

Previous Off-site Survey Data

Excerpt from:
Hydrogeologic Site Characterization and Evaluation Report
Casmalia Resources
Hazardous Waste Management Facility
Volume 1
May 11, 1988

- 6.3 Well Inventory within Three Miles of the Facility
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Excerpt from:
RI/FS Work Plan
Casmalia Site Remediation

Figure 2-19 Wells within 3-mile Radius of the Site

Volume I

**Hydrogeologic Site Characterization and Evaluation Report
Casmalia Resources
Hazardous Waste Management Facility**

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regional configuration of the groundwater table and its similarity to regional topography and directions of stream gradients are the bases for inferring that, on a regional basis, shallow groundwater flows generally southward from the Facility vicinity toward Shuman Canyon and then probably westward towards the ocean. Furthermore, the low mean permeability of the consolidated rocks lying beneath the Facility (Section 7.4), and those consolidated rocks lying between the Facility and the Santa Maria Basin, would restrict groundwater flow toward the Santa Maria Groundwater basin. Also, groundwater in the local flow system near the Facility is not likely to flow into the San Antonio Groundwater Basin because of the position of the groundwater flow divides that appear to surround that basin and because of the low mean permeability of the consolidated rocks which occur between this basin and the Facility.

6.3 WELL INVENTORY WITHIN THREE MILES OF THE FACILITY

Water supply wells and oil and gas wells within 3 miles of the Facility have been located, inventoried, and described by WCC. No geophysical exploration wells or geothermal wells were located within the survey area. The wells that are present within 3 miles of the Facility are located as shown in Figure 6.3-1. Available information for each well located within 1 mile of the Facility is provided in Table 6.3-1. This table includes the following information for each well:

- Total depth of well
- Casing diameter at ground surface and at total depth
- Type of well construction
- Depth and type of perforations
- Name and address of well driller
- Year of well construction
- Use of well
- Depth and type of seals
- Annular packing materials and intervals.

- Available water level measurements, pump test data, water quality, and lithologic and geophysical logs
- Abandonment methods, if applicable

Additional information for the four Casmalia Resources water supply wells is provided in Appendix B.

6.3.1. Water Supply Wells Within One Mile of the Facility

A total of five water supply wells are located within 1 mile of the Casmalia Resources Facility boundary (Figure 6.3-1). They are: Casmalia Resources Water Supply Wells (Numbers WW-1 through WW-4) and Righetti Water Well Number 1. Well construction information for these wells is included in Table 6.3-1. An additional well, located approximately 7000 feet east of the Facility boundary, was also included in the table and is referred to as the Curletti Irrigation Well.

The four Casmalia Resources water supply wells are used to supply non-potable water to the Casmalia Resources Facility. The water provided from these wells is not used for drinking purposes. They are located along Casmalia Creek at distances ranging from 500 to 3000 feet from the western Facility boundary. These four wells range in depth from 35 to 55 feet and are screened in the gravelly, clayey alluvium adjacent to Casmalia Creek (see Appendix C.6). The maximum short-term yields of these wells were estimated to be 12.5 gallons per minute (gpm), 40 gpm, 10 gpm, and 23 gpm, respectively, by Hoover and Associates (1982). In October 1987, WCC observed that Water Supply Well No. 2 was dry. The pumping rates and current yields of these wells are unknown.

The fifth water supply well, designated Righetti Water Well No. 1 in Table 6.3-1, belongs to E. Righetti and is located west of Black Road approximately 4000 feet from the Facility boundary. It is presently inactive and has a reported total depth of 128 feet. It has been used in the past for agricultural water supply. The static water level is reported

to be approximately 58 feet below land surface. The well is reported by the owner to be dug by hand and at least 60 years old. Although a boring log is not available for the well, it is likely that the well is completed in the Todos Santos Claystone.

The Curletti Irrigation Well belongs to the estate of E. Curletti. This well is located northeast of the inactive Righetti Well, approximately 7000 feet from the Facility boundary. The well is used for agricultural purposes. No other information, in particular the lithology of the screen interval and yield, on this well is available.

6.3.2 Oil and Gas Wells Within One Mile of the Facility

Sixty oil and gas wells are located within 1 mile of the Casmalia Resources Facility, with the majority of wells located east of the Facility (Figure 6.3-1). Approximately 70 percent of the oil and gas wells are active. Available well construction information for these oil and gas wells is included in Table 6.3-1.

6.4 QUALITY OF WATER FROM WELLS WITHIN ONE MILE OF THE FACILITY

The five water supply wells that exist within 1 mile of the Facility produce water that is naturally of marginal to poor quality for municipal drinking water uses. There is no evidence to suggest that these wells have been impacted by waste disposal activities at the Casmalia Resources Facility.

All of the wells produce water that naturally exceeds some of the State standards for potable uses. Water quality analyses of samples from these wells are presented in Appendix D (D.3.1-D.3.5 and D.4.1-D.4.5) and discussed in Sections 9.3.1, 9.3.2 and 9.4.2. Specifically, the State-recommended upper maximum contaminant level (MCL) for total dissolved solids (1000 mg/L) is exceeded in all of the wells. The recommended MCLs for chloride (250 mg/L) and sulfate (250 mg/L) are also exceeded in water

produced from most of these wells. No volatile organics, base/neutral or acid extractable (BNA), chlorinated organic pesticide, chlorinated organic herbicide, or polychlorinated biphenyl (PCB) compounds have been detected in any samples of water from these wells as discussed in Section 9.0.

