DATE	DOCUMENT	SOURCE	SIGNIFICANCE OR QUOTATION	GROUNDWATER (G), SUBSIDENCE (S), OR BOTH (B)	LINK
1/1/1911	USGS WSP 278, "Water Resources of Antelope Valley, California" by Harry R. Johnson	USGS publication	See discussion beginning on p. 36 ("Underground Water"), and particularly beginning on p. 61 ("Inexhaustibility of Artesian Supply"): "The acceptance of this theory [that artesian wells currently flow or used to flow with abundance] has resulted in most of the injurious practices with reference to artesian water in the valley, and too much emphasis can not be given to the statement that the artesian supply is not inexhaustible, and that if the riotous waste of water is continued during future settlement of the valley, wells now flowing will have to be pumped, and the water level in many of the present pumping wells may be expected to fall below the limit of profitable lift."	G	E-file 05, US Government sources\1911-00-00, USGS WSP 278, Water Resources of Antelope Valley.pdf
1/1/1929	USGS WSP 578, "The Mohave Desert Region, California: A Geographic, Geologic, and Hydrologic Reconnaissance," by David G. Thompson	USGS publication	Only a relatively small part of this report (which is over 750 pages long) deals with the Antelope Valley. The Antelope Valley section begins on p. 289. On p. 315 in a discussion of groundwater in the AV, the report states: "A great volume of water is stored in the alluvial deposits that underlie the valley, but if enough water were pumped to irrigate 275,000 acres [the area the report estimates where groundwater is less than 150 feet deep] the water level would soon be lower so far that pumping for irrigation would be unprofitable. In the long run pumping must not exceed intake."	G	E-file 05, US Government sources\1929-01-01, USGS WSP 578, Mohave Desert (AV portion of report).pdf
11/14/1945	Letter from V.D. Fairchild, President of the Antelope Valley Soil Conservation District, to the California Water Resources Board, Nov. 14, 1945	California Department of Water Resources files	This letter is from the microfilmed records of the California Department of Water Resources. The first sentence of the letter states: "This is to request assistance from the Water Resources Board [of the State of California] I helping to arrive at a solution to the diminishing water supply in the underground basin of the Antelope Valley. The Antelope Valley Soil Conservation District [whose president authored this letter] was formed in June, 1944, and has as its objective the solution of hte above-mentioned problem." The letter then lists the steps the organization has taken to slow deal with diminishing groundwater. One of those steps, according to the letter, was to petition the LA County Board of Supervisors to pass an ordnance to "help retard the drilling of new wells for the irrigation of new land. This request was complied with by the passage of Ordnance No. 4457, a copy of which is attached." (No copy of the ordnance was attached to this copy of the letter.)	G	E-file 09, CA DWR agency records\1945-11-14, AV Soil Cons. Board letter to CA WRCB.pdf
2/20/1946	"Antelope Valley Proposal Tabled"	LA Times	State investigation of Antelope Valley's water needs postponed -- opposition was from Inyo Co., which feared more Owens Valley water would go to Antelope Valley	G	E-file 01, Los Angeles Times pre-1985 articles\1946-02-20 Antelope Valley water study tabled.pdf

7/22/1946	"Water in Antelope Valley"	LA Times	(Letter to the editor). LA Board of Supervisors proposes making new wells in AV illegal due to declining groundwater. Proposed law would say groundwater is declining rapidly.	G	E-file 01, Los Angeles Times pre-1985 articles\1946-07-22 LA Ordinance stops new Antelope Valley wells.pdf
11/1/1946	"Report of the State Soil Conservation Commission for the Years 1944 to 1946"	California Soil Conservation Commission report	The section of this report that discusses the Antelope Valley states (p. 38): "Definite advancement has been made by the district toward the alleviation of the depleted underground water supply." Report adds that water-spreading activities are taking place to recharge groundwater.	G	E-file 02, California State publications\1946-11-00, CA Soil Cons. Service report (part).pdf
1/1/1947	State of California, State Water Resources Board, "Report on Application for Assistance, Antelope Valley Water Supply"	California Department of Water Resources report	Note: This is the first of two reports in this pdf file. This first report is undated, but based on content, it was created sometime after 1946. The report is also unpaginated. The report states in the first sentence of the first page: "The request for assistance to prevent further ground water lower in the Antelope Valley was made by the Antelope Valley Soil Conservation District." The second page of the report, under the heading "Water Conservation," states: "Attempts are being made by the Antelope Valley Soil Conservation District to finds means of preventing further lowering of the ground water."	G	E-file 09, CA DWR agency records\1947-00-00, two Antelope Valley reports.pdf
1/1/1947	"The Antelope Valley Soil Conservation Programs"	California Department of Water Resources report	NOTE: This is the second report in this pdf file, and although it is undated, a hand-written notation on the first page carries the date "1946," so this report probably was created in 1946 or shortly thereafter. The report discusses the work of the Soil Conservation Program, and on page 3, it states that in the course of the program, "The District has raised some $15,000 to expand this work, which it is felt should have a beneficial effect on the water table which is becoming lower each year. . . . The District is attempting to work out some practical means of preventing a further lowering of the ground water and at the same time make the most effective use of available water supplies. . . . No practical solution to the problem of how to prevent a further lowering of the water table has yet been developed."	G	E-file 09, CA DWR agency records\1947-00-00, two Antelope Valley reports.pdf
5/1/1947	"Report to the Assembly of the State Legislature on Water Supply of Antelope Valley in Los Angeles and Kern Counties Pursuant to House Resolution Number 101 of February 16, 1946," by California Division of Water Resources	California Department of Water Resources report	The "Introduction" to this report states on p. 1: "A progressive decline in ground water levels, now averaging three feet per year over the portion of Antelope Valley from which extractions are heavy, has prompted a request that the State of California initiate an investigation of the situation." This report is the result of that request. Entire report discusses this topic.	G	E-file 02, California State publications\1947-05-00, Report to CA Legislature, Antelope Valley groundwater.pdf

6/1/1947	Letter from the California State Engineer to Julian Beck, a member of the California State Assembly	California Department of Water Resources files	This is a letter from the California State Engineer to the California Legislature responding to the Legislature's request for information on the water supply of the Antelope Valley. The letter describes the Antelope Valley and the then-existing water sources there, and then states with regard to groundwater: "The only way to eliminate the overdraft in the foreseeable future is to drastically reduce the amount of water consumed. This can be accomplished (1) by substituting a type of culture which consumes less water and (2) by reducing the area of land using water."	G	E-file 09, CA DWR agency records\1947-06-04, State Engineer letter to Assemblyman Beck.pdf
7/15/1947	"AntelopeValley Asks New Crop Research Branch"	LA Times	AV Agricultural and Conservation Committee seeks less water-consuming crops due to declining groundwater, which is declining quicker than recharge. Cites report CA DWR report showing declining AV groundwater levels.	G	E-file 01, Los Angeles Times pre-1985 articles\1947-07-15 Antelope Valley asks for new crops to save water.pdf
10/14/1947	Water Supply Protection Held No. 1	LA Times	Testimony before CA legislature. CA DWR engineer says AV groundwater declining. He cites critical water situation in AV.	G	E-file 01, Los Angeles Times pre-1985 articles\1947-10-14 Diminishing groundwater critical in Antelope Valley.pdf
3/29/1949	Antelope Valley Water Saving Project Backed	LA Times	Conservation of run-off and flood waters needed to help with AV supplies due to limited groundwater. AV soil conservation leaders endorse plan.	G	E-file 01, Los Angeles Times pre-1985 articles\1949-03-29 Catching floodwater to supplement groundwater advocated.pdf
4/2/1949	"Antelope Valley Opens Demonstration Farm"	LA Times	UC Davis opens crop demonstration farm in AV to find new crops for AV; "Antelope Valley agricultural production is said to be restricted by only the limited water supply."	G	E-file 01, Los Angeles Times pre-1985 articles\1949-04-02 UCD opens demo farm in Antelope Valley re crops and saving water.pdf
6/3/1949	"Southland Still Has Room for Both Homes and Farms"	LA Times	Lack of adequate water has hampered development in AV, but crops that use less water have helped.	G	E-file 01, Los Angeles Times pre-1985 articles\1949-06-03 New crops for Antelope Valley to save water.pdf
8/13/1950	"Desert Empire Ranch Rises in Antelope Valley"	LA Times	Dream to expand AV settlement linked to water; new Mitchell Ranch possible by piping in water from mountains.	G	E-file 01, Los Angeles Times pre-1985 articles\1950-08-13 Mitchell Ranch pipes in water.pdf
11/15/1950	"City's Foresight Pays Off in Water and Power"	LA Times	"Present critically water-shy regions of Southern California are the city of Santa Barbara, Antelope Valley and the Ventura-Oxnard areas."	G	E-file 01, Los Angeles Times pre-1985 articles\1950-11-15 Los Angeles's water planning (and Antelope Valley shortages).pdf

