[Mike Winn's public comments at the San Luis Obispo Board of Supervisors]

Good Morning chairman Patterson supervisors, My name is Mike Winn. I do serve in Nipomo, in the Community Services District board as well as the chair of your Water Resources Advisory Committee WRAC

The second thing also briefly has to do with **seawater intrusion in Oceano**, I will not beat this to death. **If it were not for the fact that there are a number of people who continue to say this did not happen**. As you know well, **it was amply documented**. It was done quite independently by your own staff. It went to the court in the 2009 report, on page 29 in the second bullet, **It's a legal document and it's real**. Is it happing now, of course not, **because Oceano had supplemental water they cut back groundwater pumping** and as a result there has been recovery and there is no seawater internal now, although **it was as far as one half mile in.**

In Nipomo as you know we are trying to do, get ourselves some more options so we can respond this same sort of threat in a timely manner. Thank you

[2009 Northern Cities Management Area Technical Group Annual Report], Todd Engineers page 11-12:

"Sentry well cluster 32S/13E 30N is located west of Highway 1 in Oceano and includes three wells. The sentry well cluster is also situated in the middle of the pumping trough, and the deep and intermediate wells showed low groundwater levels for the past two years. This sentry well cluster indicates localized seawater intrusion affecting the deep zone (30N02) and, to a lesser extent, the middle zone (30N03) in 2009. Indicators of seawater at these two wells include increased concentrations of key constituents (especially chloride and total dissolved solids). The 2009 data from 30N02 and 30N03 show geochemical signatures of seawater intrusion on Schoeller geochemical plots. The most recent water quality data from this well cluster (January 2010) show a significant improvement in water quality in 30N02, including a reduction in the concentrations of seawater indicators and a return from the geochemical signature showing seawater intrusion to the historical signature of groundwater in 30N02.

These water quality changes indicate that the local interface/mixing zone between seawater and fresh groundwater is shifting. The location and inland extent of the seawater interface is not known beyond the fact that it was detected in 30N02; its greatest inland extent could be just to the north or south and/or in one or more vertical zones. The January 2010 sampling results suggest that the interface retreated seaward; however, the location of the interface/mixing zone is not known unless it intercepts a monitored well. Furthermore, the rapid retreat of the interface may be easily reversed if drought conditions return or pumping exceeds available groundwater supply. Ongoing sentry well monitoring is necessary to provide an early warning

Table 6: Northern Cities Sentry Well Water Quality Data Summary

Well	Construction	Top of Casing Elevation (feet MSL)	Date	Depth to Water (feet)	Groundwater Elevation (feet MSL)	Total Dissolved Solids (mg/L)	Chloride (mg/L)	Sodium (mg/L)	Potassium (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Bicarbonate (as CaCO3) (mg/L)	Sulfate (mg/L)	Nitrate (mg/L)	Total Kjeldahl Nitrogen (mg/L)
32S/13E-30N01	Screened from 15-40' - 1-inch diameter	10.6													
			1/26/2010	4.90	5.70	902	210	155	33.5	156	66.4	307	230	< 0.10	1.7
			10/20/2009	6.53	4.07	828	200	159	34.3	118	59.8	238	230	< 0.10	1.3
			8/20/2009	6.71	3.89	835	160	150	27.8	121	49.4	235	220	< 0.10	1.3
			5/11/2009	6.03	4.57	960	180	175	33.5	86.7	46.2	274	220	NA	NA
32S/13E-30N03	Screened from 60-135' - 2-inch diameter	10.6													
			1/26/2010	5.88	4.72	606	110	75.0	4.51	77.8	34.3	126	130	14	1.4
			10/20/2009	6.56	4.04	806	180	93.3	25.5	92.3	41.5	162	150	9.7	2.2
			8/20/2009	7.50	3.10	1,070	190	151	61.6	112	44.2	130	130	16	3.4
			5/12/2009	6.33	4.27	602	97	63.4	3.96	72.9	32.2	122	120	NA	NA
			3/27/1996	NA	NA	624	70	62	4	78	35	150	161	106.8	NA
			6/7/1976	NA	NA	705	90	54	2.9	99	43	189	168	112.5	NA
			1/21/1966	NA	NA	804	57	54	3	132	59	410	250	1	NA
32S/13E-30N02	Screened from 175-255' - 2-inch diameter	10.6													
			1/26/2010	3.72	6.88	970	50	74.2	4.77	152	62.2	195	510	0.14	< 0.50
			10/20/2009	7.38	3.22	2,080	690	274	151	239	101.0	220	400	< 0.10	7.0
			8/20/2009	11.94	-1.34	1,350	500	199	82.2	123	49.0	199	220	6.4	6.3
			5/11/2009	6.98	3.62	1,290	170	129	52	137	66.9	176	470	NA	NA
			3/27/1996	NA	NA	1,050	50	71	5.5	145	60	243	516	0.9	NA
			6/7/1976	NA	NA	1,093	48	62	4.7	150	60	248	484	0	NA
			1/21/1966	NA	NA	1,069	54	71	5	148	63	232	483	0	NA

