# Summary of Water Quality Data Sources

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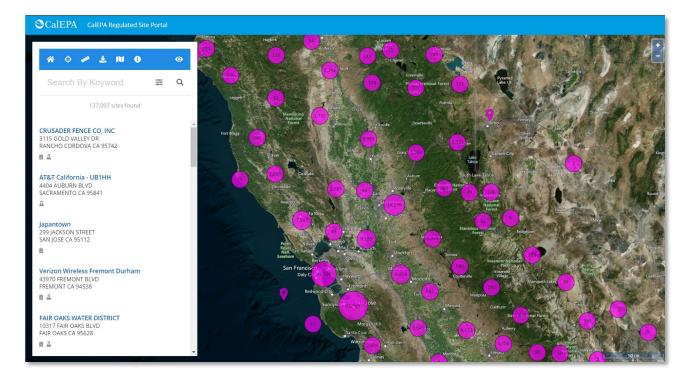
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# 1. California EPA – Information on Hazardous Waste in Groundwater

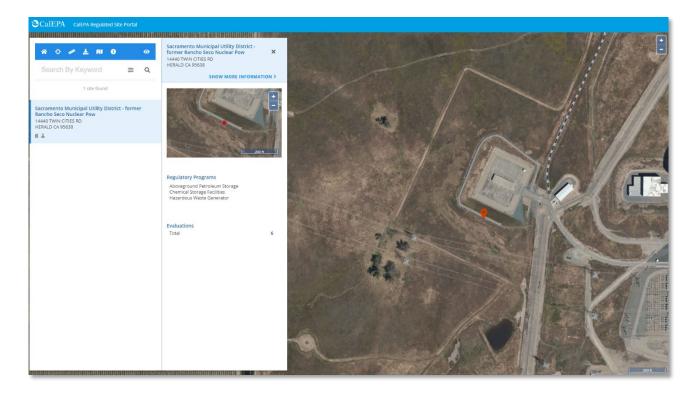
# 1.1. Regulated Site Portal

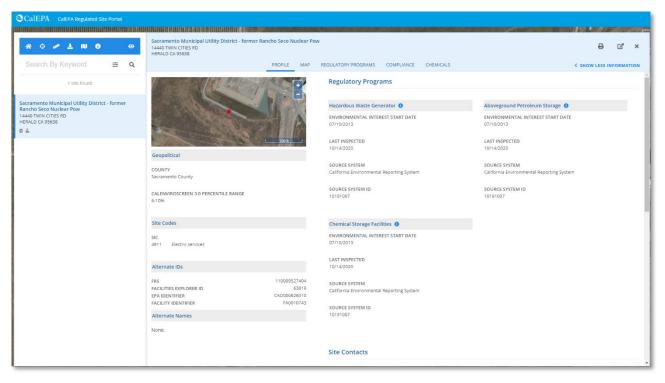
https://siteportal.calepa.ca.gov/nsite/map/help

- Lists many environmentally regulated sites and facilities, including: hazardous waste and materials, hazardous waste facilities and sites, and storm water management sites.
- Data sources include California Occupational Safety and Health Administration (Cal/OSHA), California Environmental Reporting System (CERS), California Integrated Water Quality System (CIWQS), US EPA's Emission Inventory System (EIS), the California Department of Toxic Substances Control's (DTSC) EnviroStor site, the State Water Resources Control Board's (SWRCB) GeoTracker site, the SWRCB's Stormwater Multiple Application and Report Tracking System (SMARTS), the Solid Waste Information System (SWIS), and the federal Toxic Release Inventory (TRI) database.
- Contains downloadable data (e.g., quantity of chemical release), and other regulatory documents.



Screenshots of website:





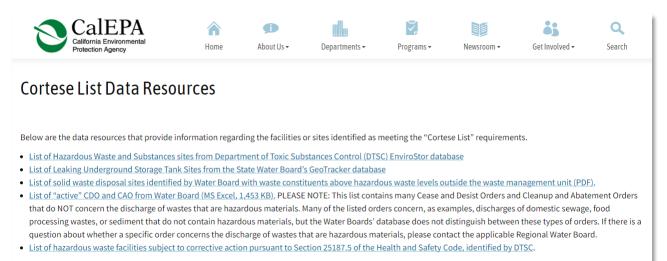
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# 1.2. Cortese List

# https://calepa.ca.gov/sitecleanup/corteselist/

- A list released by CalEPA annually, including hazardous waste and substance sites (DSTC), leaking USTs, solid waste disposal sites, "active" CDO and CAO sites.
- Data sources from DTSC, SWRCB, and local enforcement agencies.
- No available spatial or temporal concentration data.
- No chemical data available, but contaminated sites are identified with links to other websites (i.e. GeoTracker).

Screenshot of website:



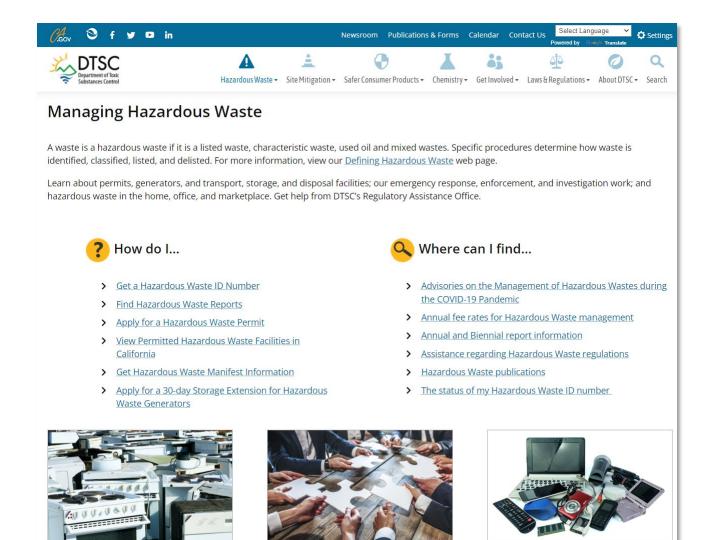
For more information regarding the "Cortese List" statute, go to Background and History.

# 1.3. Managing Hazardous Waste website

https://dtsc.ca.gov/managing-hazardous-waste/

- Hazardous waste sites updates/status/current regulation.
- No chemical data available

Screenshot of website:

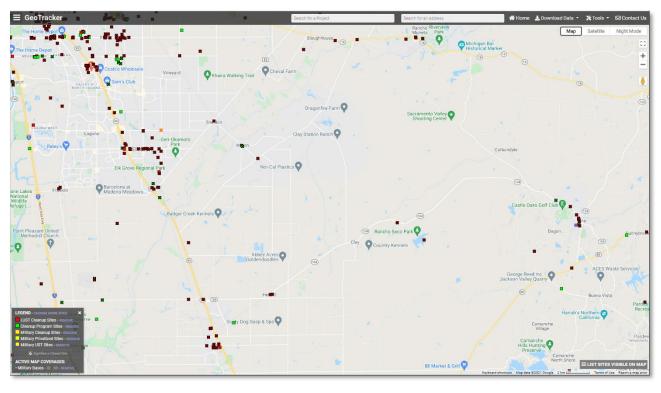


# 1.4. GeoTracker

https://geotracker.waterboards.ca.gov/map/?global\_id=T10000006808

- Lists relevant information about the hazardous sites, including location, substance of spill, clean up timeline, monitoring reports, site investigation reports, regulatory correspondence, etc.
- Chemical data available for each county (as txt file, can be opened with Access or Excel). https://geotracker.waterboards.ca.gov/data\_download\_by\_county\_
- Temporal and spatial chemical concentration data.

