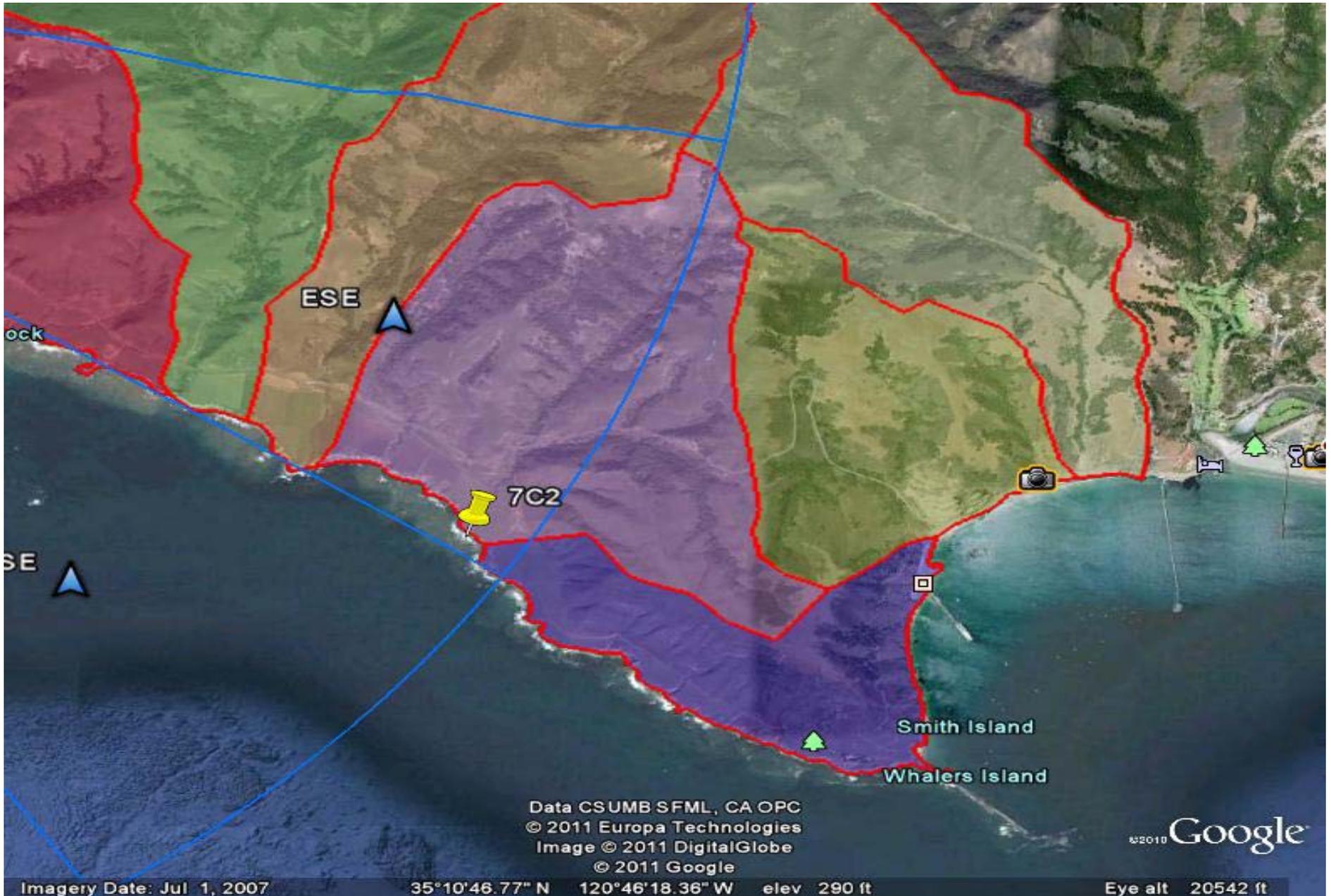
Station Locations: **7C2** is ESE at 4.7 miles from DCPD (Ocean Intertidal Algae) ; **7C1** is ESE at 4.1 miles from DCPD (Farm vegetation) ; **7G1** is ESE at 16.8 miles from DCPD (Farm vegetation)

5F2 is ENE at 12.6 miles at the Cal Poly University Dairy Farm in San Luis Obispo (Farm vegetation) ; **6C1** is East at 4.5 miles from DCPD (private garden)

Atas 1 is Fescue Grass, **Atas 2** is Milk Thistle, **Atas 3** is Miner's Lettuce, Atas 1-2-3 all sampled in Atascadero CA about 30 miles north from DCPD.