11/22/1950	"Rain-Increasing Effort Assured in Antelope Valley"	LA Times	Cloud seeding tried to offset inadequate water supplies and drought in AV.	G	E-file 01, Los Angeles Times pre-1985 articles\1950-11-22 Antelope Valley to try cloud seeding.pdf
1/2/1951	"Farmers' Corporation Tests 'Cloud Seeding'"	LA Times	Cloud seeding tried to offset inadequate water supplies in AV.	G	E-file 01, Los Angeles Times pre-1985 articles\1951-01-02 Antelope Valley farmers try cloud seeding.pdf
7/29/1951	"Castor Bean Crop Tested on Antelope Valley Land"	LA Times	Castor beans tested as low water crop to save water in AV.	G	E-file 01, Los Angeles Times pre-1985 articles\1951-07-29 Castor bean crop tried to save water.pdf
12/13/1952	"Engineer Tells Feather River Project Value"	LA Times	Feather River Project, now a part of the State Water Project, will benefit areas needing water, including AV.	G	E-file 01, Los Angeles Times pre-1985 articles\1952-12-13 State Water Plan may benefit Antelope Valley.pdf
12/14/1952	"Antelope Valley Blooms with Various Projects"	LA Times	Large growth in AV has been brought about by tapping underground water supplies. Article mostly cites rapid growth of area; little information on water.	G	E-file 01, Los Angeles Times pre-1985 articles\1952-12-14 Antelope Valley booms (partly with underground water).pdf
9/7/1953	"Antelope Valley Growth of 10,000 Anticipated"	LA Times	Anticipated future AV growth dependent in part on State Water Project to bring water from Feather River Dam to meet future needs.	G	E-file 01, Los Angeles Times pre-1985 articles\1953-09-07 Antelope Valley anticipated growth and water needs.pdf
11/26/1953	"Antelope Valley Hope for Water from MWD Dashed"	LA Times	LA's MWD says it cant provide water to AV -- too costly and too difficult to deliver to AV.	G	E-file 01, Los Angeles Times pre-1985 articles\1953-11-26 MWD will not provide water to Antelope Valley.pdf
6/6/1954	"Feather River Top Plan for Water"	LA Times	State Water Project supplies will be costly for LA area, even without providing lift capacity to deliver water to high elevation areas like AV.	G	E-file 01, Los Angeles Times pre-1985 articles\1954-06-06 Feather River plan for water.pdf
7/4/1954	"Water District Plans Pushed in Desert Area"	LA Times	Palmdale and Littlerock (southern AV area) take steps to organize water districts because current water systems are inadequate to meet demands.	G	E-file 01, Los Angeles Times pre-1985 articles\1954-07-04 Water districts planned for desert area.pdf

1/1/1955	"Ground Water in California: The Experience of the Antelope Valley"	University of California, College of Agriculture, Agricultural Experiment report	This report is by J. Herbert Snyder, a professor in the College of Agriculture at UC Berkeley, is about 200 pages long and details all aspects of groundwater in the AV. Beginning on p. 86, there is a detailed discussion of overdraft in the valley, together with tables and charts setting forth the declines in groundwater over a 20+ year period. There are many examples of statements supporting the conclusion that groundwater is declining in the AV, such as the statement on p. 150: "Long-run overdraft, continuing at an increasing rate, is the ever-present problem of the Antelope Valley." The report concludes on p. 156: "Barring imported water, long-run overdraft in Antelope Valley and similarly characterized areas will continue until economic forces bring a balance between recharge and draft."	G	E-file 07, Miscellaneous sources\1955-01-00, Groundwater in Antelope Valley by Snyder.pdf
2/1/1955	"Memorandum Report on Water Conditions in Antelope Valley in Kern, Los Angeles and San Bernardino Counties"	California Department of Public Works, Division of Water Resources report	This report states on pages 8-9: "Ground water levels have steadily declined in Antelope Valley for the past quarter century, indiczating that net use of ground water has continuously exceeded replenishment of the ground water supply." Other parts of this report detail drops in groundwater levels in relation to specific wells or areas. The conclusions to the report (beginning on page 26) reiterate the findings that groundwater levels are falling.	G	E-file 02, California State publications\1955-02-01, CA DWR, Water Conditions in Antelope Valley.pdf
9/12/1955	"Water for Fighting Fire"	LA Times	Areas like AV don't utilize all underground water resources (apparently a letter to the editor).	G	E-file 01, Los Angeles Times pre-1985 articles\1955-09-12 Desert areas sources of water.pdf
1/11/1956	"Water Plan Gives Cause for Concern"	LA Times	Southern California must commit to taking certain amounts of State Water Plan supplies in 1976. State Engineer estimates cost for irrigation water in AV will be much higher than farmers can afford.	G	E-file 01, Los Angeles Times pre-1985 articles\1956-01-11 State water plan and future commitments.pdf
5/4/1956	"Monumental Water Plan Reviewed by State Board"	LA Times	State Water Plan details by officials; plan is huge and includes service to Antelope Valley.	G	E-file 01, Los Angeles Times pre-1985 articles\1956-05-04 State water plan.pdf
9/14/1956	"Full Use of All Available Water in 15 Years Seen"	LA Times	LA will be using all available water supplies from Colorado River, Owens Valley, and local supplies within 15 years.	G	E-file 01, Los Angeles Times pre-1985 articles\1956-09-15 LA to be using all water within 15 years.pdf
11/23/1958	"Antelope-East Kern Water District Studied as Step to Meet Shortage"	LA Times	Water district proposed to meet water shortages; Antelope Valley-East Kern Water Assoc. President Virgil Davis says: "We know the water tables are dropping, in some places worse than others."	G	E-file 01, Los Angeles Times pre-1985 articles\1958-11-23 AVEK formation discussed re dropping groundwater.pdf