Screenshots of website and downloadable data:



E SITES VISIBLE ON MAP - CHOO	<u>)SE FIELDS</u>	Camar	iche		Camp Pardee		×
EXPRESS LANE CHEVRON	OPEN - VERIFICATION MONITORING	301 PINE STREET	GALT	LUST CLEANUP SITE	CENTRAL VALLEY RWQCB (REGION 5S)	27	-
EXPRESS LANE CHEVRON - CASE 2	OPEN - VERIFICATION MONITORING	301 PINE STREET	GALT	LUST CLEANUP SITE	CENTRAL VALLEY RWQCB (REGION 5S)	14	
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	OPEN - SITE ASSESSMENT	JACKSON VALLEY ROAD	IONE	CLEANUP PROGRAM SITE	DEPARTMENT OF TOXIC SUBSTANCES CONTROL	19	
PG&E JACKSON SERVICE CENTER	OPEN - REMEDIATION	12626 JACKSON GATE ROAD	JACKSON	CLEANUP PROGRAM SITE	CENTRAL VALLEY RWQCB (REGION 5S)	14	+

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)1 PINE STREET ALT, CA. 95632 GCRAMENTO COUNTY JST CLEANUP SITE (INFO) PEN - VERIFICATION MONITORING AS OF 2/21/2017 - DEF INTABLE CASE SUMMARY (CAR BEPORT	FINITION	CLEANUP OVERSIGHT AGENCIES CENTRAL VALLEY RWOCE (REGION 95) (LEAD) - CASE #: 3414 CASEWORKER: <u>VERA RESULTER</u> SACRAMENTO COUNTY LOP - CASE #: R00000972
Summary Case Reviews Cleanup Action Report Regulatory Activities	Environmental Data (ESI) Site Maps / Documents Community Involv	ement Related Cases
Regulatory Profile		PRINTABLE CASE SUMMARY
CLEANUP STATUS - DEFINITIONS		
OPEN - VERIFICATION MONITORING AS OF 2/21/2017 - CLEANUP	P STATUS HISTORY	
POTENTIAL CONTAMINANTS OF CONCERN	POTENTIAL MEDIA OF COM	<u>NCERN</u>
GASOLINE, MTBE / TBA / OTHER FUEL OXYGENATES	AQUIFER USED FOR DRINK	KING WATER SUPPLY, SOIL
FILE LOCATION	DESIGNATED GROUNDWATER	BENEFICIAL USE(S) - DEFINITIONS
	MUN, AGR, IND, PROC	
DWR GROUNDWATER SUB-BASIN NAME	CALWATER WATERSHED N	IAME
San Joaquin Valley - Cosumnes (5-022.16)	North Valley Floor - Lower Co	osumnes-Dry - Herald (531.11)
GROUNDWATER MONITORING FREQUENCY		
# OF WELLS MONITORED - QUARTERLY : 11, SEMI-ANNU	UALLY : 8, ANNUALLY : 8	
REASONS FOR QUARTERLY OR MONTHLY OR OTHER O	GROUNDWATER MONITORING:	
<ul> <li>Well Is Last Point of Monitoring Prior to possible impact</li> </ul>	ct to Receptor - Down-gradient domestic water supply wells	;
· Other - Verify on-site trends and evaluate remedial act	tion. Recent on-site free product detections.	
Site History		
This is the case listing for a second realease occurance at an open sit	te. All data appagiate with this address has been submitted under Cl	abol ID: T0606700000, accessibled with Central Valley Water Peard
case #340991.	te. All data associate with this address has been submitted under Gir	obar ID. 10000700022, associated with Central Valley Water Doard
Lase #J40351.		

# 2. USEPA Superfund: National Priorities List (NPL)

https://www.epa.gov/superfund/superfund-national-priorities-list-npl

- USEPA IList all current, proposed or deleted sites of national priority resulting from known or threatened releases of hazardous substances, pollutants or contaminants.
- No downloadable data.
- Graphical display and lists all current and proposed NPL sites, sortable by state, regions, etc.
- Site descriptions include summary reports.
- No superfund sites in the Cosumnes Subbasin

Screenshots of website and available data:

# Superfund

Superfund Home

Learn About Superfund

**Community Involvement** 

Cleanup Support

Accomplishments & Benefits

**Cleaning up Sites** 

Superfund Site Assessment

### **National Priorities List**

Remedial Investigation/Feasibility Study

**Remedy Decisions** 

Remedial Design / Remedial Action

Post Construction Completion

National Priorities List Deletion

Superfund Site Reuse/Redevelopment

Contaminants at Superfund Sites

Contaminated Media at Superfund Sites

Superfund Task Force

Policy, Reports & Other Documents

# Superfund: National Priorities List (NPL)

The National Priorities List (NPL) is the list of sites of national priority among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. The NPL is intended primarily to guide the EPA in determining which sites warrant further investigation.

- <u>New Proposed NPL Sites & New NPL Sites</u> Documents for the most recently proposed NPL sites and recently added NPL sites, including: Documentation Records, Site Listing Narratives, Support Documents and other supporting documentation.
- <u>View a map</u> EXIT of all the sites in the U.S., currently on the NPL, proposed to the NPL and deleted from the NPL.

# **Related Pages**

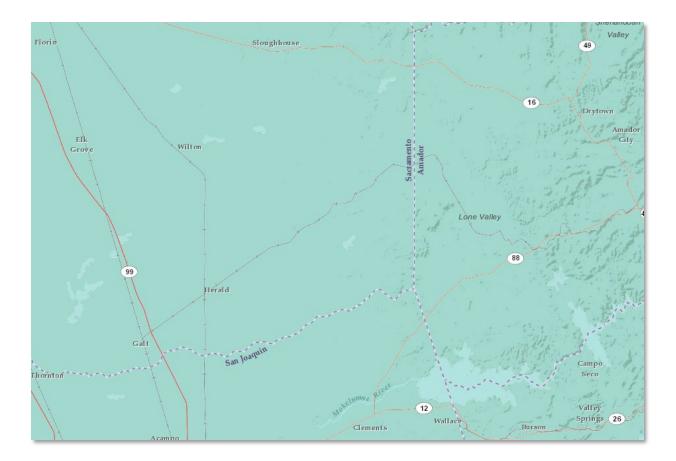
CONTACT US

- <u>Basic NPL</u>
   <u>Information</u>
- <u>NPL Site Status</u>
- Federal Register
   Notices for NPL
   Updates
- <u>NPL Guidance/Policy</u>
   <u>Documents</u>

The following table shows the number of Federal and general sites for each status and milestone as of October 01, 2021:

Status	Non-Federal (General)	Federal	Total	
Proposed NPL Sites	48	3	51	
<u>NPL Sites</u>	1165	157	1322	
Deleted NPL Sites	430	17	447	
Milestone	Non-Federal (General)	Federal	Total	
Partial Deletions at NPL Sites	103	31	134*	
Construction Completions at NPL Sites	1148	81	1229**	

No superfund sites in the Cosumnes Subbasin



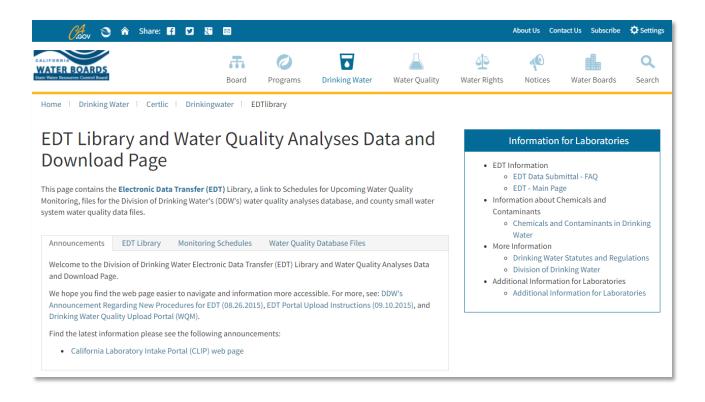
# 3. California EPA – Information on Drinking Water Quality

# 3.1. Water Quality Analysis Database Files

https://www.waterboards.ca.gov/drinking\_water/ceertlic/drinkingwater/EDTlibrary.html

- Electronic Data Transfer (EDT) Library, a link to Schedules for Upcoming Water Quality Monitoring, files for the Division of Drinking Water's (DDW's) water quality analyses database, and county small water system water quality data files.
- Statewide current and historical chemical data from water suppliers.
- Downloadable data, including temporal data.
- Chemical data from April 1947 to current; data format: dbf, can be opened in Access; supporting database files are needed to interpret the data.