The NCMA TG is not a public agency.

The only people allowed to attend a meeting must sign the settlement. The settlement also requires anyone who signs to support the Water Intertie project (WIP). (See [stipulation] and [operating rules]) Agenda's and minutes are not available to the public. There is no required compliance with the ["Brown Act"] , ["Bagley-Keene Act"], ["California Public Records Act"] or any "conflict of interest" requirements. The members of the NCMA TG are not "under oath" and required to tell the truth because of the court.

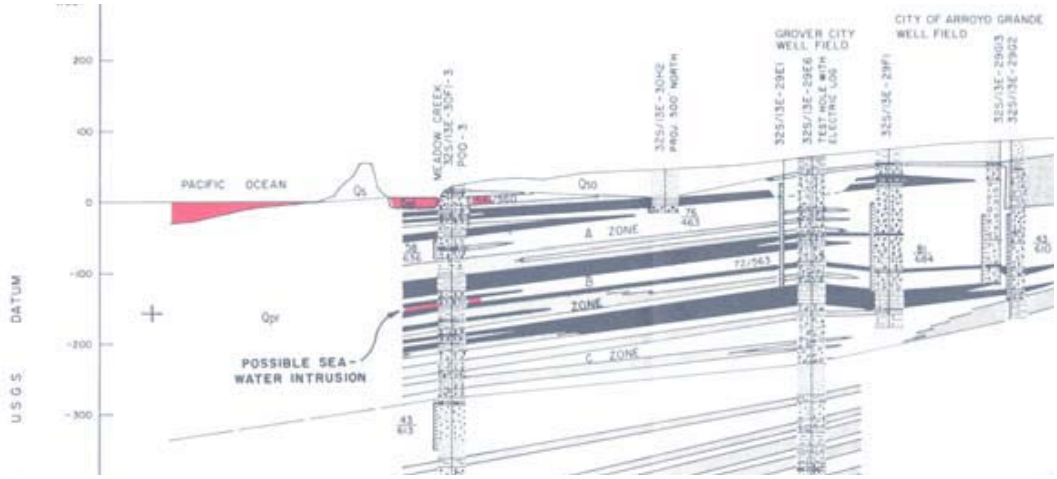
The NCMA TG is a "settlement meeting" What representation did Oceano have and was there a conflict of interest with other Northern Cities parties?

How do we know the conclusion was based on a "technical" reason and not a "political" reason?