6.5 EXISTING AND POTENTIAL GROUNDWATER USAGE WITHIN THREE MILES OF THE FACILITY

Based on information obtained from the well survey and on local land usage, current groundwater use within 1 mile of the Casmalia Resources Facility is limited to the non-potable water supply at the Casmalia Resources Facility. One agricultural water supply well (Righetti Water Well No. 1) has been located within 1 mile of the Facility, but it is presently inactive. Current land use information obtained from the Santa Maria Zoning Department in Santa Maria, California, indicates that most of the land within 1 mile of the Casmalia Resources Facility is classified as large parcel agricultural. Cattle are presently grazed in these areas.

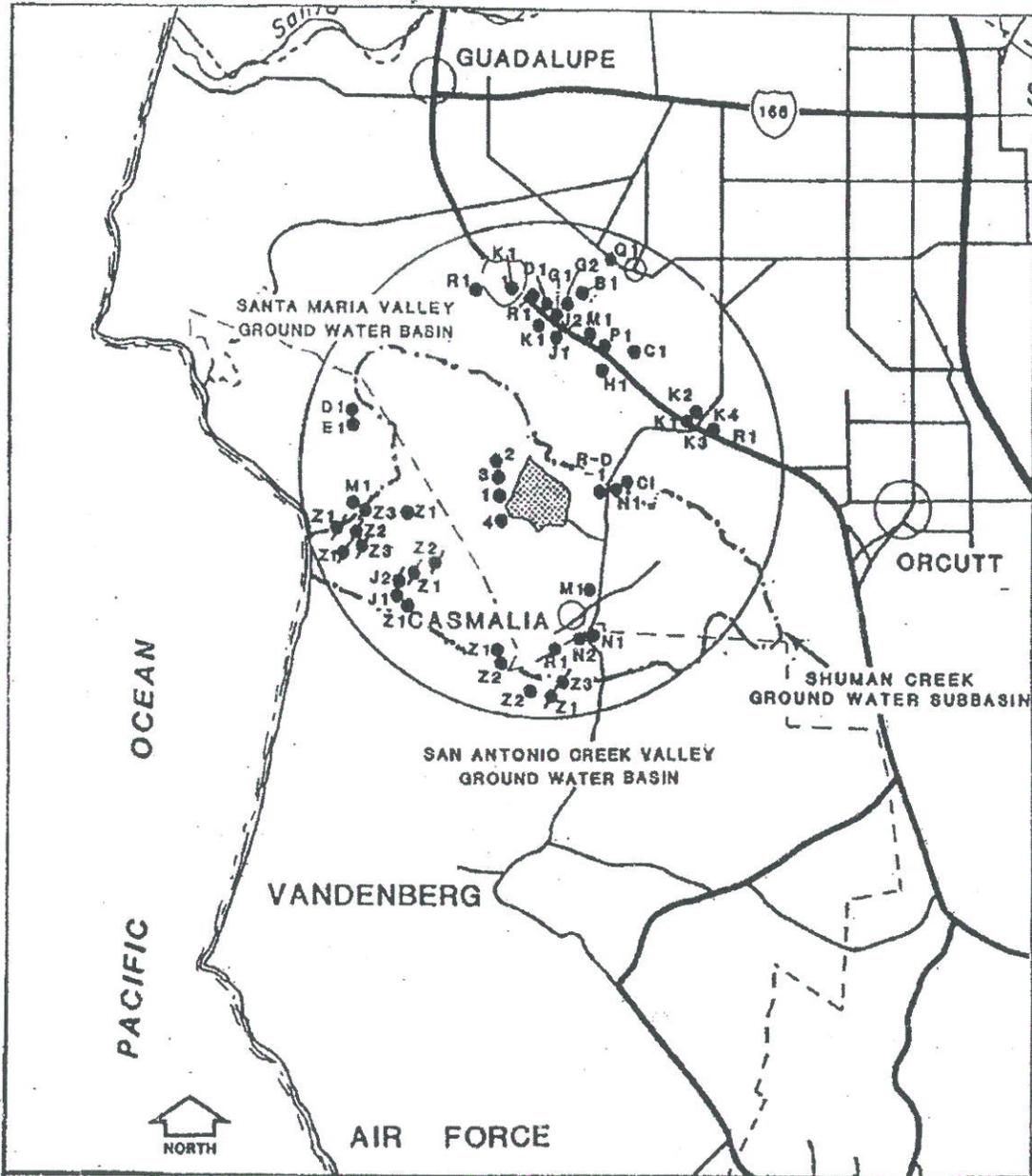
In the areas located between 1 and 3 miles from the Facility there are an additional 46 water wells and numerous oil and gas wells, located as shown in Figure 6.3-1. The current usages of the water wells in this area based on the available data are as follows:

| <u>No. Of Wells</u> | <u>Type of Use</u> |
|---------------------|--------------------|
| 10 | Domestic |
| 1 | Public supply |
| 2 | Industrial |
| 4 | Stock supply |
| 2 | Irrigation |
| 13 | Unused |
| 3 | Abandoned |
| 11 | Unknown use |

Based on this survey, the primary uses of groundwater in the areas lying between 1 and 3 miles of the Facility are for small-capacity domestic

and stock water supplies. There is no information indicating that future groundwater usage patterns in this area are expected to change.

Exhibit 5



SOURCE WOODWARD-CLYDE CONSULTANTS, 1987

FIGURE 2-19

Wells within 3-mile Radius of the Site

RI/FS Work Plan
Casmalia Site Remediation