Screenshots of website and downloadable data:



## Announcements EDT Library Monitoring Schedules Water Quality Database Files

- Storet Code 00618 (Nitrate as N): Reported findings are required to be in units of milligrams per liter (mg/L). California's drinking water regulations require the nitrate MCL to be expressed as "10 mg/L (as nitrogen, N)" instead of "45 mg/L (as nitrate, NO3)." The MCL has not become more stringent. Effective January 1, 2016, all nitrate data submitted to the EDT Portal must be submitted under Storet Code 00618 (Nitrate as N); otherwise the data will not be accepted. For more information, see the detailed announcement for laboratories accredited by the Environmental Laboratory Accreditation Program.
- Storet Code 00620 (Nitrite as N) Effective January 1, 2016, all data submitted to the EDT Portal must be reported in units of mg/L.
- Storet Code A-029 (Nitrate + Nitrite as N) Starting January 1, 2016, all Nitrate + Nitrite data submitted to the EDT Portal must be reported in mg/L.
- Laboratory Reporting Errors Effective immediately, laboratory reporting errors will not be changed in the database. Instead, (1) The laboratory will inform the district office of the error. (2) District office will approve deletion of erroneous data from database, and (3) The laboratory will resubmit data electronically.
- EDT Data Submittals EDT data submittals via email are no longer accepted. Data are submitted via the EDT Portal webpage at: http://drinc.ca.gov/WQM/. For more, see DDW's Announcement Regarding New Procedures for EDT (08.26.2015) and EDT Portal Upload Instructions (09.10.2015)

These executable self-extracting files\* support the submittal of drinking water analytical results. More information is available at the Drinking Water Program's EDT webpage.

Write-On for Windows 95/98/2000/XP Water Quality Software Upgrade (Version 2.0r) (Zip file, expands to 4.0MB) — Last Update: September 15, 2011.

This zip file contains WO2SETUP.EXE, ~4.5 MB, the setup file for Write-On for Windows 95/98/2000/XP Water Qual7ty Input System (Version 2.0r). The file can be installed directly into an existing Write-On folder, and the changes will be made automatically. The entire installed Write-On for Windows 95/98/2000/XP software will require ~14.5 Mb of disk space with the Library installation.

NOTE 1: USE THIS FILE TO INSTALL WRITE-ON ONLY. THE SOURCE AND SYSTEM LIBRARIES ARE NO LONGER INCLUDED WITH THIS INSTALLATION PACKAGE. THE LIBRARIES ARE REQUIRED FOR WRITE-ON TO OPERATE. FOR THE CURRENT LIBRARIES, DOWNLOAD THE FILE BELOW, "Water System and Source Libraries."

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3	0103039-004	11/22/2017 0:00	848	4790	11/22/2017 0:00	11/30/2017 0:00	SM 215	#	S	86	<	1
4	0103039-004	11/22/2017 0:00	848	4790	11/29/2017 0:00	11/30/2017 0:00	SM 251	#	S	95		550
5	0103039-004	11/22/2017 0:00	848	4790	11/29/2017 0:00	11/30/2017 0:00	SM4500	#	S	403		8.1
6	0103039-004	11/22/2017 0:00	848	4790	11/22/2017 0:00	11/30/2017 0:00	300	#	S	618		5.7
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11	0103040-007	8/15/2016 0:00	1235	2416	8/21/2016 0:00	9/2/2016 0:00	E552.2	Α	S	82721		2.11
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# 3.2. Drinking Water Watch

# https://sdwis.waterboards.ca.gov/PDWW/

- This website provides a variety of chemical data (including many uncommon chemicals) for wells and distribution systems. Includes historical data (at least dated back in the 1980s).
- Data are available in both excel and pdf form
- With well locations and temporal changes in chemical concentrations, a trendline analysis is feasible.

Screenshots of website and downloadable data:

Links PS Code Transition Water System Details Water System Facilities Monitoring Schedules	Water System No. : Water System No. : Principy fean Nave : Status : Status :	Monitoring for prior to 20. ACCHEE JELM SCHOOL - N ACCHEE JELM SCHOOL - N ACCHEE JELM SCHOOL - N	Results for In (From 2011 to 1 results please	e go to <u>EDT De</u> Federa State T Primar Activiti	Ding Points ownload Page) (Type : performer : oftet :	NTNC NTNC GW 08-08-2016 There are no 1	
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### CA Drinking Water Watch ARCOHE ELEM SCHOOL - MAIN CAMPUS (3400271) All Sampling Results

MAIN WELL (CA3400271\_001\_001)

k to hide / show columns: Analyte Number | Analyte Name | Sampling Date | Less Than | Reporting Level | Result | Counting Error (+:-) | MCL | DLR | Unit | Qualifier

Tips on	Using Table	

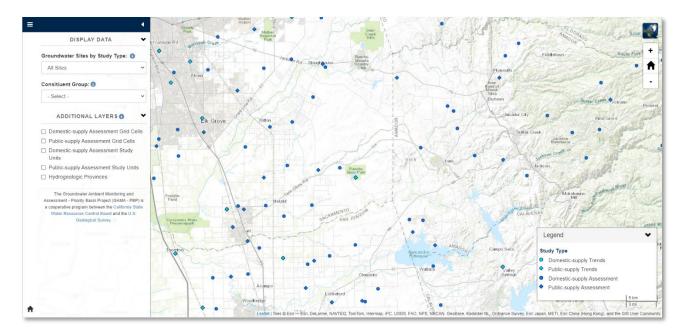
Display 10 V records	Print Copy Excel PDF								Search	:
Analyte Number 🔺	Analyte Name 🛛 🖨	Sampling Date 📫	Less Than 👙	Reporting Level** 🕴	Result ‡	Counting Error (+/-) \$	MCL ‡	DLR ‡	Unit \$	Qualifier ‡
1002	ALUMINUM	06-16-2021	<	50	0.0000000		1000	50	UG/L	
1002	ALUMINUM	06-13-2018	<	50	0.0000000		1000	50	UG/L	
1002	ALUMINUM	06-26-2013	<	50	0.000000		1000	50	UG/L	
1002	ALUMINUM	06-05-2009	<	50	0.000000		1000	50	UG/L	
1002	ALUMINUM	08-23-2001	<	50	0.0000000		1000	50	UG/L	
1005	ARSENIC	06-16-2021		2	2.0000000		10	2	UG/L	
1005	ARSENIC	12-10-2019		2	2.0000000		10	2	UG/L	
1005	ARSENIC	06-13-2019		2	2.0000000		10	2	UG/L	
1005	ARSENIC	12-13-2018		2	2.0000000		10	2	UG/L	
1005	ARSENIC	06-13-2018		2	2.0000000		10	2	UG/L	
Search Analyte Number	Search Analyte Name	Search Sampling Date	Search Less Than	Search Reporting Level**	Search Result	Search Counting Error (+	Search MCL	Search DLR	Search Unit	Search Qualifier
Showing 1 to 10 of 233 entr	ies							Previous 1	2 3 4 5	24 Next