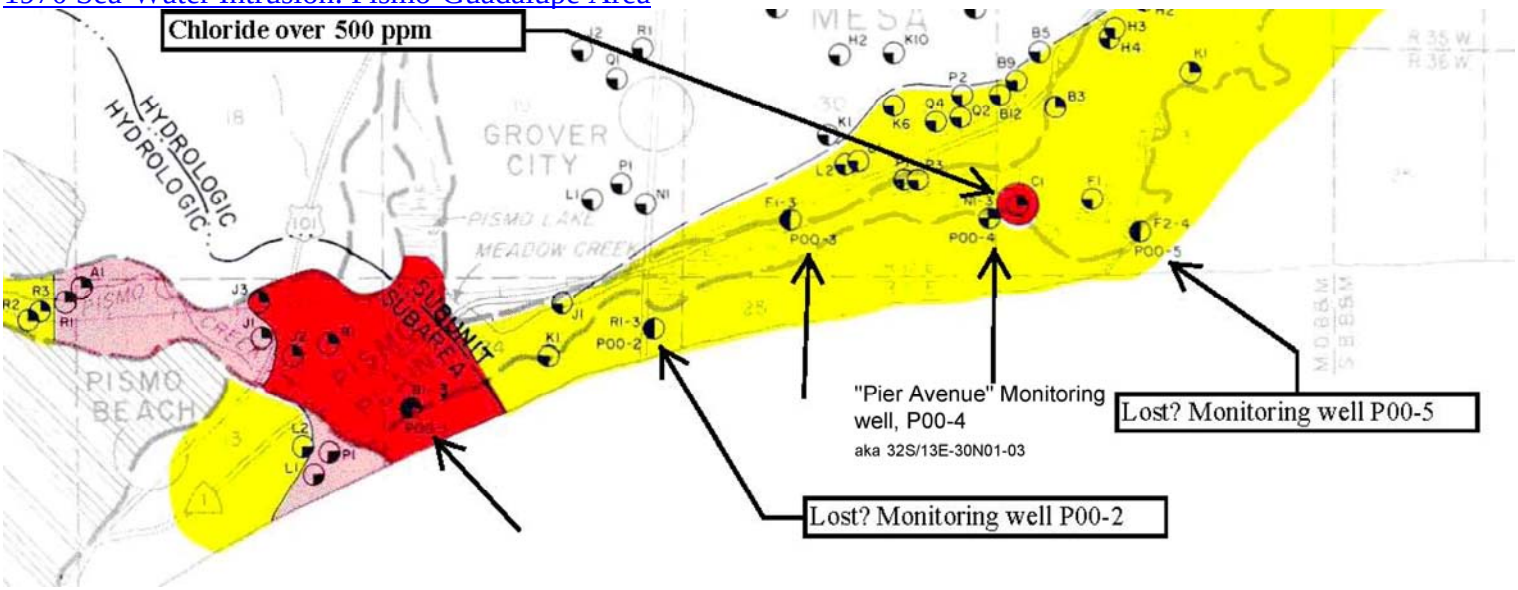
Where can the public find the source documents for the numbers in the chart?

Wells in area just south and east had high chloride numbers in past, See DWR 63-3 report. The report concludes that the salts were from the lagoon.

How were those sources excluded as a possibility in the 2009 report?



[1970 Sea-Water Intrusion: Pismo-Guadalupe Area]



Report Conclusion, Page 45-46,

"Recent Alluvium--Arroyo Grande Creek Well 32S/l3E-31Cl, located about 30 feet from a lagoon of Meadow Creek (Plate 4) and constructed in the upper alluvial (unconfined) zone, yields high chloride water **which has been cited locally as evidence of seawater intrusion**. Data pertinent to this assumption are given in Table 10.

Water levels at the well have exceeded the minimum elevation necessary for sea-water intrusion. Further, chlorides at piezometer 32S/13E-30Nl (poo-4), located slightly seaward of this well and about 100 feet from the lagoon, have not exceeded 132 ppm since June 1965. Increasing chloride with decreasing depth at the well indicates a surface source. Relative chloride concentrations for the well and piezometer show a focus of degradation toward the lagoon.