Ocean Intertidal Mussel Sample

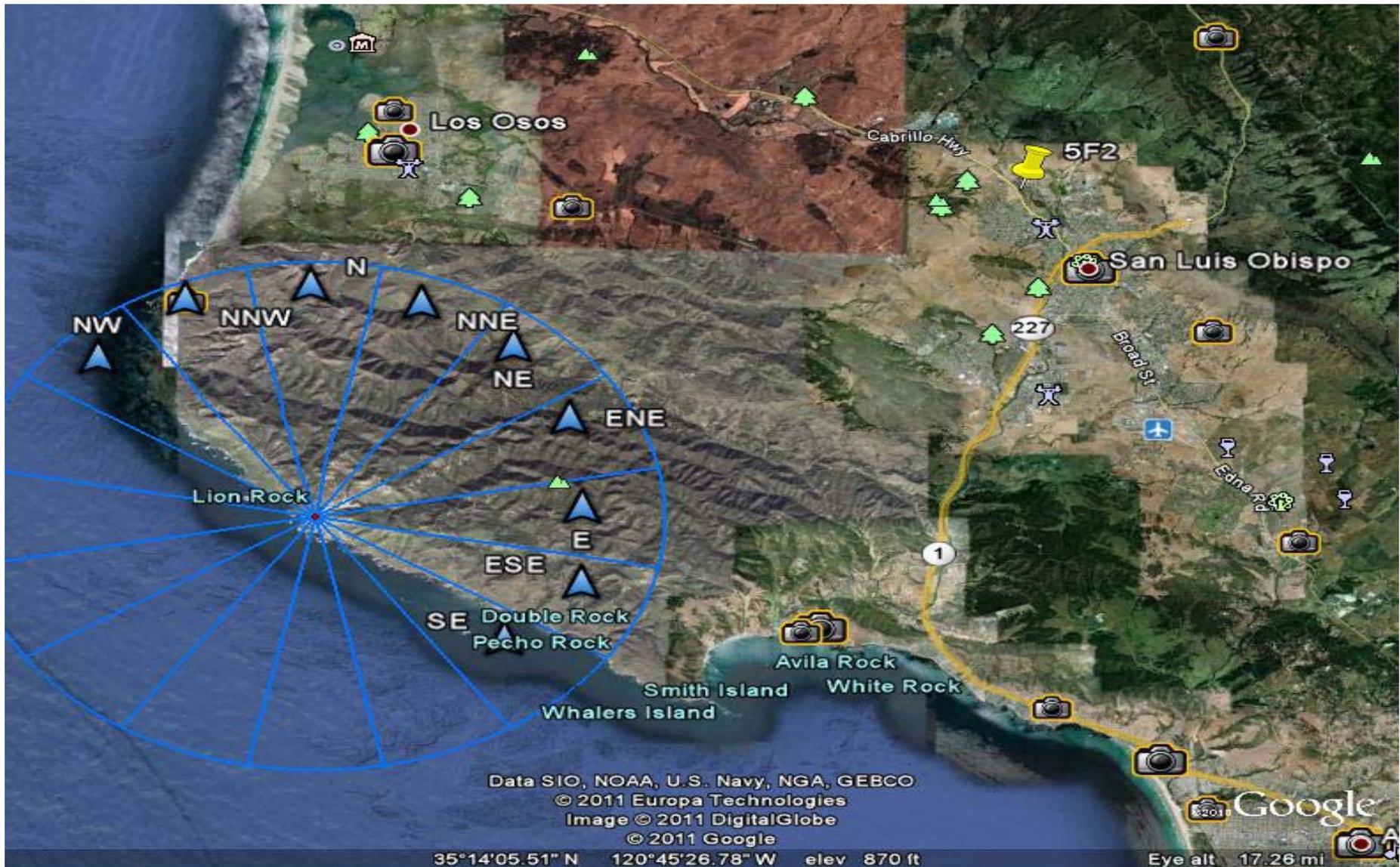
Note: rain watershed in violet



Intertidal Mussel Sample after rain

Station	Date	Time	I-131	I-132	Te-132	Cs-134	Cs-136	Cs-137
			pCi/kg	pCi/kg	pCi/kg	pCi/kg	pCi/kg	pCi/kg
3-10-11 at 2146 PST Japan Tsunami and Fukushima Nuclear Event								
Rain Event	3-19-11	0.35"						
Rain Event	3-20-11	2.93"						
Rain Event	3-21-11	0.34"						
Rain Event	3-23-11	0.99"						
Rain Event	3-24-11	0.07"						
Rain Event	3-25-11	0.55"						
Rain Event	3-26-11	0.19"						
7C2	3/23/11	0845	23.67	ND	ND	< 5.56	ND	< 5.02
Rain Event	3-27-11	0.31"						
Rain Event	4-7-11	0.02"	Total Rain = 5.75" since Fukushima Event					
Station Locations: 7C2 is ESE at 4.7 miles from DCP (Ocean Intertidal mussel)								
Note: See also Intertidal Algae sample from 7C2 on 3-23-11 within DCP vegetation worksheet (627 pCi/kg I-131 in algae)								
ND = Non Detected and Not Reported								

Milk Sampling (5F2 Cal Poly)



Milk Sampling data (5F2)

Station	Date	Time	I-131 pCi/L	I-132 pCi/L	Te-132 pCi/L	Cs-134 pCi/L	Cs-137 pCi/L	Total Sr pCi/L
5F2	3/2/11	1200	< 0.46	ND	ND	< 2.6	< 2.26	< 0.26
3-10-11 at 2146 PST Japan Tsunami and Fukushima Nuclear Event								
Rain Event 3-19-11 0.35"								
Rain Event 3-20-11 2.93"								
Rain Event 3-21-11 0.34"								
Rain Event 3-23-11 0.99"								
5F2	3/21/11	0905	6.79	ND	ND	< 2.37	< 2.03	< 0.28
Rain Event 3-24-11 0.07"								
Rain Event 3-25-11 0.55"								
Rain Event 3-26-11 0.19"								
5F2	3/28/11	0800	1.77	ND	ND	< 2.82	< 2.37	< 0.212
Rain Event 3-27-11 0.31"								
5F2	4/4/11	0810	0.92	ND	ND	< 2.85	< 3.71	< 0.193
Rain Event 4-7-11 0.02" Total Rain = 5.75" since Fukushima Event								
5F2	4/11/11	0745	0.78	ND	ND	< 2.99	< 2.38	< 0.692
5F2	4/18/11	0745	< 0.465	ND	ND	< 2.62	< 1.93	< 0.610
5F2	4/25/11	0730	< 0.526	ND	ND	< 2.71	< 2.23	< 0.340