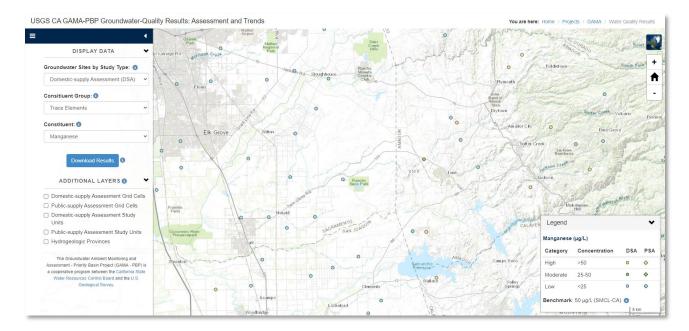
# 3.3. GAMA-PBP Groundwater-Quality Results: Assessment and Trends

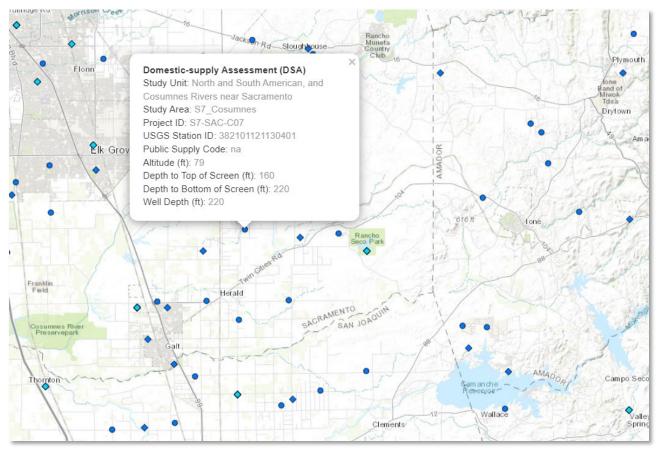
https://ca.water.usgs.gov/projects/gama/water-quality-results/

- From USGS California Water Science Center, Groundwater Ambient Monitoring and Assessment (GAMA) Priority Basin Project (PBP)
- Map viewer showing concentrations and trends of many constituents, such as metal ions, nutrients, TDS, pesticides, VOCs, age-dating tracers, radioactivity, etc.
- Concentrations are provided and categorized as different ranges, with color code. No date is associated with the measurements. Dates available in downloadable data.
- Domestic-supply and Public supply trends and assessments available for download in both text (.txt) and excel (.xls) formats.

Screenshots of website and downloadable data:







StudyType	StudyUnit	StudyArea	ProjectID	USGSStationID	PSCode	SitePurpose	VisitNum	SampleDate	SampleTime	MediumCode
Domestic-supply Assessment (DSA)	North and South American, and Cosumnes Rivers near Sacramento	S7_Cosumnes	\$7-\$AC-C01	3.82233E+14	na	STATUS	1	8/7/2017	830	WG
Domestic-supply Assessment (DSA)	North and South American, and Cosumnes Rivers near Sacramento	S7_Cosumnes	\$7-SAC-C02	3.81731E+14	na	STATUS	1	8/7/2017	1200	WG
Domestic-supply Assessment (DSA)	North and South American, and Cosumnes Rivers near Sacramento	S7_Cosumnes	S7-SAC-CO3	3.82444E+14	na	STATUS	1	8/8/2017	900	WG
Domestic-supply Assessment (DSA)	North and South American, and Cosumnes Rivers near Sacramento	S7_Cosumnes	S7-SAC-CO4	3.8164E+14	na	STATUS	1	8/8/2017	1200	WG
Domestic-supply Assessment (DSA)	North and South American, and Cosumnes Rivers near Sacramento	S7_Cosumnes	\$7-\$AC-C05	3.81735E+14	na	STATUS	1	8/9/2017	840	WG
Domestic-supply Assessment (DSA)	North and South American, and Cosumnes Rivers near Sacramento	S7_Cosumnes	\$7-SAC-C06	3.82047E+14	na	STATUS	1	8/9/2017	1300	WG
Domestic-supply Assessment (DSA)	North and South American, and Cosumnes Rivers near Sacramento	S7_Cosumnes	S7-SAC-C07	3.82101E+14	na	STATUS	1	8/10/2017	920	WG
Domestic-supply Assessment (DSA)	North and South American, and Cosumnes Rivers near Sacramento	S7_Cosumnes	S7-SAC-C08	3.8265E+14	na	STATUS	1	8/10/2017	1240	WG
Domestic-supply Assessment (DSA)	North and South American, and Cosumnes Rivers near Sacramento	S7_Cosumnes	S7-SAC-C09	3.81737E+14	na	STATUS	1	8/21/2017	900	WG
Domestic-supply Assessment (DSA)	North and South American, and Cosumnes Rivers near Sacramento	S7_Cosumnes	\$7-\$AC-C10	3.81622E+14	na	STATUS	1	8/21/2017	1300	WG
Domestic-supply Assessment (DSA)	North and South American, and Cosumnes Rivers near Sacramento	S7_Cosumnes	\$7-\$AC-C11	3.81618E+14	na	STATUS	1	11/14/2017	1000	WG
Domestic-supply Assessment (DSA)	North and South American, and Cosumnes Rivers near Sacramento	S7_Cosumnes	\$7-\$AC-C12	3.82231E+14	na	STATUS	1	11/14/2017	1300	WG

SampleType RecordNum	Altitude	TopOfScreen	BotOfScreen	WellDepth	Latitude	Longitude	Uranium, wf (22703)	Iron, wf (01046)	Antimony, wf (01095)	Manganese, wf (01056)	Silver, wf (01075)	Vanadium, wf (01085)
9 60170711701	62	159	525	525	38.376	-121.295	0.264	<10	0.041	<0.66	<1	22
9 60170711601	51	160	228	228	38.292	-121.308	5.4	<10	0.082	<0.66	<1	20.5
9 60170711501	125	250	300	280	38.4119	-121.2102	0.147	<10	0.036	<0.66	<1	16.6
7 60170711401	83	103	115	285	38.2775	-121.2254	0.061	<10	0.077	<0.66	<1	20.7
9 60170711301	70	155	212	212	38.2928	-121.2583	0.062	17.8	0.035	0.74	<1	22.7
9 60170711201	176	254	294	294	38.3463	-121.1236	0.018	<10	0.047	<0.66	<1	12.8
9 60170711101	79	160	220	220	38.3498	-121.2189	<0.01	<10	0.032	<0.66	<1	25.9
9 60170711001	115	136	247	247	38.4471	-121.1721	0.529	<10	0.033	<0.66	<1	8.3
9 60170731801	117	187	228	228	38.2933	-121.1745	0.014	<10	0.047	<0.66	<1	25.1
9 60170731701	305	260	0	260	38.2728	-120.9969	0.068	<10	0.155	<0.66	<1	21.8
9 60180052101	282	215	0	215	38.2718	-120.9724	<0.01	44.9	<0.03	105	<1	0.11
9 60180052001	258	131	151		38.3753	-120.9763	<0.01	753	<0.03	33.5	<1	<0.1

# 4. Information on Pesticide Use pertaining to groundwater quality

# 4.1. California Pesticide Information Portal (CalPIP)

https://calpip.cdpr.ca.gov/main.cfm

- From Department of Pesticide Regulation (DPR).
- Pesticide use reporting (PUR) data, and Groundwater Protection Areas (GWPAs).
- Downloadable data in text files, shapefiles, maps, and KML files.
- Data can be sorted by locations, chemicals, years, counties.
- Trendline analysis can be done on usage of pesticides, but not on groundwater elevation or chemical concentrations.
- Data archives are available for download. <u>ftp://transfer.cdpr.ca.gov/pub/outgoing/pur\_archives/</u>
  - List the locations and quantities of pesticide uses for that year.
- Pesticide use reporting (PUR) <u>https://www.cdpr.ca.gov/docs/pur/purmain.htm</u>
  - Choose location of interests and generate a report
- No groundwater chemical data available.