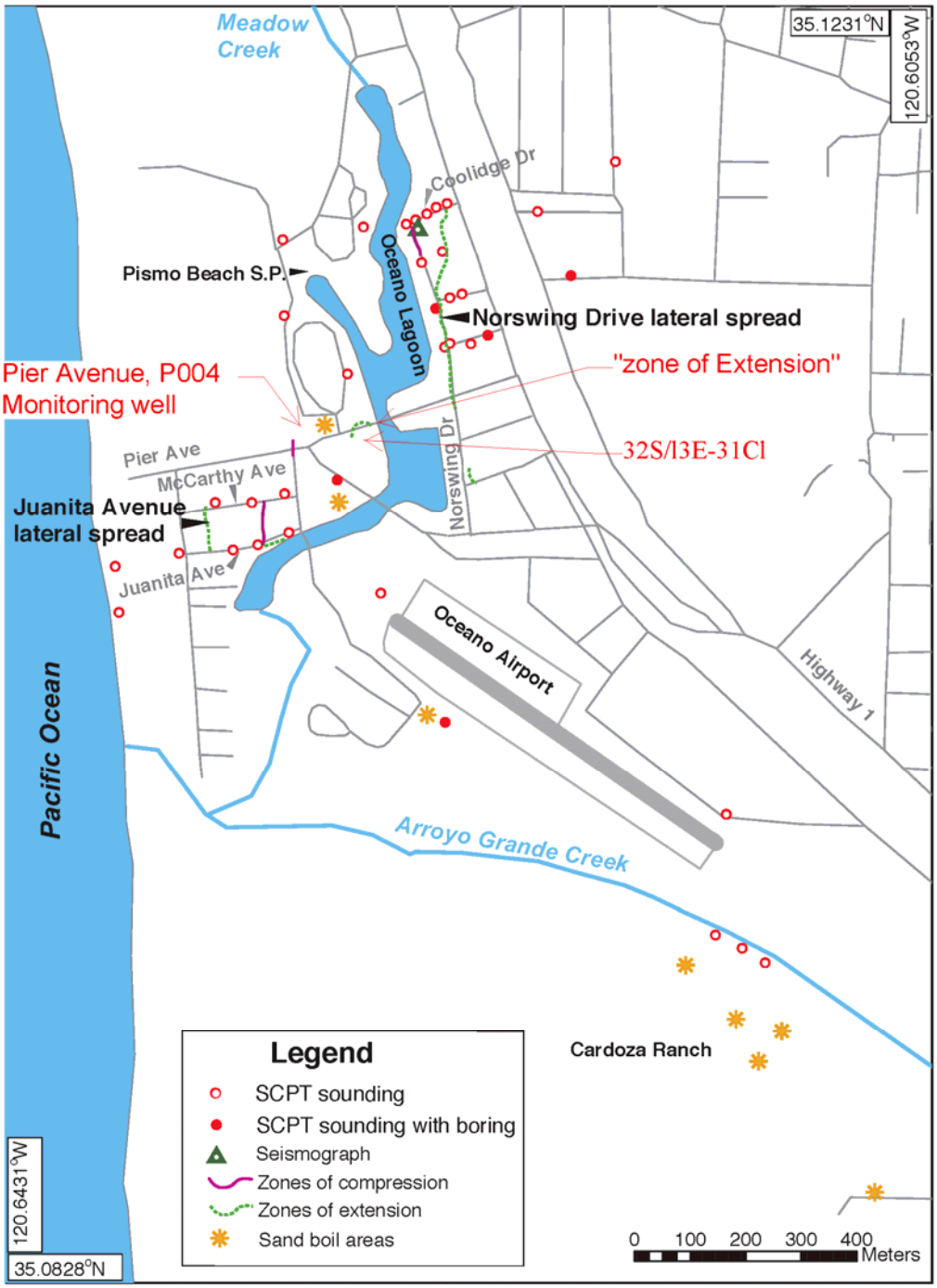
One of two tide gates separating the lagoons from the tidal channel of Arroyo Grande Creek has leaked since their installation in 1957. The bottom elevation of the gate is 4.3 feet above sea level. During high tides, salt water flows into the lagoons to at least 550 feet upstream of well -31Cl. (See Table 5, sample at Pier St. Bridge.) **This is the obvious source of chloride water tapped by the well**."