1/1/1959	USGS OFR 60-40, "Ground-water Inventory for 1958, Edwards Air Force Base, California," by L.C. Dutcher	USGS publication	See p. 7 (section 4), where dropping water levels in various areas around Edwards Air Force Base are noted in different wells. See p. 7 (section 5), which discusses estimated depletion of ground-water. On p. 17, OFR 60-40 states: "Snyder (1955) estimated that through 1951 the cumulative overdraft (amount that discharge has exceeded runoff) of ground water in Antelope Valley, mainly in Lancaster basin, was about 1,800,000 acreo-feet. Thus, the gradually diminishing supply of ground water in storage in Lancaster basin is critical to the Air Force. . . ." Beginning on p. 35 is a discussion of the impact of declining groundwater levels on future supplies for EAFB and the "longevity of the Air Force supply." The report also notes that in several regions around the Base, groundwaters had declined over several previous years. The report states on p. 44: "In general, as in the Main Base and Rosamond Lake areas, the graphs [of groundwater in the Lancaster farmed areas] indicate very large seasonal flucturations of water levels and an overall decline for the period 1951-1958."	G	E-file 05, US Government sources\1959-00-00, USGS OFR 60-40, Groundwater at EAFB.pdf
3/22/1959	"Great Valley Has Progress Habit"	LA Times	Lots of detail about rapid growth of AV.	G	E-file 01, Los Angeles Times pre-1985 articles\1959-03-22 Antelope Valley growth predicted.pdf
6/7/1959	"Brown Restates Water Aim in Lancaster Talk"	LA Times	Governor Brown discusses importance of State Water Project to AV: "The governor told his audience that Antelope Valley's underground water basin, now being depleted, will be supplemented by Feather River water by 1971. . . ."	G	E-file 01, Los Angeles Times pre-1985 articles\1959-06-07 Gov Brown cites declining Antelope Valley groundwater levels.pdf
9/27/1959	"California City Report"	LA Times	Promo piece for California City in AV; "and with The Greater Antelope Valley destined for immense industrial expansion -- California City will emerge as a major residential community."	G	E-file 01, Los Angeles Times pre-1985 articles\1959-09-27 California City report cites growth.pdf
10/3/1959	"U.S. Removes Million Acres from Farming:	LA Times	BLM reclassified lands from agricultural to non-agricultural. According to the BLM, "50,000 acres of private land in Antelope Valley are being irrigated, with the result that demand exceeds supply and the water table is falling."	G	E-file 01, Los Angeles Times pre-1985 articles\1959-10-03 US removes million acres from farming (declining groundwater).pdf
1/1/1961	USGS OFR 61-108, "Ground-water Inventory for 1960, Edwards Air Force Base, California" by W.R. Moyle, Jr.	USGS publication	Summary and Conclusions (p. 5), section 2 (Water-level fluctuations), notes that groundwater in most parts of the base has been declining for several years, and starting in 1959, the rate of decline has increased. Section 3 (Ground water in storage) on p. 6 states: "The total depletion of ground water in storage during 1952-61 has been estimated to be about 84,600 acre-feet (table 5)."	G	E-file 05, US Government sources\1961-00-00, USGS OFR 61-108, Groundwater at EAFB.pdf

1/17/1961	"Next Big Boom in North L.A. County"	LA Times	"Aircraft plants today, completion of a freeway to the Antelope valley by the mid-1960s and delivery of Feather River water by 1975" will lead to boom in AV area.	G	E-file 01, Los Angeles Times pre-1985 articles\1961-01-17 north LA County boom predicted.pdf
1/18/1961	"Rangeland Dying, Orchards Hit by Southland Dry Spell"	LA Times	Drought is causing problems; rainfall needed to replenish underground water supplies.	G	E-file 01, Los Angeles Times pre-1985 articles\1961-01-18 Antelope Valley drought causes more groundwater declines.pdf
3/30/1961	"Master Plan for North County Set"	LA Times	Huge growth for AV predicted by 1980; partly predicated on availability of imported water from State Water Project by 1971.	G	E-file 01, Los Angeles Times pre-1985 articles\1961-03-30 North LA County planned growth.pdf
6/5/1961	"2-Year Schedule Step-up in Feather River Project Seen"	LA Times	Timetable for State Water Plan construction discussed; canal construction in AV planned to begin in 1965.	G	E-file 01, Los Angeles Times pre-1985 articles\1961-06-05 State Water Plan benefits discussed.pdf
6/9/1961	"Desert Promoters' Claims Produce Varied Reactions:	LA Times	Claims of developers discussed in relation to adequate water supplies for proposed projects; state water officials say available water in AV dependent on runoff from surrounding hills and thus is dependent on local rainfall.	G	E-file 01, Los Angeles Times pre-1985 articles\1961-06-09 Desert land promotions and water.pdf
11/20/1961	"North County Envisioned as 'Connecticut of Southland'"	LA Times	Northern LA County predicted to be suburb of LA like Connecticut is suburb of NYC.	G	E-file 01, Los Angeles Times pre-1985 articles\1961-11-20 Antelope Valley predicted to become suburbia.pdf

1/1/1962	USGS OFR 62-152, "Ground-water Inventory for 1961, Edwards Air Force Base, California," by J.E. Weir, Jr.	USGS publication	Summary and Conclusions, section 3 (Ground water in storage) on p. 6 states: "Depletion of ground water in storage [beneath and adjacent to the Base] during the period from March 1961 to March 1962 was about 8,500 acre-feet. The total depletion of ground water in storage during 1952-62 has been estimated to be about 93,100 acre-feet." Under the heading "Water-level Fluctuations" (on p. 15) the report states: "In general, each succeeding year, for the period of record, the highest annual water level [in wells] has been lower than the high for the previous year. Similarly, the lowest annual water level also has been lower each succeeding year." Under the heading "Ground Water in Storage, 1961 and 1962" (on p. 19) the report states: "The total depletion [in groundwater storage] for 1952-62, as shown by table 4, is about 93,100 acre feet. Depletion in all storage units except North Muroc for the same period was 84,100 acre-feet (fig. 5) and is reflected by an average water-level decline of about 24 feet for the 10-year period."	G	E-file 05, US Government sources\1962-00-00, USGS OFR 62-152, Groundwater at EAFB.pdf
1/1/1962	"Report on Feasibility of Serving the Antelope Valley-East Kern Water Agency From The State Water Facilities"	Carley V. Porter Papers, California State Archives	This is a report from the California Department of Water Resources on the feasibility of serving AVEK from State Water Project supplies. The report states at p. 2 that AVEK was formed specifically to contract with the State of California for State Water Project supplies. Under the heading "Restrictions on Future Development," (p. 8), the report states: "It appears that without supplemental water supplies, the future development of the area will be severely hampered, as existing local water supplies are presently being substantially overdrawn." Under the heading (p. 18) "Projections of Irrigated Agricultural Acreage," the report states: "As long as overdrafting of the ground water basins persists and ground water levels continue to decline, irrigated acreage will be forced out of production as pumping depths exceed economic limits." Under the heading "Irrigated Agriculture" (p. 16), the report states: "In general, it appears that the expansion of population and urbanization and the continued lowering of ground water tables have begun to affect irrigated agricultural production." Under "Conclusions" (p. 70), the report states: "The ground water basins within the area encompassed by the boundaries of the Antelope Valley-East Kern Water Agency appear to have been subjected to a substantial amount of overdrafting for a considerable number of years, and are currently being overdrawn at the rate of 94,000 acre-feet per year."	G	E-file 08, CA State Archives -- Assemblyman Carley Porter files\1962-01-00, Report on Serving AVEK from SWP.pdf
2/18/1962	"Inland Empire Boosters Assail Growth Forecast"	LA Times	AV Progressive Assn. disagrees with study that says North County potential not as good as others say; proponents of AV claim State Water Project and Antelope Valley Freeway will make growth boom.	G	E-file 01, Los Angeles Times pre-1985 articles\1962-02-18 Antelope Valley predicted growth.pdf