# Screenshots of website and downloadable data:

Gov A f y in □		About DPR	Join E-Lists A-Z Index Careers	Contact Us Select Language Powered by Guegie Tra	
California Department of Pesticide Regulati	on 🛃			Q	Q
	Programs	Databases	News/Publications	Quick Links	Search
CalPIP Navigation Menu       Image: CalPIP Application Home My Selections       Image: CalPIP Application Home My Selections       Image: CalPIP Application Home My Selections       Image: CalPIP Application Home My Selected Data Source       Image: CalPIP Application Home My Selected Data	work with large Pesticide Use Data Archives to downloa Contact PUR.Inquiry@cd Introduction and Welcome to the California Pest Regulation's (DPR) extensive pr and the Pesticide Regulation's information Updates and Inf Previous years of CalPIP 2018 Pesticide Use Repor PUR data from 1990 to 20 PUR data from 1990 to 20 Previous updates and Inf Additional notes on version up First Time Users	icide Information Portal App Home press a full year of data with Report (PUR) datasets (i. ad free copies (.zip files) of f pr.ca.gov d Overview icide Information Portal pro- esticide use and label inforr Endangered Species Custor Ormation: data are periodically refresh t data has been added to th D18 was refreshed from the formation. dates and bug fixed can be in the present of the second second second second the present of the second second second second period second second second second second second to the second second second second second second second to the second sec	blication (CaIPIP) thout the user choosing other crit e. entire years or all products) sho ull years of Pesticide Use Data (1974 oject (CaIPIP). This site delivers user nation (PUR Data Source), Ground V m Realtime Internet Bulletin Engine ned to incoroprate any corrections a ne database.	uld go to: I through most recent available friendly Internet access to the l Vater Protection Area informati (PRESCRIBE Data Source). mor Ind late reports.	), or Department of Pestic on (GWPA Data Sourc e introduction
	<ul> <li>PUR information</li> <li>Ground Water Protectio</li> <li>The GWPA data source al</li> <li>Pesticide Regulation's E</li> </ul>	nformation Portal provides n Area (GWPA) lows you to determine whe Endangered Species Custo	you with easy access to California's ther a particular section is a GWPA. : <b>m Realtime Internet Bulletin Engi</b> pesticide use limitations for the pr	more GWPA information ne (PRESCRIBE)	

# 2018 Annual Statewide Pesticide Use Report Indexed by Commodity Sacramento County

### Back to PUR 2018 Summary Data

### Text files of data are available.

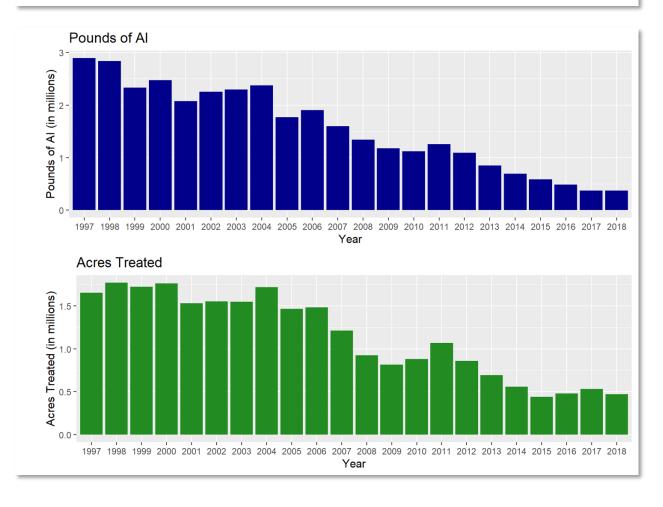
Units:

A = Acres, S = square feet, C = cubic feet, K = thousand cubic feet, P = pounds, T = tons, U = miscellaneous unit, N/A = data not available

Commodity	Chemical	Pounds	Num Apps	Area Treated	Unit treated
ALFALFA	ALPHA-ALKYL (C9-C11)-OMEGA-HYDROXYPOLY(OXYETHYLENE)	197.08	150	4,692.9	А
ALFALFA	ALPHA-ALKYL (C9-C16)-OMEGA-HYDROXYPOLY(OXYETHYLENE)	13.42	4	119.2	A
ALFALFA	ALPHA-ALKYL (C10-C14)-OMEGA-HYDROXYPOLY(OXYETHYLENE)	9.52	5	130.0	A

Table 12: The reported cumulative acres treated with pesticides that are on the "a" part of DPR's groundwater protection list. These pesticides are the active ingredients listed in the California Code of Regulations, Title 3, Division 6, Chapter 4, Subchapter 1, Article 1, Section 6800(a). Use includes primarily agricultural applications (Most non-production-agricultural pesticide use reports are not required to report acreage. A zero indicates some non-agricultural use occurred, but acreage was not reported. The word "none" indicates no use at all that year). The grand total for acres treated may be less than the sum of acres treated for all active ingredients because some products contain more than one active ingredient. Data are available at <ftp://transfer.cdpr.ca.gov/pub/outgoing/pur/data/>.

AI	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ATRAZINE	15,767	19,990	17,236	23,827	17,873	15,404	14,537	17,237	16,831	14,021
ATRAZINE, OTHER RELATED	15,767	19,990	17,236	23,827	17,873	15,404	14,537	17,237	16,831	14,021
BENTAZON, SODIUM SALT	6,424	6,258	4,846	6,539	7,466	7,956	6,823	7,320	6,743	6,882
BROMACIL	24,420	28,757	32,183	28,746	16,607	12,628	5,942	6,936	7,306	4,846
BROMACIL, LITHIUM SALT	0	0	0	0	0	0	0	0	0	0
DIURON	405,973	520,587	691,396	555,459	440,233	342,061	279,721	330,900	408,775	352,394
NORFLURAZON	44,503	45,638	30,601	31,693	23,306	25,112	17,343	9,790	5,471	12,102
PROMETON	2	20	0	0	234	0	18	38	1	0
SIMAZINE	339,302	289,198	324,612	241,359	205,338	165,261	118,823	112,998	91,713	84,157
TOTAL	813,118	882,518	1,069,323	859,272	694,764	556,157	437,858	478,769	530,053	470,263



# 4.2. Locations of Ground Water Protection Areas (GWPA)

https://www.cdpr.ca.gov/docs/emon/grndwtr/gwpa\_locations.htm

- GWPA maps and county lists.
- Downloadable maps, shapefiles, KML files.
- Contains locations of regulated sites, but no data.
- Choose a township and check whether it contains GW Protection Areas. https://calpip.cdpr.ca.gov/county.cfm?ds=GWPA
- Ground Water Protection Area Lists
   <a href="https://www.cdpr.ca.gov/docs/emon/grndwtr/gwpa\_lists.htm">https://www.cdpr.ca.gov/docs/emon/grndwtr/gwpa\_lists.htm</a>

# Screenshot of website and available data:

California Department of Pesticide Regulatio	n 📝 Programs	Databases	News/Publications	Quick Links	<b>Q</b> Search				
CalPIP Navigation Menu	CALIFORNIA PESTICIDE INFO		P) APPLICATION						
CalPIP Application Home My Selections	Select Count	У							
Data Sources	Default selection: Dependent of categories, the defaults are sta		ation categories: County, COMTRS, an	nd Zip Code. If no selections m	ade for any location				
DDECODIDE	To search for specific county(s	):							
Selected Data Source Ground Water Protection Area	<ul> <li>Enter full or partial words in the Search box to see matching counties or scroll through the in the Available Counties menu</li> <li>Click the 'Clear Search' button to clear your search and return the full list of counties</li> </ul>								
Search by Data Category Location 🛛 🖗	To select County(s):								
County » COMTRS Zip Code Help	<ul> <li>Click on county names of interest in the Available Counties menu.</li> <li>Hold the Shift key on your keyboard while clicking to select multiple adjacent counties or hold the Ctrl key to select multiple non-adjacent counties.</li> <li>Once highlighted, click the 'Add Selected' button. Clicking on the 'Add All' button will add all counties currently listed in the menu.</li> </ul>								
			le section of land that is vulnerable to on certain soil types and a depth to g						
	To determine whether a partic	ular section of land is a GWI	PA, do the following:						
	Choose a county or counties	below and click Select. The	en go to Next.						
	Available Counties								
	Search		Search Clear Search	Add All	Add Selected				
	58 items displayed								
	01 Alameda				Ê				
	02 Alpine								
	03 Amador								
	04 Butte				<b>.</b>				