P00-2, Grande Avenue and P00-5, Arroyo Grande Creek are "Missing" and Not being monitored.

What effort is being taken to locate the missing monitoring wells?

How were wells checked for damage after the 2003 San Simeon Earthquake?

As reported in: [2004 Liquefaction-Induced Lateral Spreading in Oceano, During the 2003 San Simeon Earthquake]



Comments for Oceano CSD 2/8/12 meeting, Item 10d, Oceano Misinformation about Seawater Intrusion
By John Snyder, more information at [www.NoNewWipTax.com]

What check has been made that the old abandon wells around the monitoring well are/were properly sealed before being abandon to prevent downward movement of water?

Downward contamination has been a problem in other areas:

1995 Implications of uncertainty in exposure assessment for groundwater contamination Page 2:

The difficulties involved in identifying and characterizing sources of groundwater contamination are shown in a study of sea water intrusion in the coastal plain of the Santa Clara-Calleguas basin in Ventura County, California, This coastal plain area is commonly referred to as the Oxnard Plain. An extensive monitoring network has been in place to monitor sea water intrusion in the aquifer system beneath the Oxnard Plain since the 1960s. On the basis of data from this network, the area of sea water intrusion in the Oxnard aquifer, which is the main upper-system aquifer, was estimated to be approximately 60 km2 (County of Ventura Public Works Agency, 1990). The two sea water plumes, whose chloride concentrations are greater than 500 mg l"1, are shown in Fig. 1. The existing monitoring network consists of former production wells, generally screened over wide intervals. Although the goal of monitoring is to reduce uncertainty, even an extensive monitoring network such as exists in the Oxnard Plain can yield misleading results if the three-dimensional characteristics of the groundwater contamination are not considered.

In order to investigate the three-dimensional nature of contamination in the Oxnard Plain, the US Geological Survey completed 20 multiple well monitoring sites. Each site consists of three to five 5 cm (2 in.) polyvinyl chloride (PVC) wells installed in a single drill hole and isolated by low-permeability bentonite grout. One of these multiple well sites was installed approximately 50 m from an existing monitoring well within the northern high chloride plume in Fig. 1. **Measured chloride concentration in the existing well, presumed to be representative of conditions in Oxnard aquifer, was 1900 mg** l"1 (see Fig. 2), nearly 40 times the background concentration of 50 mg l"1. **Measured chloride concentration in the Oxnard aquifer in the new well was only 180 mg l"1**. However, the chloride concentration measured in the shallow perched aquifer, which overlies the Oxnard aquifer, was 23 000 mg l"1. **As described by Izbicki (1991) and Stamos *et al.* (1992), the casing of the original monitoring well failed, allowing the extremely saline water from the overlying perched aquifer to enter the Oxnard aquifer.** The source of high chlorides in the perched aquifer is sea water that was trapped in the deposits during deposition or that resulted from coastal flooding and evaporative concentration of salts.

The results of this three-dimensional characterization of sea water intrusion indicate that chloride concentrations in the Oxnard aquifer are much lower in this area than was previously assumed and that the areal extent of sea water intrusion in the Oxnard aquifer is considerably less than the previous estimate of 60 km2. The results also indicate that contamination of individual wells from a different source, downward leakage from the perched aquifer, may be more of a concern than previously realized (see Predmore, 1993). Therefore, remediation of this problem will require different solutions than those developed prior to this study when sea water intrusion was thought to be the only source of contamination.