3/11/1962	"Antelope Valley -- Magic Land at L.A. Back Door"	LA Times	AV virtues extolled; future growth predicted.	G	E-file 01, Los Angeles Times pre-1985 articles\1962-03-11 Antelope Valley virtues listed.pdf
3/11/1962	"Attention Now on North Edwards as Hub of 'Upper Valley' Growth"	LA Times	Virtues of northern part of AV extolled; ample groundwater supplies predicted based on test wells.	G	E-file 01, Los Angeles Times pre-1985 articles\1962-03-11 North Edwards forcasted growth includes plenty of water.pdf
3/12/1962	"Central Water Agency Plan Wins Support"	LA Times	Kern water agency officials approve participating with nearby areas to form AVEK to contract for State Water Project water supplies.	G	E-file 01, Los Angeles Times pre-1985 articles\1962-03-12 Water agency proposed for Mojave and East Kern area.pdf
4/5/1962	"Antelope Valley Boom Predicted at Meeting"	LA Times	Businessmen predict AV growth; deny lack of adequate water: "'Forget that ballyhoo about our lack of water,' said R.B. McNutt, president of the Antelope Valley Progress Assn. 'It just isn't so.'" Also, state official says AV "has the potential for population and economic growth if it receives supplemental supplies of water."	G	E-file 01, Los Angeles Times pre-1985 articles\1962-04-05 Antelope Valley boom predicted if enough water found.pdf
4/22/1962	"Antelope Valley Sets Water Problem Votes"	LA Times	One purpose of forthcoming election is to "determine annexation of the Acton area to the Antelope Valley-East Kern Water Agency, an agency established to contract for supplemental water rom the Feather River Aqueduct."	G	E-file 01, Los Angeles Times pre-1985 articles\1962-04-22 Antelope Valley sets water problem votes.pdf
5/6/1962	"Water Threat Minimized"	LA Times	Water delivery to AV from State Water Project might be delayed until 1980 or later, depending on construction planning for parts of overall project.	G	E-file 01, Los Angeles Times pre-1985 articles\1962-05-06 State water to Antelope Valley may be delayed.pdf

7/30/1962	"Resolution No. 62-56, A Resolution Authorizing the Filing of a Request Designating the Chief Engineer & General Manager to Act on Behalf of the Antelope Valley-East Kern Water Agency as the Applicant for a Request for Preliminary Determination of Eligibility for Financial Assistance under the Davis-Grunsky Act"	California Department of Water Resources papers, California State Archives	This document is from the papers of the California Department of Water Resources at the California State Archives. It is a request for financial aid for AVEK. Part of the introductory matter to the resolution states: "WHEREAS, it is urgent that this water [supplies lost to evaporation and waste water that could be stored] be conserved because of a large over-draft of the ground-water basin...."	G	E-file 11, CA State Archives -- CA DWR records\1962-07-30,AVEK Resolution.pdf
9/20/1962	"Southland: Antelope Valley to Mark Signing of Water Pact"	LA Times	Ceremony scheduled for AVEK signing of contract to obtain State Water Project water supplies. AVEK requested 120,000 AF, but this amount will not be delivered until 1990; initial deliveries to be 20,000 AF in 1972.	G	E-file 01, Los Angeles Times pre-1985 articles\1962-09-20 Antelope Valley-East Kern to contract for state water.pdf
11/14/1962	"Report on Assembly Bill 776 (1961 General Session"	Carley V. Porter Papers, California State Archives	This is a report on a California Assembly bill regarding a modification of the geographic boundaries of AVEK and the possible exclusion of two areas from AVEK. The report includes testimony from Randle Lunt, General Manager and Chief Engineer of AVEK, stating (p. 2) that one of the purposes of AVEK was the "prevention of destruction of the local ground water basin which currently is being overdrafted...." There was debate on the rate that groundwater was dropping in different parts of the AV area. A formal statement by Lunt was included beginning on p. 14. Part of that statement said one of the reasons for the formation of AVEK in 1959 was: "To take steps which would prevent the destruction of the local [ground] water basin which is be depleted by removing more water from the basin than is replenished by rainfall and surface flow."	G	E-file 08, CA State Archives -- Assemblyman Carley Porter files\1962-11-14, Report on Assembly Bill 776.pdf
1/1/1963	USGS OFR 63-136, "Ground-water Inventory for 1962, Edwards Air Force Base, California," by J.E. Weir, Jr.	USGS publication	Under the heading "Summary and Conclusions," in the section entitled "Ground water in storage" (p. 6), the report states: "Depletion of ground water in storage during the period March 1962 to March 1963 was about 15,200 acre-feet. The total depletion of ground water in storage during the period 1952-63 is estimated to be about 108,300 acre-feet." Under the heading "Water-Level Fluctuations" on p. 16, the report states: "In general, each succeeding year, for the period of record, the highest annual water level has been lower than the high for the previous year. Similarly, the lowest annual water level also has been lower each succeeding year."	G	E-file 05, US Government sources\1963-00-00, USGS OFR 63-136, Groundwater at EAFB.pdf

1/10/1963	"Peace Seen Near in Water Dispute"	LA Times	South Antelope Valley Water Basin Association officials meet with AVEK officials to resolve dispute over AVEK annexation of areas.	G	E-file 01, Los Angeles Times pre-1985 articles\1963-01-10 South Antelope Valley group seeks compromise with AVEK.pdf
2/4/1963	"Antelope Valley Sees Water Dispute Peace"	LA Times	Palmdale Irrigation District signs agreement with AVEK to end dispute. Palmdale will end suit to nullify legislative act that formed AVEK.	G	E-file 01, Los Angeles Times pre-1985 articles\1963-02-04 Water groups seek compromise with AVEK.pdf
2/10/1963	"Southland in New Fight over Route for Water"	LA Times	Dispute over route to deliver State Water Project water between central LA County communities and those communities that are on the edges of the county.	G	E-file 01, Los Angeles Times pre-1985 articles\1963-02-10 State Water Plan route debated.pdf
2/11/1963	"Feather River Battle Rages Outside of L.A."	LA Times	Dispute over route of delivery of State Water Project supplies pits those who back AV route against others in central LA County.	G	E-file 01, Los Angeles Times pre-1985 articles\1963-02-11 State Water Plan route debated Pt. II.pdf
3/29/1963	"Water is Mined Like Gold, and It's Just as Precious"	LA Times	Article by Randle Lunt, Chief Engineer for AVEK. Lunt says water used to flow freely from artesian wells; now this no longer happens due to groundwater depletion. He says: "More water is annually pumped from the basin than is replaced by rainfall to support the population and agriculture." He adds: water table is going down about 5 feet per year. State Water Project water will offset declining groundwater.	G	E-file 01, Los Angeles Times pre-1985 articles\1963-03-29 Antelope Valley grows but water declines predicted.pdf
3/29/1963	"Antelope Could Repeat the Saga of San Fernando Valley Growth"	LA Times	Water to be bought from State Water Project will help AV grow.	G	E-file 01, Los Angeles Times pre-1985 articles\1963-03-29 Antelope Valley growth predicted.pdf
7/28/1963	"Area Facing Threat of Water Shortage"	LA Times	LA County Supervisor Burton Chace says groundwater levels in LA County basins to be lower this fall, including AV.	G	E-file 01, Los Angeles Times pre-1985 articles\1963-07-28 LA areas facing declining well levels.pdf