# Available Townships Search... Search Add All Add Selected 47 items displayed 34 M02N02E Image: Comparison of the second of the sec

# Available Sections

Search	Search	Clear Search	Add All	Add Selected
5 items displayed				
34 M02N01E 01				<u>^</u>
34 M02N01E 11				
34 M02N01E 12				
34 M02N01E 13				
34 M02N03E 06				•

California Department Pesticide Regula	ation	ograms		Databases	News/Publications	<b>Q</b> uick Links	<b>Q</b> Search
CalPIP Navigation Menu		PESTICIDE INFOR		I PORTAL (CA	LEPIP) APPLICATION		
CalPIP Application Home	GWPA	Search	Res	sult			
	<ul> <li>You have select</li> <li>One or more of the condition t leaching).</li> <li>(TIP: Use the Fit</li> </ul>	hat needs to be n ind tool (Ctrl-F) u	i have sel nitigated	l. For a list of I	een identified as GWPA(S). Please see the management practices please click on the your browser to quickly jump to each YES	condition indicated (leaching	g, runoff, runoff or
Search by Data Category	the bottom of t 152 Township/	he page.) Range/Section(s)	among	1106 selected	are GWPA.		
County COMTRS	County	COMTRS	GWPA	Condition			
Zip Code	Sacramento	34M05N05E02	YES	RUNOFF			
Help	Sacramento	34M05N05E14	YES	RUNOFF			
	Sacramento	34M05N06E32	YES	RUNOFF			
	Sacramento	34M05N06E33	YES	RUNOFF			
	Sacramento	34M06N06E30	YES	RUNOFF			
	Sacramento	34M06N06E31	YES	RUNOFF			
	Sacramento	34M07N05E05	YES	RUNOFF			
	Sacramento	34M07N07E12	YES	RUNOFF			
	Sacramento	34M07N08E15	YES	RUNOFF			
	Sacramento	34M08N05E19	YES	RUNOFF			
	Sacramento	34M08N05E23	YES	RUNOFF			
	Sacramento	34M08N05E28	YES	RUNOFF			
	Sacramento	34M08N08E31	YES	RUNOFF			

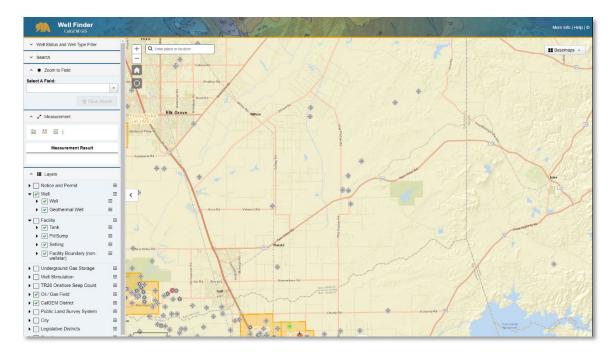
# 5. Information on Groundwater Quality in Areas of Oil and Gas Production

# 5.1. WellFinder

https://maps.conservation.ca.gov/doggr/wellfinder

- From California Geologic Energy Management Division (CalGEM), formerly California Division of Oil, Gas, and Geothermal Resources (DOGGR).
- Oil and gas well locations, information, and records; Information about other oil and gas facilities.
- Data through third party reporting.
- Well locations displayed with measure tool; well data and reports as pdf or tif files.
- No groundwater chemical data available.

# Screenshot of website:



		Ser a
	Well	P
*	API: 0406700327 Lease Name: Gill Well Number: 2 Status: Plugged Type: Dry Hole Operator: H. L. Alexander & Glenn J. Homan	
and the	View in WellSTAR Dashboard: About Wells Well Record Get Driving Directions	一些上午
	Zoom to	124 24
104	wincidesRd	lone
The second		

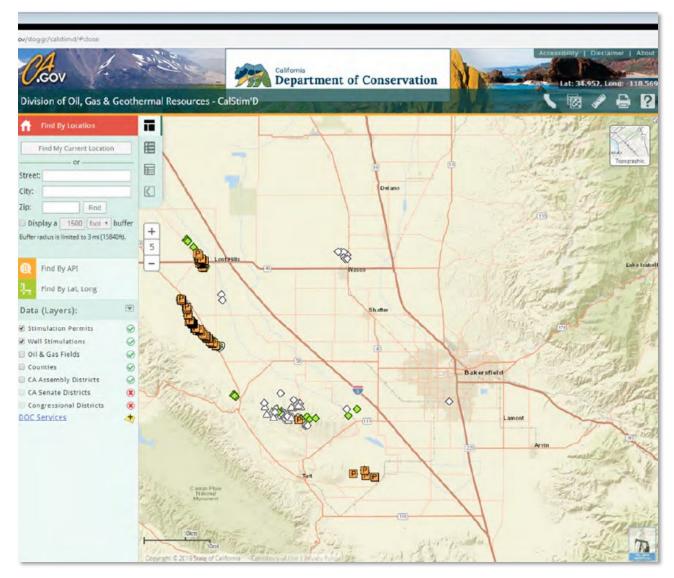
C.gov f		About DOC	Jobs	Contact Us	Settings	G Select Language ▼
Californ Depa	artment of Conservation			The second secon	For Divisio	
File Request	Well Records					
Well R	ecords					
	API 06700323					
File Results Re	Reset Search					
Select	File Name	File	Size			
	06700323_2DIL1_06-16-2005.tif		< 1 M	В		
	06700323_Data_06-16-2005_1.tif		< 1 M	В		
	06700323_Data_06-16-2005_10a.tif		< 1 M	В		
	06700323_Data_06-16-2005_10b.tif		< 1 M	В		
	06700323_Data_06-16-2005_11.tif		< 1 M	В		
	06700323 Data 06-16-2005 12 tif		< 1 M	в		

# 5.2. CalStim'D – Well Stimulation Permits and Sites

https://maps.conservation.ca.gov/doggr/calstimd/#close

- Data from CalGEM, formally known as DOGGR.
- Map viewer of well stimulation sites.
- No downloadable data.
- Searched by permits or American Petroleum Institute (API) number.
- Well Stimulation Treatment (WST) Disclosure; includes WST disclosures from Jan. 1, 2014 to present.
- No groundwater chemical data available. Contains information on the location of oil and gas production wells.
- No well stimulation permits are currently active in Amador or Sacramento County.

Screenshots of website and available data:



# 5.3. Well Stimulation Treatment Disclosure Search

https://www.conservation.ca.gov/calgem/Online\_Data/Pages/Index.aspx

- Well stimulation sites and permits can be searched by date or chemical constituent.
- No downloadable data.
- No groundwater chemical data available.
- No well stimulation permits are currently active in Amador or Sacramento County.