5F2	5/2/11	0754	1.56	ND	ND	6.46	6.29	< 0.223

Station Locations: **5F2** is ENE at 12.6 miles at the Cal Poly University Dairy Farm in San Luis Obispo

ND = Non Detected and Not Reported

Note: REMP Milk is normally a monthly sample. During the evaluation phase of the Fukushima Event, Milk will be collected weekly.

IN HEALTH, B6

6 WAYS WE CAN FIGHT HATE CRIMES

IN SPORTS, S2

LAKERS ROUT MAVERICKS TO REMAIN SECOND IN WEST

OPENING DAY IN SPORTS, S1

KERSHAW LEADS L.A. OVER GIANTS

HOME DELIVERY: 800-288-4128

SAN LUIS OBISPO COUNTY, CALIF.

FRIDAY, APRIL 1, 2011 75¢

CARRIZO PLAIN

County planners get a look at First Solar plan

Project would cover 3,500 acres and provide 550 megawatts of green energy

By David Skarso
dskarso@tribune.com

The San Luis Obispo County Planning Commission got a first-hand look Thursday at a large solar project that would cover the Carrizo Plain with 9 million solar modules.

If approved, the 350-megawatt Topaz Solar Farm would significantly change the look and feel of the Carrizo by covering 3,500 acres of land with a commercial photovoltaic plant. Commissioners held a brief hearing on the project and will decide an entire day on 3 April.

Project applicant First Solar and county planners said the plan has been redesigned several times to minimize its impacts on endangered species, specifically the San Joaquin kit fox. Planners are recommending that the project be kept



TRIAL MAP BY JON KIRBY

at 550 megawatts, rather than reducing its size to 400 megawatts, said project manager Steve McKeaster. The issues facing commissioners

Please see SOLAR, A7

Governor tries to tackle state pension reform

By Jon Ortiz
jortiz@tribune.com

Gov. Jerry Brown on Thursday rolled out a sweeping and sometimes vague list of public employee retirement changes that he wants lawmakers to enact.