8/25/1963	USGS OFR 63-146, "Geolology, Hydrology, and Water Supply of Edwards Air Force Base, Kern County, California," by L.C. Dutcher and G.F. Worts, Jr.	USGS publication	The "Abstract" at the front of the report (p. 1) states: "Edwards Air Force Base occupies the northern part of Antelope Valley, California. As a result of large-scale and increasing agricultural pumping in the valle, the net draft has exceeded the perennial supply since about 1930 and was about 170,000 acre-feet in 1951 -- at least three times the estimated yield. As a result, there has been a continuing depletion of ground water stored in all the unconsolidated deposits, including the principal aquifers contained in the younger and older alluvium." The abstract then offers specific examples and then continues: "The prolonged overdraft in Antelope Valley has resulted in cessation of flowing wells, which in 1911 could be obtained in an area of about 240 square miles south of the Air Force Base. Approximately 70 percent of the total depletion in storage beneath the southern part of the Base is attributed to drainage of ground water toward this pumping depression."	G	E-file 05, US Government sources\1963-08-25, USGS OFR 63-146, Groundwater at EAFB.PDF
10/20/1963	"State Aid Sought to Reclaim Waste Water"	LA Times	LA County officials seek money to build waste water facility to offset declining groundwater in AV area. LA County Supervisor Warren Dorn says the treatment plant would "establish a new water source in an area where the water table is diminishing constantly. . . ."	G	E-file 01, Los Angeles Times pre-1985 articles\1963-10-20 Waste water plans to offset declining well levels.pdf
4/10/1964	"Dorn Sees Bright Future 'Long-Range Plans in Effect to Assure Orderly Growth'"	LA Times	LA County Supervisor Warren Dorn says master planning will accommodate AV growth. This master planning includes State Water Project water supplies.	G	E-file 01, Los Angeles Times pre-1985 articles\1964-04-10 Antelope Valley growth predicted.pdf
4/10/1964	"Water, Land for a Million People"	LA Times	Article is by Randle Lunt, Chief Engineer for AVEK. "At this point there is no disagreement on the need for imported water. . . . In nearly all other areas [in AVEK but not in the extreme northerly end of AVEK] the need for receiving water from the agency [AVEK] by 1972 is now apparent."	G	E-file 01, Los Angeles Times pre-1985 articles\1964-04-10 Need to import water to Antelope Valley seen.pdf
4/10/1964	"Water is the Key to Future Development"	LA Times	"The economic development of the Antelope Valley is directly dependent upon the availability of adequate supplies of good, pure, potable water." The Palmdale Irrigation District "overlies a groundwater basin which "is being depleted by heavy pumping in many portions of the Antelope Valley."	G	E-file 01, Los Angeles Times pre-1985 articles\1964-04-10 Water key to future Antelope Valley growth.pdf
6/28/1964	"State Races Calendar to Bring Water to Southland"	LA Times	State Water Project rushing to completion on time. Water to be delivered to AV and other places in southern California.	G	E-file 01, Los Angeles Times pre-1985 articles\1964-06-28 State efforts to bring water to LA.pdf

7/27/1964	"Antelope Valley-East Kern Water Agency Advisory Committee, ad hoc, Syllabus"	Carley V. Porter Papers, California State Archives	This is a report in the Carley V. Porter papers (Porter was a member of the California State Legislature and headed the committee on water) detailing materials reviewed the the AVEK Advisory Committee. The Committee was charged with assessing how to finance a conveyance system for water from the State Water Project as well as other administrative and financial issues. The Committee presented its findings in the form of a resolution detailing information from witnesses, documents reviewed, etc. The materials bound in the report with the resolution included many documents and testimonies, including testimony from Lee C. Dutcher, who told the Committee (p. 19): "Out preliminary appraisal of ground-water recharge to the area [AV], and the estimate by others, including the Department of Water Resources and studies at Edwards Air Force Base, indicate that the ground-water overdraft has been severe for many years."	G	E-file 08, CA State Archives -- Assemblyman Carley Porter files\1964-07-27 AVEK Sylabus of Info Reviewed.pdf
3/1/1965	USGS OFR 65-173, "Ground-water Inventory for 1963, Edwards Air Force Base, California," by J.E. Weir, Jr.	USGS publication	Summary and Conclusion section beginning on p. 6 states (at p. 7 in relation to "Ground water in storage"): "Ground water in storage beneath and adjacent to the Base in 1952 was estimated by Dutcher (1958, p. 40) to be 1,500,000 acre-feet. Depletion of ground water in storage during the period March 1963 to March 1964 was about 11,200 acre-feet. Depletion during the period 1952-64 is about 119,500 acre-feet, an average of about 9,960 acre-feet per year."	G	E-file 05, US Government sources\1965-03-01, USGS OFR 65-173, Groundwater at EAFB.pdf
7/13/1965	"Agenda Item 10c, Staff Reports & Recommendations" [agenda for Water Committee meeting of the California Legislature]	Carley V. Porter Papers, California State Archives	This document is from the Carley V. Porter Papers at the California State Archives. Porter was a California legislator and the head of the California Legislature's water committee (assembly). The document is a copy of an agenda for a meeting of the Water Committee of the California State Legislature on July 13, 1965. The agenda item deals with "Policy and Objectives of the Antelope Valley-East kern Water Agency." The agenda item sets forth the history of AVEK, noting: "Beginning in 1952, committees of businessmen and women worked diligently to bring about a consciousness of the serious water condition which was developing because of the rapid rate of decline of the ground water levels [in the Antelope Valley]." The agenda also quotes verbatim a 1959 letter asking the legislature to form AVEK, one purpose of which was to recharge the groundwater levels in the AV. The agenda item also contains a statement by AVEK's Chief Engineer and General Manager Randle B. Lunt: "Comparison of the latest groundwater elevations made available by the USGS with the groundwater elevations shown on a map published in 1962, show that vast quantities of water have been removed far in excess of the normal replenishment rate. The overdraft is enormous. Those of us who were aware of the groundwater conditions and viewed with alarm in 1948 the rate of the lowering groundwater levels, now have greater concern. Water conditions in marginal areas are now more serious than we anticipated."	G	E-file 08, CA State Archives -- Assemblyman Carley Porter files\1965-07-13, Committee Files, Water, LP99.32 folder.pdf