Screenshots of website and available data:

Per	mits Disclosu	res									
						▼ Adv	anced Filtering	Actions -	Search		\$
	Date Issued ↓	WST Permit #	API	Operator	County	Field	Permit Status	Stimula	tion Type	Actions	
	12/01/2021	19-0352-0	0403065972	Aera Energy LLC	Kern	Belridge, North	Expired	Hydraul Fracturi		Actions-	
	09/29/2021	90323060	0403068101	Aera Energy LLC	Kern	Belridge, South	Denied	Denied Hydraulic Fracturing		Actions-	
	09/29/2021	90323059	0403068099	Aera Energy LLC	Kern	Belridge, South	Denied Hydrogen Hydro			Actions-	
	09/29/2021	90323065	0403068262	Aera Energy LLC	Kern	Belridge, South	Denied	Hydraul Fracturi		Actions-	

9-0352-0, 0403065972			Permit 🗸	Actio
ata displaying as "N/A" denotes that it is not appli	cable to the well stimulation treatment			
Well Information				
<b>API</b> 0403065972	Wellbore Code 00	Permit Number 19-0352-0		
Operator Aera Energy LLC	Permit Status Expired	Drilling Complete Yes		
Spud Date N/A	Lease	Well Number 5006E-1		
Well Status Permitted	Well Type Oil & Gas	Confidential Well? N/A		
Plugback Depth MD (ft) N/A	Plugback Depth TVD (ft) N/A	Original Total Depth MD (ft) 3,002		
Original Total Depth TVD (ft) 3,000	72-Hour Notice Given			

# 5.4. Water Quality in Areas of Oil and Gas Production – Regional Groundwater Monitoring Program

https://www.waterboards.ca.gov/water\_issues/programs/groundwater/sb4/regional\_monitoring/index.ht ml#overview

- Salinity mapping.
- Produced water characterization.
- Groundwater potential risk zone analysis.
- Data from USGS, CalGEM, and other state and regional boards.
- Chemical data are available to download. Trendline analysis is feasible.
- No groundwater chemical data available. Contains information on the location of oil and gas production wells.
- Data releases: <u>https://www.waterboards.ca.gov/water\_issues/programs/groundwater/sb4/regional\_monitoring/index.html#datareleases</u>

Screenshots of website and available data:

🔏 🕲 🏠 Share: 🖪	¥ ₹* ⊠				About Us Cor	ntact Us Subscribe	Settings
CALIFORNIA WATER BOARDS Graw Water Resource Control Board	Board Program	s Drinking Water	Water Quality	Water Rights	Notices	Water Boards	<b>Q</b> Search
Home   Water Issues   Programs   Regional Groundy	Groundwater   Sb4   Regi	y in Areas of Oil and onal Monitoring Ng	Gas Production	Email Addr			email to
As required by SB 4 (Pavley, 2013) and d Gas Well Stimulation (Model Criteria), S protect all waters designated for any be the potential to be a source of drinking	ate Water Board is to implement a neficial use, while prioritizing the	Regional Monitoring Pro	ogram in order to			n. onitoring Progra ping Tool	am
Factors considered for the Regional Mor gas activities that have the potential to Fluids produced or introduced in the we and Underground Injection Control (UIC States Geological Survey (USGS) is the t USGS and State Water Resources, dated protocols, quality- assurance procedure Program.	contaminate groundwater, such a Il stimulation process including, l Wells are also examined in the R echnical lead for the Regional Mon January 22, 2018 details USGS ob	s an oil and gas well failu out not limited to, produc egional Monitoring Progr itoring Program. A letter jectives, sample collection	re or breach. ced water ponds ram. The United r between the on and analysis	online map	to spatially vie	water Monitoring P ew study areas and each study area.	

# **Regional Monitoring Program Resources**

Scope of Work for USGS Technical Studies

- Scope of Work 2014
- Scope of Work 2016
- Scope of Work 2017
- Scope of Work 2018
- Scope of Work 2019
- Scope of Work 2020

**Regional Monitoring Program Publications** 

# Reports

**Everett et al., 2020.** "Multiple-well monitoring site adjacent to the North and South Belridge Oil Fields, Kern County, California: U.S. Geological Survey Open-File Report 2020-1116"

Everett et al., 2020. "Multiple-Well Monitoring Site Adjacent to the Lost Hills Oil Field, Kern County, California"

Metzger and Landon, 2018. "Preliminary groundwater salinity mapping near selected oil fields using historical water-sample data, central and southern California. Scientific Investigations Report 2018-5082"

Davis et al., 2018. "Prioritization of oil and gas fields for regional groundwater monitoring based on a preliminary assessment of petroleum resource development and proximity to California's groundwater resources, Scientific Investigations Report 2018-5065"

McMahon et al.,2016. "Preliminary results from exploratory sampling of wells for the California oil, gas, and groundwater program, 2014–15, Open-File Report 2016-1100"

Dillon et al., 2016. "USGS Open-File Report 2016-1181: Data from Exploratory Sampling of Groundwater in Selected Oil and Gas Areas of Coastal Los Angeles County and Kern and Kings Counties in Southern San Joaquin Valley, 2014–15: California Oil, Gas, and Groundwater Project

# Water chemistry data for samples collected at gr...

Types : Map Service,

Provenance

# Attached Files

OxnardGWSampling_FGDC.xml     Original FGDC Metadata	L View	65.3 KB	application/fgdc+xml	
COGG_Data_Dictionary_OXNARDGW.xlsx		61.43 KB	application/vnd.openxmlformats- officedocument.spreadsheetml.sheet	
GW_analysis_methods.xlsx		20.7 KB	application/vnd.openxmlformats- officedocument.spreadsheetml.sheet	
Cxnard_GW_ENV_results.xlsx		41.35 KB	application/vnd.openxmlformats- officedocument.spreadsheetml.sheet	
Cxnard_GW_QC_results.xlsx		49.66 KB	application/vnd.openxmlformats- officedocument.spreadsheetml.sheet	
Cxnard_GW_sampled_sites.xlsx		14.91 KB	application/vnd.openxmlformats- officedocument.spreadsheetml.sheet	
A Oxnard GW csvFiles.zip		40.17 KB	application/zip	

Rosecrans, C.Z., Landon, M.K., McMahon, P.B., Gillespie, J.M., Kulongoski, J.T., Stephens, M.J.,<br/>Hunt, A.G., Shimabukuro, D.H., and Davis, T.A., 2021, Groundwater Quality of Aquifers Overlying the<br/>Oxnard Oil Field, Ventura County, California: Science of The Total Environment, v. 771, p. 144822,<br/>https://doi.org/10.1016/j.scitotenv.2020.144822.https://doi.<br/>org/10.101<br/>6/j.scitotenv822