The 10-point list — five of which were described as “proposals under development” — immediately drew

List of proposals is short on details so far as Brown deals with budget deficit a mix of criticism, confusion and faint praise. A pension reform group thought the list was unambitious. A union executive wondered

Please see PENSIONS, A7

Sudden heat wave sets record in SLO

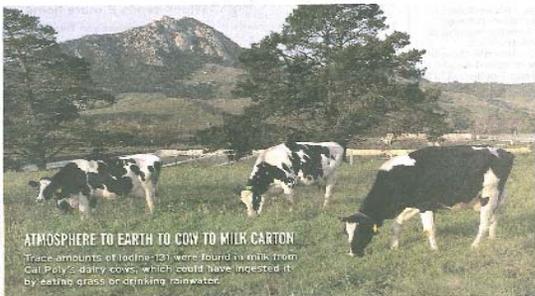
The record-breaking heat that blanketed San Luis Obispo County Thursday will merit somewhat higher, but not much, San Luis Obispo’s official high temperature Thursday, taken at Cal Poly, was 88, breaking the record for the date of 81 set in 2003. The National Weather Service said.

For comparison, Linnco reported highs of 95 at Lido Hill in San Luis Obispo, the low-90s in Avila Beach, 89 in Pismo Beach, 88 in Morro Bay and 87 in Baywood Park. Paso Robles reached 85. Today’s high in San Luis Obispo should be 82, with light winds. A major change is to occur Saturday, when a storm front will

HEALTH OFFICIAL: She calls exposure minimal — ‘I’ll be giving my kids milk tonight.’

REGULAR TESTING: State is checking radiation levels of milk on a weekly basis.

Radiation in Poly milk poses no health risk



ATMOSPHERE TO EARTH TO COV TO MILK CARTON
Trace amounts of iodine-131 were found in milk from Cal Poly’s dairy cows, which could have ingested it by eating grass or drinking rainwater.

TRIAL PHOTO BY DAVID MULLIGAN

‘We have looked at milk pretty extensively in California and have been sampling near nuclear plants for a long time. We still don’t think there will be any reason to believe we will see any serious exposure.’

Gov. Brown, State Department of Public Health

But testing has been conducted weekly since the radiation leaks in Japan began. Borenstein said the radiation levels found in the dairy’s milk are 3,000 times below the thresh-

old that would lead her to become concerned for public safety.

Borenstein said a person would need to drink 1,000 liters of milk to be exposed to 1 millirem of radiation. The average person living in California receives about 400 millirems of radiation

County Health Officer Penny Borenstein said milk from Cal Poly

is tested every three months because of the dairy’s proximity to the Diablo Canyon nuclear power plant.

But testing has been conducted weekly since the radiation leaks in Japan began. Borenstein said the radiation levels found in the dairy’s milk are 3,000 times below the thresh-

old that would lead her to become concerned for public safety. Borenstein said a person would need to drink 1,000 liters of milk to be exposed to 1 millirem of radiation. The average person living in California receives about 400 millirems of radiation

Please see MILK, A7

ABOUT IODINE-131

- It’s a byproduct of nuclear fission.
- It has a half-life of about eight days.
- High exposure can cause throat cancer later in life, with kids and teenagers most at risk.

Is it turn out the lights, the tea party’s over?

By David Livingston
and William Douglas
McClatchy Newspapers

WASHINGTON — Congressional leaders are inching closer to a deal on how much to cut federal spending for the next six months — and pretty much ignoring the rest of the budget

Populist movement is losing momentum as congressional leaders work toward a budget deal while marginalizing hard-liners