10/21/1965	USGS OFR 65-62, "Ground-water Inventory for 1964, Edwards Air Force Base, California," by F.W. Giessner and S.G. Robson	USGS publication	Under the heading "Summary and Conclusions," in the section entitled "Ground water in storage" (p. 7), the report states: "Depletion of ground water in storage during the period March 1964 to March 1965 is about 15,800 acre-feet. Depletion during the period 1952-65 is about 135,300 acre-feet, an average of about 10,400 acre-feet per year."	G	E-file 05, US Government sources\1965-10-21, USGS OFR 65-62, Groundwater at EAFB.pdf
4/17/1966	"West Growth Still Vigorous"	LA Times	Water from State Water Project will fuel more growth in southern California. "When the water comes, so will the fulfillment of Antelope Valley's destiny."	G	E-file 01, Los Angeles Times pre-1985 articles\1966-04-17 Antelope Valley growth hindered by water limits.pdf
8/31/1966	"State Asked to Build Reservoir"	LA Times	AVEK asks California Department of Water Resources to build "a mammoth reservoir for the agency." Reservoir may be part of State Water Project.	G	E-file 01, Los Angeles Times pre-1985 articles\1966-08-31 AVEK asks state to build large reservoir.pdf
11/3/1966	USGS OFR 66-49, "Ground-water Inventory for 1965, Edwards Air Force Base, California," by F.W. Giessner and J.A. Westphal	USGS publication	Under the heading "Summary and Conclusions," in the section entitled "Ground water in storage" (p. 7), the report states: "Depletion of ground water in storage during the period April 1, 1965, through March 31, 1966, was about 10,200 acre-feet. Depletion during the period 1952-66 is about 145,500 acre-feet, an average of about 10,400 acre-feet per year."	G	E-file 05, US Government sources\1966-11-03, USGS OFR 66-49, Groundwater at EAFB.pdf
12/1/1966	California DWR Bulletin 91-12, "Water Wells in the Eastern Part of the Antelope Valley Area, Los Angeles County, California"	CA Dept. of Water Resources	This report was prepared under a joint agreement with the USGS. The report states on p. 10: "The average annual recharge [in the Antelope Valley] is less than the pumpage; consequently, in excessively pumped areas the water levels have declined."	G	E-file 02, California State publications\1966-12-00, CA DWR Bulletin 91-12 (part) -- Wells in AV.pdf
1/1/1967	USGS OFR 67-223, "Ground-water Inventory for 1966, Edwards Air Force Base, California," by S.J. Tyley	USGS publication	The "Summary and Conclusions" section, under the subheading "Ground-water depletion" (p. 1), states: "The estimated depletion of ground water in storage during the period April 1, 1966, to March 31, 1967, is 13,000 acre-feet." Under the heading "Ground-Water Depletion" on the last page of the report (unpaginated), the report also states: "Giessner and Westphal (1966, p. 16) estimated the ground-water depletion for the period 1953-66 to total 146,000 acre-feet per year. However, since 1960 the average rate of depletion has been nearly 13,000 acre-feet per year. . . . The total ground-water depletion since 1952 is about 160,000 acre-feet, or only slightly more than 10 percent of the 1,500,000 acre-feet in storage in 1952."	G	E-file 05, US Government sources\1967-00-00, USGS OFR 67-223, Ground-water inventory for EAFB.pdf
2/28/1967	"Pact Will Provide More Water for Southland in 1990s"	LA Times	Future enlargement of California Aqueduct to provide more water to southern California will be possible under new agreement between State and contracting agencies (including AVEK) which will permit additions to system and greater costs.	G	E-file 01, Los Angeles Times pre-1985 articles\1967-02-28 Pact with State to allow SWP expansion.pdf

8/28/1967	USGS OFR, "Water Resources of the Antelope Valley-East Kern Water Agency Area, California," by R.M. Bloyd, Jr.	USGS publication	The title page to this report states that it was "Prepared in cooperation with the Antelope Valley-East Kern Water Agency." The "Abstract" to this report (p. 1) states: "The Antelope Valley-East Kern Water Agency (AVEK) area, most of which is within the Mojave Desert region of southern California, lacks adequate water resources to sustain the existing rate of ground-water pumpage for irrigation, industrial, and domestic use. However, by 1972 the California Aqueduct, a part of the California Water Plan, will be completed and will begin to convey water from northern California into the area." On p. 2, the report adds: "A long-existing condition of ground-water overdraft in the AVEK area has become an increasingly serious problem as water levels in wells annually decline." On p. 49, the report states: "As irrigated agriculture expanded in the AVEK area, pumping from ground-water storage increased greatly, and overdraft has become increasingly serious." Details from historical reports are then added.	G	E-file 05, US Government sources\1967-00-00, USGS OFR, Water Resources of AVEK area.pdf
11/14/1967	USGS OFR 67-20, "Water Resources Inventory for 1966, Antelope Valley-East Kern Water Agency Area, California," by R.M. Bloyd, Jr.	USGS publication	USGS has established an annual basin water management program to assist AVEK, which includes collecting groundwater data. This report contains the first year's information. "Figures 5 and 6 show contours to depth of ground water and average annual water-level decline for spring 1967 in the main aquifer." (p. 13). The report then provides details on the rate of groundwater decline in different parts of the AVEK area. (p. 13). The report adds: "If this trend [groundwater declines] continues, and economic pumping limits are reached, parts of the AVEK area will have to be supplied with supplemental water." (p. 14).	G	E-file 05, US Government sources\1967-11-14, USGS OFR 67-20, Water Resources Inventory for AV.pdf
3/1/1968	"Ground Water and Waste Water Quality Study, Antelope Valley, Los Angeles and Kern Counties"	California Department of Water Resources report	This report was to the Lahontan Regional Water Quality Control Board (No. 6). The report states on p. 7: "Due to extensive and increasing agricultural pumping, however, ground water levels in the [Antelope] Valley have declined steadily, particularly in the Lancaster Subarea. For example, wells about one mile northeast of Palmdale have dropped about 180 feet between 1927 and 1966, an average of 4.6 feet a year. Long-term hydrographs are available for a dozen wells in Antelope Valley and they indicate a steady decline in water level elevations over that 39-year period." The report adds that imported state water may have slowed this rate of decline.	G	E-file 02, California State publications\1968-03-00, Groundwater and Waste Water Study, AV (part).pdf

1/1/1969	USGS OFR 69-140, "Ground-water Inventory for 1967, Edwards Air Force Base, California," by J.H. Koehler	USGS publication	(This is the last annual groundwater inventory report by the USGS for Edwards Air Force Base because, according to the report, of a lack of funds for future reports.) "Summary and Conclusions" section on p. 1 states under the heading "2. Water levels," The annual rate of water-level decline has remained relatively constant throughout 1967 and can be expected to continue, providing the annual pumpage remains constant." Under the heading "3. Ground-water depletion," the report states: "The estimated depletion of ground water in storage during the period April 1, 1967, to March 31, 1968, is 13,000 acre-feet. The quantity remaining in storage is about 1,300,000 acre-feet." The section beginning on p. 11 under the heading "Ground-water Depletion" states that groundwater has been depleted since 1952 "to a total [of] 146,000 acre-feet, an average of approximately 10,000 acre-feet per year. However, since 1960 the average rate of depletion has been nearly 13,000 acre-feet per year (Tyley, 1967, p. 7). Because no large changes in pumping patterns have occurred, a reasonable estimate for ground-water depletion during the period April 1, 1967, to March 31, 1968, is 13,000 acre-feet." The report continues: "The total ground-water depletion since 1952 is about 170,000 acre-feet, or about 11 percent of the 1,500,000 acre-feet in storage in 1952. Assuming no change in the present rate of us, the estimated 1,300,000 acre-feet of water remaining in storage is sufficient for about 100 years."	G	E-file 05, US Government sources\1969-04-08, USGS OFR 69-140, Groundwater at EAFB.pdf
1/1/1969	USGS OFR, "Ground Water Inventory for 1967, Edwards Air Force Base, California," by J.H. Koehler	USGS publication	The "Summary and Conclusions" section, under the subheading "Ground-water depletion" (p. 1), states: "The estimated depletion of ground water in storage during the period April 1, 1967, to March 31, 1968, is 13,000 acre-feet." Under the heading "Ground-Water Depletion" (p. 11), the report states: "Giessner and Westphal (1966, p. 16) estimated ground-water depletin for the period 1952-66 to total 146,000 acre-feet, an average of approximately 10,000 acre-feet per year. However, since 1960 the average rate of depletin has been nearly 13,000 acre-feet per year (Tyley, 1967, p. 7). . . . The total ground-water depletion since 1952 is about 170,000 acre-feet, or about 11 percent of the 1,500,000 acre-feet in storage in 1952."	G	E-file 05, US Government sources\1969-01-01, USGS OFR, Groundwater Inventory, 1967, for EAFB.pdf
1/3/1971	"Dan Cooper, Borax Miner, Who 'Digs" Valley Need for Water"	Antelope Valley Press	Article is about Dan Cooper, an "oldtimer" and member of the board of directors of AVEK for nine years. Article states that when Cooper moved to the AV in 1937, there were artesian wells and elsewhere pump lift was only 20 feet. According to the article (as of 1971), "Today, some of these same pumps have to lift water from as deep as 600 feet. Throughout the valley, [ground] water is being used faster than it can be replaced by nature."	G	E-file 06, Antelope Valley Press articles\1971-01-03, AV Press.pdf
1/7/1971	"School, Water Items Discussed by C of C"	Antelope Valley Press	Newspaper article discusses election to consider proposed AVEK bond issue. Article states that AVEK officials "say the aquaduct [sic] water is necessary due to decline in the underground water tables and increased need for water with development in the valley."	G	E-file 06, Antelope Valley Press articles\1971-01-07, AV Press (2).pdf