A I	В	C C	I n I	G	н		l
Attribute_label	Attribute_defini	Attribute_unit	USGS_param	Constituent_group	Reporting_level_typ e	Detection_level	Oxnard_GW_results_table
HE3_HE4	He-3/He-4 ratio	atom ratio	P61040	Dissolved noble gases	nda	nda	NobleGases
HE3_HE4_ER	Helium-3/heliur	atom ratio	P85569	Dissolved noble gases	nda	nda	NobleGases
	Neon	cm <sup>3</sup> STPIg	P61046	Dissolved noble gases	LRL	1E-10	NobleGases
NE_ER	Neon error	cm <sup>3</sup> STPlg	P61047	Dissolved noble gases	nda	nda	NobleGases
HE4	Helium	cm <sup>3</sup> STP/g	P85561	Dissolved noble gases	LRL	1E-10	NobleGases
HE4_ER	Helium-4 error	cm <sup>3</sup> STPlg	P85562	Dissolved noble gases	nda	nda	NobleGases
AR	Argon	cm <sup>3</sup> STPlg	P85563	Dissolved noble gases	LRL	0.000001	NobleGases
AR_ER	Argon error	cm <sup>3</sup> STPlq	P85564	Dissolved noble gases	nda	nda	NobleGases
KR	Krypton	cm <sup>3</sup> STPlq	P85565	Dissolved noble gases	LRL	1E-10	NobleGases
KR_ER	Krypton error	cm <sup>3</sup> STPla	P85566	Dissolved noble gases	nda	nda	NobleGases
XE	Xenon	cm <sup>3</sup> STPla	P85567	Dissolved noble gases	LRL	1E-11	NobleGases
XE_ER	Xenon error	cm <sup>3</sup> STPla	P85568	Dissolved noble gases	nda	nda	NobleGases
NE20/22	Ne-20/Ne-22, wi	ratio	P82753	Dissolved noble gases	nda	nda	NobleGases
NE 21/22	Ne-21/Ne-22, wu	ratio	P82754	Dissolved noble gases	nda	nda	nd
AR38/36	Ar-38/Ar-36, wu	ratio	P82755	Dissolved noble gases	nda	nda	nd
AR40/36	Ar-40/Ar-36, wu	ratio	P82756	Dissolved noble gases	nda	nda	NobleGases
KR78/84	Kr-78/Kr-84, wu	ratio	P82757	Dissolved noble gases	nda	nda	nd
KR80/84	Kr-80/Kr-84, wu	ratio	P82758	Dissolved noble gases	nda	nda	nd
KR82/84	Kr-82/Kr-84, wu	ratio	P82759	Dissolved noble gases	nda	nda	nd
KR83/84	Kr-83/Kr-84, wu	ratio	P82760	Dissolved noble gases	nda	nda	nd
KR86/84	Kr-86/Kr-84, wu	ratio	P82761	Dissolved noble gases	nda	nda	NobleGases
XE 124/132	Xe-124/Xe-132, v	ratio	P82762	Dissolved noble gases	nda	nda	nd
×E 126/132	Xe-126/Xe-132, v	ratio	P82763	Dissolved noble gases	nda	nda	nd
XE 128/132	Xe-128/Xe-132, v	ratio	P82764	Dissolved noble gases	nda	nda	nd
XE 129/132	Xe-129/Xe-132, v	ratio	P82765	Dissolved noble gases	nda	nda	nd
XE 130/132	Xe-130/Xe-132, v	ratio	P82766	Dissolved noble gases	nda	nda	NobleGases
XE 131/132	Xe-131/Xe-132, v	ratio	P82767	Dissolved noble gases	nda	nda	nd
XE 134/132	Xe-134/Xe-132, v	ratio	P82768	Dissolved noble gases	nda	nda	nd
XE 136/132	Xe-136/Xe-132, v	ratio	P82769	Dissolved noble gases	nda	nda	nd
NE20/22 ER	Ne-20/Ne-22 err	ratio		Dissolved noble gases	nda	nda	NobleGases
	Ne-21/Ne-22 err	ratio	P82771	Dissolved noble gases	nda	nda	nd
	Ar-38/Ar-36 erro			Dissolved noble gases	nda	nda	nd
	Ar-40/Ar-36 erro			Dissolved noble gases	nda	nda	NobleGases
	Kr-78/Kr-84 erro			Dissolved noble gases	nda	nda	nd
	Kr-80/Kr-84 erro			Dissolved noble gases	nda	nda	nd
	Kr-82/Kr-84 erro			Dissolved noble gases	nda	nda	nd
	Kr-83/Kr-84 erro			Dissolved noble gases	nda	nda	nd
	Kr-86/Kr-84 erro			Dissolved noble gases	nda	nda	NobleGases

# 6. Information on Vulnerability Assessment Tools Pertaining to Groundwater

# 6.1. CalEnviroScreen 4.0 Maps

https://oehha.ca.gov/calenviroscreen

- Scores for pollution burden, including groundwater threats, drinking water contamination, clean ups, pesticides, and other indicators of pollution burden, and population characteristics by census tract.
- From various sources.
- Downloadable data in various formats (no chemical concentration measurements or groundwater elevations).
- Screening tool to help identify communities burdened by or susceptible to multiple sources of pollution.
- Maps Cal EnviroScreen, Pesticides, Pollution Map, Disadvantaged Communities, etc. <u>https://oehha.ca.gov/library/maps</u>
  - Most results are expressed as scores; applicable for regulatory purposes.
- Chemicals databases toxicity reports: <u>https://oehha.ca.gov/node/11208</u>

Screenshots of website:

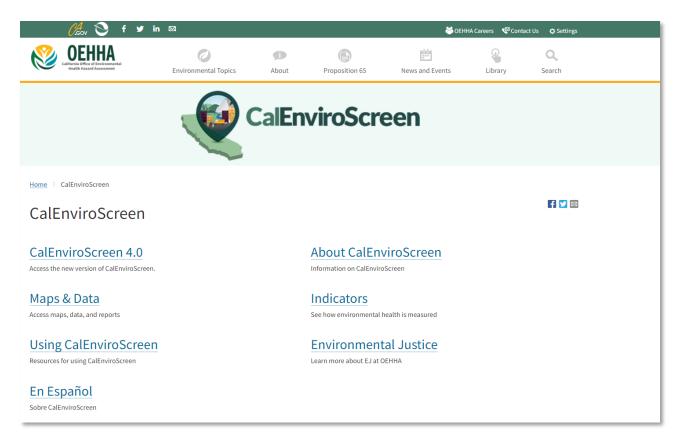


Image: Service URL: ArcGIS feature service; https://services1.arcgis.com/PCHfdHz4GIDNAhBb/arc	Proposition 65	News and Events	Library	Q Search ₽
Download Data       Reports & Publications       San Ysidro Community Air Study         CalEnviroScreen 4.0 Data <ul> <li>Microsoft Excel spreadsheet and PDF with a Data Dictionary; There are two files in this zippe indicators and combined CalEnviroScreen scores for individual census tracts with additional information on zeros and missing values: CalEnviroScreen 4.0 Excel and Data Dictionary P</li> <li>ArcGIS Geodatabase; Includes CalEnviroScreen 4.0 results by census tract. Additional inform zipped file which can be unzipped, then opened using ArcGIS software to view the results in 4.0 GDB file</li> <li>Shapefile; Includes CalEnviroScreen 4.0 results by census tract. Additional information desc unzipped, and then opened in any GIS software: CalEnviroScreen 4.0 SHP file</li> </ul>	Imperial County W	ater Study Earlier Versio	ons	f Y 🛛
Download Data         Reports & Publications         San Ysidro Community Air Study           CalEnviroScreen 4.0 Data         .	Imperial County W	ater Study Earlier Versio	ons	f 💟 🛛
<ul> <li><u>Microsoft Excel spreadsheet and PDF with a Data Dictionary</u>: There are two files in this zippe indicators and combined CalEnviroScreen scores for individual census tracts with additional information on zeros and missing values: <u>CalEnviroScreen 4.0 Excel and Data Dictionary P</u></li> <li><u>ArcGIS Geodatabase</u>: Includes CalEnviroScreen 4.0 results by census tract. Additional inform zipped file which can be unzipped, then opened using ArcGIS software to view the results in <u>4.0 GDB file</u></li> <li><u>Shapefile</u>: Includes CalEnviroScreen 4.0 results by census tract. Additional information desc unzipped, and then opened in any GIS software: <u>CalEnviroScreen 4.0 SHP file</u></li> </ul>	Imperial County W	ater Study Earlier Versio	ons	
<ul> <li>Microsoft Excel spreadsheet and PDF with a Data Dictionary: There are two files in this zippe indicators and combined CalEnviroScreen scores for individual census tracts with additional information on zeros and missing values: CalEnviroScreen 4.0 Excel and Data Dictionary P</li> <li>ArcGIS Geodatabase: Includes CalEnviroScreen 4.0 results by census tract. Additional inform zipped file which can be unzipped, then opened using ArcGIS software to view the results in 4.0 GDB file</li> <li>Shapefile: Includes CalEnviroScreen 4.0 results by census tract. Additional information desc unzipped, and then opened in any GIS software: CalEnviroScreen 4.0 SHP file</li> </ul>				
	demographic informat DF aation describing the da a File Geodatabase Fea ribing the data and its I	tion. 2) a pdf document includ ata and its limitations is part o ture Class format (ArcGIS is a j limitations is part of the shape	ing the data diction f the geodatabase (r paid subscription): C file (metadata). Zipp	ary and metadata). A CalEnviroScreen
Supplemental Materials:				

Methodology for A Statewide Drinking Water Contaminant Indicator: Technical document on the CalEnviroScreen 3.0 Drinking Water Contaminant Indicator.