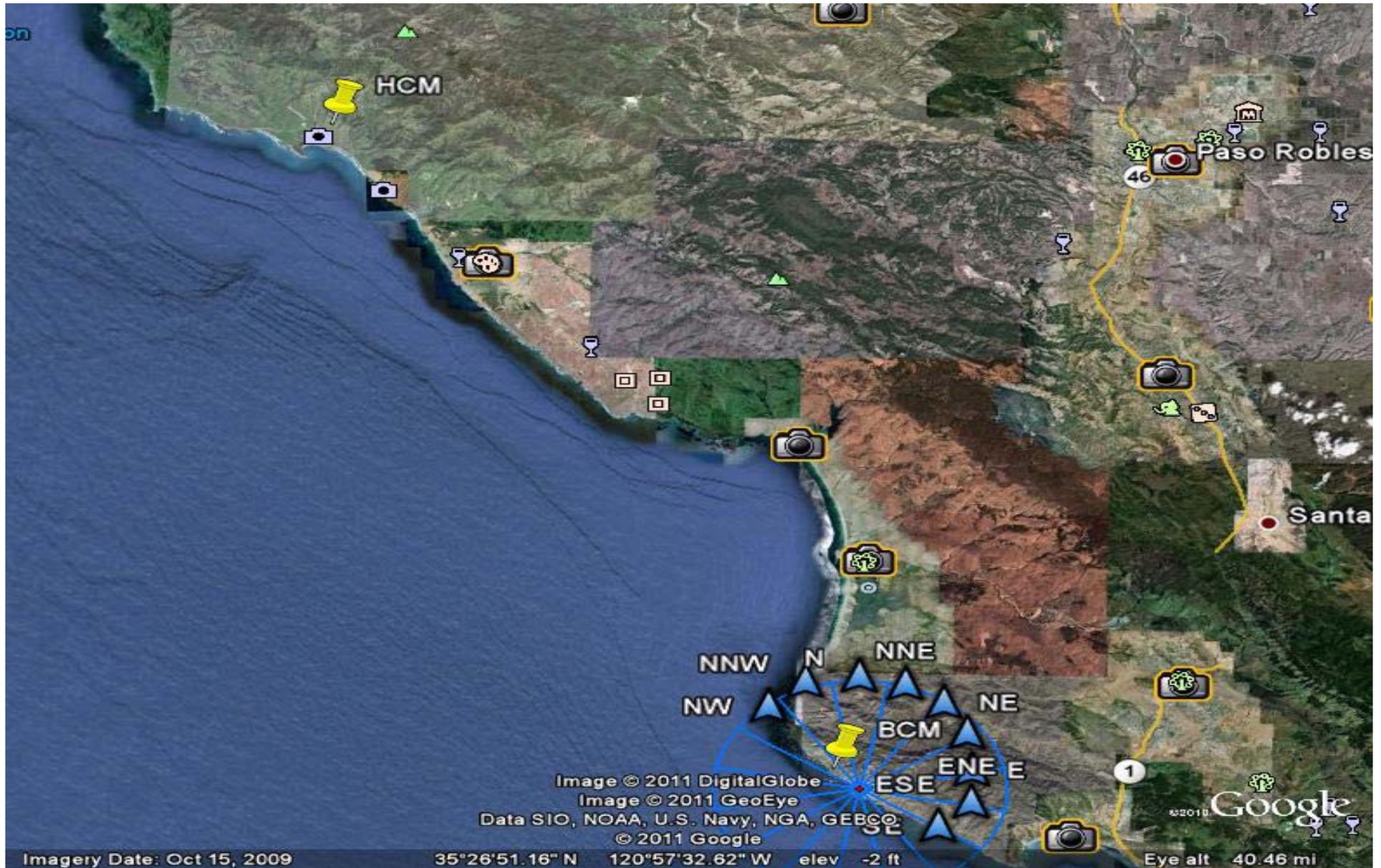
dozens of Republicans last November. The party activists had hoped to send a loud message Thursday to Republi-

can leaders to stick to their principles or face the movement’s wrath. Instead, only a few hundred people showed up. Meanwhile, inside the

White House, the weak rally showing could boomerang on tea party activists by emboldening the GOP leaders who are negotiating the federal budget with Democrats and the White House.

How all this plays out in the politics of the 2012 elec-

Meat Sampling (BCM , HCM)



Meat Sample data

3-10-11 at 2146 PST Japan Tsunami and Fukushima Nuclear Event			
Rain Event	3-19-11	0.35"	
Rain Event	3-20-11	2.93"	
Rain Event	3-21-11	0.34"	
Rain Event	3-23-11	0.99"	
Rain Event	3-24-11	0.07"	
Rain Event	3-25-11	0.55"	
Rain Event	3-26-11	0.19"	
Rain Event	3-27-11	0.31"	
Rain Event	4-7-11	0.02"	Total Rain = 5.75" since Fukushima Event

Station	Date	Time	I-131 pCi/kg	Cs-134 pCi/kg	Cs-137 pCi/kg	Total Sr pCi/kg
BCM	5/2/11	0915	< 24.9	< 4.98	< 4.18	< 57.1
BGM	5/2/11	0915	< 26.6	< 5.94	< 5.15	< 55.4
BSM	5/2/11	0915	< 28.8	132.00	126.00	< 51.0