1/14/1971	"Mrs. Arnold, Vreeland Named to Water Group"	Antelope Valley Press	Newspaper article discusses two people named as co-chairs of the AVEK Citizens for Water and Jobs," a group backing approval of AVEK bonds in forthcoming election. Bonds were to pay for local system to distribute State Water Project water supplies. One co-chair, Della K. Arnold, is quoted in article: "The unpleasant truth is, however, that we cannot continue to grow and improve unless we do something about our inadequate groundwater supplies. The only source of supplemental water is the State Water Project."	G	E-file 06, Antelope Valley Press articles\1971-01-14, AV Press.pdf
1/14/1971	"AVEK Water to Boost Supply for Quartz Hill County District"	Antelope Valley Press	Newspaper article discusses proposed system for AVEK to distribute State Water Project supplies. Article states: "The purpose of AVEK is to 'wholesale' supplemental water to existing and future 'retail' water purveyors, in order to relieve the present serious overdraft on local groundwater supplies." Paper states that Quartz Hill water district manager Herb Spitzer (in AVEK territory) says "Growth demands also pose a problem for Quartz Hill because of the massive overdraft of groundwater now occurring throughout the Antelope Valley-East Kern area." Spitzer also says, according to the newspaper, that because Quartz Hill is on the rim of the groundwater basin, "the water level in wells there has been dropping an average of six feet a year. . . . With increased pumping necessary to meet growing demands, he [Spitzer] expects the groundwater table to drop even faster in the future."	G	E-file 06, Antelope Valley Press articles\1971-01-14, AV Press (2).pdf
1/17/1971	"AVEK . . . A Travesty" [political advertisement]	Antelope Valley Press	This political advertisement in the newspaper discusses reasons to oppose voter approval of the bond issue to pay for AVEK's local system for distributing State Water Project supplies. Focus of ad is whether the decline in groundwater levels in the AV is severe enough to warrant approval of bonds for new water supply. The ad doesn't dispute declining groundwater levels; it simply argues that those declines are not bad enough to warrant a "yes" vote on the bond ballot measure.	G	E-file 06, Antelope Valley Press articles\1971-01-17, AV Press.pdf
1/21/1971	"Palmdale C of C Backs AVEK's Bond Election"	Antelope Valley Press	Newspaper states that AVEK General Manager Wally Spinarski told the Palmdale Chamber of Commerce that that group should endorse the bond election to fund a local system to deliver State Water Project supplies. The paper says Spinarski told the chamber of commerce that "the [Antelope] Valley faces a serious water problem since the ground supply is diminishing on an average throughout the area of between 5 and 6 feet annually. And it follows, he said, that it's becoming more expensive each year to pump the ground water supply."	G	E-file 06, Antelope Valley Press articles\1971-01-21, AV Press.pdf
1/28/1971	"AVEK Citizens for Water and Jobs Pushes for Votes"	Antelope Valley Press	Newspaper article discusses "AVEK Citizens for Water and Jobs," an organization that backs approval of bonds to pay for distribution system for water from State Water Project. Article says in several places that the reason why the group backs the bond issue is because groundwater has been dropping since at least World War II.	G	E-file 06, Antelope Valley Press articles\1971-01-28, AV Press (2).pdf

1/31/1971	"Why Has AVEK Acted Contrary?	Antelope Valley Press	Political ad opposing bond issue to pay for AV distribution system for water from State Water Project. Ad claims there is plenty of groundwater in the AV area, but ad states that AVEK states groundwater levels are dropping: "To prove that our water level HAS NOT BEEN DROPPING at such an alarming rate as AVEK claims, let's look at the record. . . ."	G	E-file 06, Antelope Valley Press articles\1971-01-31, AV Press.pdf
2/9/1971	"AVEK Officials Addressed Mojave C of C Thursday"	Antelope Valley Press	Newspaper article discusses two top AVEK officials, Wally Spinarski and Dan Cooper, who spoke to the Mojave Chamber of Commerce about the forthcoming election about the bond proposal to finance the local distribution system for State Water Project water. Among other things, the article states: "The supplemental water is needed, both AVEK officials said, due declining water tables brought on by increased usage."	G	E-file 06, Antelope Valley Press articles\1971-02-09, AV Press.pdf
2/11/1971	"Gianelli, Lambie, Offer Strong Support for AVEK's Program"	Antelope Valley Press	Newspaper article describes William Gianelli, director of the California Department of Water Resources, and Jack Lambie, Los Angeles County Engineer, who both endorsed AVEK's water program. Lambie stated in a prepared statement read by someone else (Lambie had to stay in LA due to an earthquake): " At the present time, approximately 14,000 acre feet of water are extracted annually from the 26 active wells in this district [AVEK]. This has resulted in a pumping hole being developed in the Lancaster groundwater basin and the average decline in the static water level is over 6 feet per year. Some wells have experienced a lesser drop per year and others have dropped as much as 18 feet per year."	G	E-file 06, Antelope Valley Press articles\1971-02-11, AV Press.pdf
2/14/1971	"AVEK Tomorrow"	Antelope Valley Press	Lengthy series of articles explaining history of AVEK and reasons why proposed distribution system by AVEK is necessary to supply State Water Project supplies to the area. Essentially a lengthy editorial in favor of the forthcoming bond issue that would finance the AVEK local distribution system.	G	E-file 06, Antelope Valley Press articles\1971-02-14, AV Press (2).pdf
2/14/1971	"Antelope Valley Water Election to Be Tuesday"	LA Times	AVEK voters to vote on $49 million bond proposal to bring CA Aqueduct water to AVEK area. AVEK General Manager is quoted as saying: "The state water is needed because of the over-draft on ground supplies."	G	E-file 01, Los Angeles Times pre-1985 articles\1971-02-14 AVEK voters asked to approve Feather River water to replace groundwater.pdf