HCM 1	5/24/11	1500	< 7.7	45.00	50.40	N / A
HCM 2	5/24/11	1505	< 9.06	38.20	41.20	N / A

BCM	5/25/11	1425	< 7.27	102.00	109.00	N / A
BSM	5/25/11	1425	< 6.68	84.20	87.00	N / A

Station Locations: **BCM** = Blanchard cow meat, **BGM** = Blanchard goat meat, **BSM** = Blanchard sheep meat

All Blanchard Ranch meats are free range grass fed within the 5 mile zone of DCPD in the north-northwest to east sectors

HCM 1 = Hearst Ranch cow meat (ground beef) packaged 5-23-11, free range grass fed beef

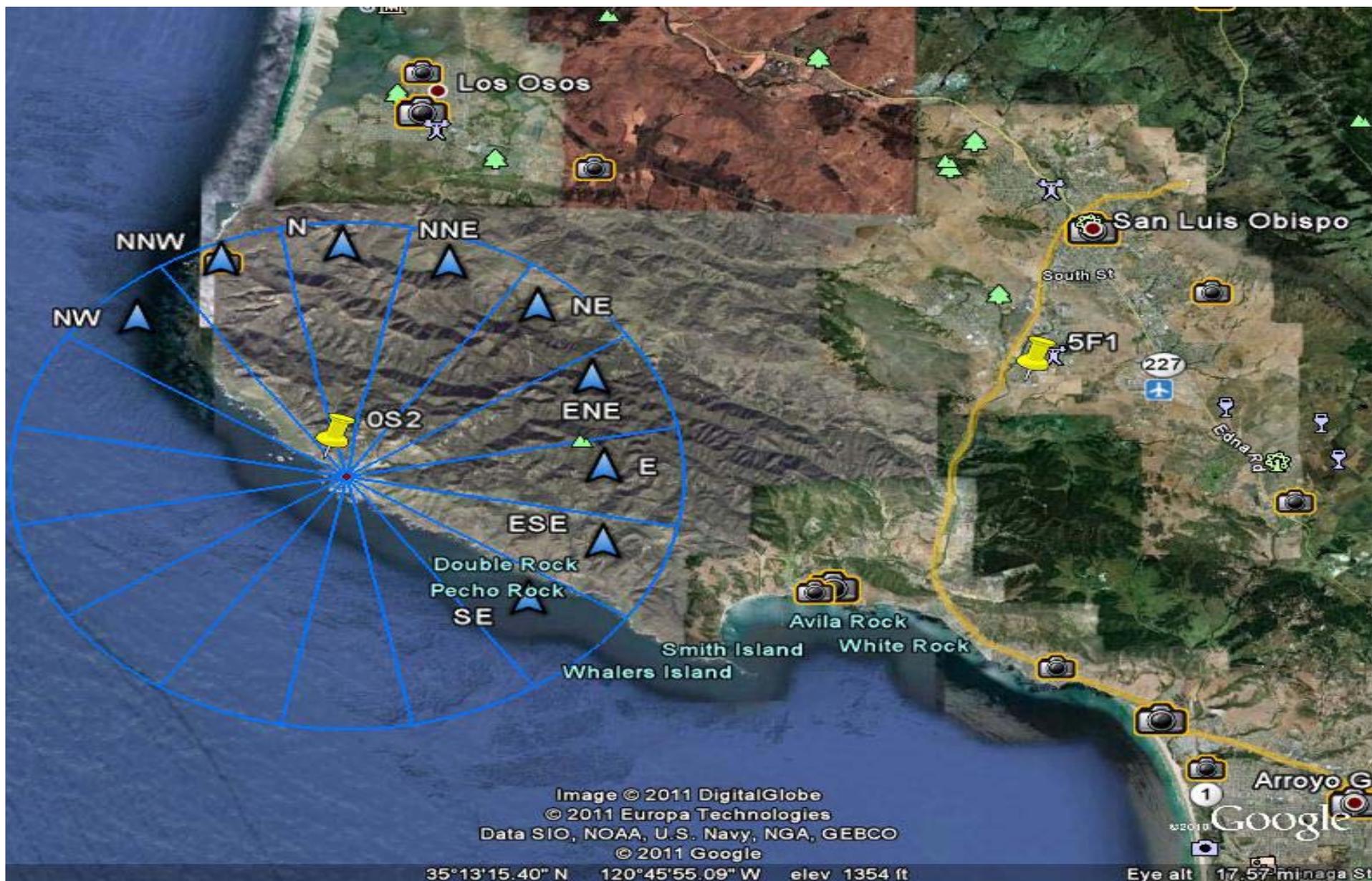
HCM 2 = Hearst Ranch cow meat (New York Steak) packaged 5-23-11, free range grass fed beef

Hearst Ranch is approximately 37 miles NNW (328°) of DCPD and mimics Blanchard ranch operations and methods

Sticky Pad Sampling (pulled weekly)



Sticky Pad Sampling (0S2 , 5F1)



Sticky Pad data continued

Rain Event 4-7-11 0.02" Total Rain = 5.75" since Fukushima Event									
Station	InField Date	Pull Date	Pull Time	I-131 pCi/pad	I-132 pCi/pad	Te-132 pCi/pad	Cs-134 pCi/pad	Cs-137 pCi/pad	Total Sr pCi/pad
OS2	4/6/11	4/13/11	0853	ND	ND	ND	< 12.4	< 9.29	< 0.189
5F1	4/6/11	4/13/11	0712	ND	ND	ND	< 17.1	19.70	< 0.189
OS2	4/13/11	4/20/11	0822	ND	ND	ND	< 7.39	< 6.21	< 0.287
5F1	4/13/11	4/20/11	1600	ND	ND	ND	< 22.3	25.10	< 0.749
OS2	4/20/11	4/27/11	0855	ND	ND	ND	< 7.84	< 6.95	N/A
5F1	4/20/11	4/27/11	0730	ND	ND	ND	< 11.2	11.79	N/A
OS2	4/27/11	5/4/11	0855	ND	ND	ND	< 11.6	< 7.59	N/A
5F1	4/27/11	5/4/11	0730	ND	ND	ND	< 13.2	11.40	N/A

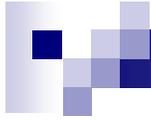
Station Locations: **OS2** is NW DCPN North Gate Site Boundary at 0.5 miles, **5F1** is ENE at 10.2 miles in San Luis Obispo

Sticky Pads are approximately 3 square feet in area. One week exposure, horizontally positioned on ground (face up).



Now the Big Question ??????

How much did all this extra sampling cost?



Costs for extra sampling

About \$40,000



Does DCP air sampling match up with an event at Fukushima?

- DCP most likely saw the U-3 explosion which occurred on March 14 at 1100 JST.

- From PG&E meteorologist Ed McCarthy:

“The jet stream is typically located at altitudes of 30,000 feet, well above the surface, and wind speeds vary from 60 mph to 140 mph. At elevations lower than the jet stream, wind speeds are typically much less.

The straight line distance from Fukushima to SLO is 5,066 miles. Assuming an average wind speed of 50 mph, it would have taken a parcel of air 101 hours to travel that distance directly. Accounting for some meandering and adding 24 hours, I'd estimate that the parcel of air that you observed at 0400 PST on 3/18/2011 probably left the East Coast of Japan between 3/13/2011 @1600 JST and 3/14/2011 @ 1600JST.”



Thoughts and Lessons Learned

- Got enough sample containers for an event?
- Cost of extra sampling (about \$40K).
Put enough room in your annual REMP budget to perform extra sampling.
- Characterize how the event will affect your program. Control samples are GOOD to have.



Thoughts and Lessons Learned

- Keep a daily diary
- Keep extra sampling separate from normal REMP. GEL had a different “job” for Fukushima samples. DCPP will still report Fukushima isotopes in AREOR
- Think ahead for uptake vectors and short half life isotopes
- Additional analysis suites needed with lab?
(Strontium, H3, HTD, gross alpha)



Thoughts and Lessons Learned

- Control initial data until EPA and State are onboard.
Let the State notify the public and explain concentrations.
Setup company PR contacts.
- Know the difference between EPA limits (chronic) and FDA intervention limits:
(e.g. 3 pCi/L milk EPA vs 4700 pCi/L milk FDA)
- Contact stake holders before media does (Cal Poly Dairy Mgr)
- Keep colleagues informed of what isotopes are coming their way
- Any government correspondence should have multiple cells for units to avoid conversion errors with agencies (pCi/L, uCi/ml, Bq/L, Bq/g, etc)