4/11/1971	"Future Steps Under Study by AVEK"	Antelope Valley Press	Newspaper article reports on AVEK president Al E. Skelton's remarks on what to do for more water in the area after the loss of the bond issue that would have funded connecting the local water system to the State Water Project. Skelton is quoted as explaining the loss of the election: "Those who have the barest knowledge of our water situation find it hard to believe that large numbers of voters would doubt the fact that we're running out of groundwater . . . but it becomes more plausible when we stop to think that few people have any direct awareness of the seriousness of our groundwater overdraft." The newspaper added: "When this same data [the data used by opponents of the bond election] is examined in its entirety, he [Skelton] said, it proves that the water table is dropping at an alarming rate of nearly seven feet a year in the heavily populated Lancaster area."	G	E-file 06, Antelope Valley Press articles\1971-04-11, AV Press.pdf
5/6/1971	"AVEK Seeks to Explain Paradoxical Bond Issue"	Antelope Valley Press	Newspaper article discusses AVEK President Al E. Skelton's efforts to explain to AVEK water users the need to pass a bond issue to pay for building a system to distribute State Water Project supplies. Skelton is quoted as saying: "Homeowners are insulated from the facts of life about our serious groundwater overdraft because they nearly always get water when they turn on their faucets. . . . Hardly anybody realizes how much skill and planning has gone into this kind of service. Few yet are aware how dangerously close we are to being unable to provide enough good quality water to our people without supplemental water from the State Water Project."	G	E-file 06, Antelope Valley Press articles\1971-05-06, AV Press.pdf
10/7/1971	"Welcome to Water, Water But Not a Drop to Drink"	Antelope Valley Press	Newspaper article states that because voters in the AV did to pass the bond issue in February 1971 to pay for a system to distribute water from the State Water Project, they will get none of that water until a future bond approval provides money. Until that time, the article states, "the water table throughout Antelope Valley continues to drop . . . about 5 feet per year. This means that wells go dry, become less productive, and that it costs more to pump water for both agriculture and domestic uses."	G	E-file 06, Antelope Valley Press articles\1971-10-07, AV Press.pdf
1/13/1972	"AVEK Directors OK First Sale of Water"	Antelope Valley Press	Newspaper article discusses AVEK meeting during which AVEK officials "debated" Jack Ashworth, an opponent of spending money to build a distribution system to deliver State Water Project supplies to the AV. When Ashworth cited statistics to assert that there was adequate groundwater supplies in the AV, according to the newspaper, "AVEK directors and General Manager Wallace Spinarski disputed Ashworth's figures."	G	E-file 06, Antelope Valley Press articles\1972-01-13, AV Press.pdf
1/14/1972	"AVEK Listens for the Voice of the People"	Antelope Valley Press	Newspaper editorial supporting AVEK's desire to secure funding to pay for a distribution system for AVEK's share of State Water Project supplies. Editorial states: "The arguments have been pounded into the ground over and over. It can be -- and has been -- factually documented that the water table is dropping at an alarming rate -- about 7 feet per year. The fact that this causes greater pumping costs is not debateable. When wells go out of production because of the water table drop, replacement wells cost tens of thousands of dollars."	G	E-file 06, Antelope Valley Press articles\1972-01-14, AV Press.pdf

7/23/1972	"More Water Needed Now Spinarski Tells AVBOR"	Antelope Valley Press	According to this newspaper article, AVEK General Manager Wally Spinarski told the Antelope Valley Board of Realtors (AVBOR): "More pollution is being poured into good water reservoirs every year, Spinarski said. Pumping levels are now at 300 feet and in some places in this valley, the ground is sinking because of the lack of subsurface water."	B	E-file 06, Antelope Valley Press articles\1972-07-23, AV Press.pdf
7/25/1972	"Board of Trade to Hear AVEK Water Report"	Antelope Valley Press	Newspapaer article states that AVEK General Manager Wally Spinarski "will describe how over-pumping of groundwater is threatening the health and welfare of local people and costing the taxpayers more than it would cost them to solve the problem through use of State Water Project water. Spinarski's presenation will be augmented with visual aids, showing how the average groundwater level in Antelope Valley-East Kern has dropped nearly 300 feet in recent years. Other slides will explain how this groundwater overdraft is increasing the threat of watre pollution."	G	E-file 06, Antelope Valley Press articles\1972-07-25, AV Press (2).pdf
7/27/1972	"Need More Water or Less People -- Spinarski"	Antelope Valley Press	Newspaper article describes AVEK General Manager Wally Spinarski's presentation to the Antelope Valley Board of Trade. According to the article, Spinarski "claims that the groundwater level in most areas of the Antelope Valley is getting so low that it is causing a water pollution problem. 'We're fast approaching the bottom of the barrel,' the AVEK manager declared. 'Our only hope is to bring good water in, such as the water being provided by the state water project.' Spinarski says that overpumping is causing the pollution problem because as levels of good water are depleted, bad water flows in from other surrounding areas. Also, he said, 'used' water from above ground dumps pollutants into the shrinking underground lake."	G	E-file 06, Antelope Valley Press articles\1972-07-27, AV Press.pdf
8/20/1972	"Desert Area Water Bonds Set for Ballot"	LA Times	Bond issue to be voted on by AVEK voters (1971 vote failed). "Water leaders in Antelope Valley say that there is no water shortage at present, but that supplemental water is needed to halt the severe annual overdraft on the area's underground water supply."	G	E-file 01, Los Angeles Times pre-1985 articles\1972-08-20 AVEK bond vote to offset dropping groundwater levels.pdf
9/17/1972	"Kern County Water Status Compared to Local Problem"	Antelope Valley Press	Newspaper article describes approval of bond issue in Bakersfield area and compares that region's water problems to those of the AV area. Article concludes: "Both the Bakersfield and Tehachapi areas have experienced serious drops in groundwater tables for many years. The average decline in neither area, however, has matched the seven-foot-a-year drop now taking place in the Antelope Valley, according to hydrologists."	G	E-file 06, Antelope Valley Press articles\1972-09-17, AV Press.pdf
10/10/1972	"AV Water Table Dropping; Local Alfalfa Quality Good"	Antelope Valley Press	Newspaper article reports that Los Angeles County Agricultural Commissioner Ralph W. Lichty stated that "an abundance of irrigation water is available except in the Antelope Valley where some wells have had to be lowered to reach a dropping water table."	G	E-file 06, Antelope Valley Press articles\1972-10-10, AV Press.pdf

10/12/1972	"Water Table Declining, costs rising, BOT Told"	Antelope Valley Press	Newspaper article reports that Kenneth Putnam, the Division Engineer, Waterworks and Utilities Division for the Los Angeles County Engineer, told the AV Board of Trade, "Water resources in [the] Antelope Valley are rapidly declining and [the] cost of extracting it [sic] from the ground is increasing." The article also stated: "The water in the Lancaster area has been dropping at a rate of about seven feet a year for the last 10 years, Putnam reported, and we're continuing to drill wells, with two new ones to be drilled in the next year. . . . Putnam pointed out that while the level continues to drop, water usage at the same time is climbing, due to increased population."	G	E-file 06, Antelope Valley Press articles\1972-10-12, AV Press.pdf
10/15/1972	"'What Happens When the Well Goes Dry?' Mayor Riley Asks"	Antelope Valley Press	Newspaper article reports on various local officials in AV meeting with WISE (Water Importation for a Stable Environment) -- an AV group promoting water solutions for the AV that did not include spending money for a system to deliver water from the State Water Project. At the meeting, many AV officials declare that their local AV groundwater supplies are declining.	G	E-file 06, Antelope Valley Press articles\1972-10-15, AV Press.pdf
10/22/1972	"W. Spinarski Spells Out Need for Water"	Antelope Valley Press	Newspaper article reports that AVEK General Manager Wally Spinarski gave a presentation to the Palmdale Board of Realtors about the declining groundwater levels in the AV.	G	E-file 06, Antelope Valley Press articles\1972-10-22, AV Press.pdf
1/21/1973	"AVEK to Hold Water Hearing"	Antelope Valley Press	Newspaper article states that AVEK will hold hearings on how to solve area's water problems. One purpose of the hearings, according to the newspaper, is to "give local taxpayers and water users 'hard' facts on which to base their own conclusions about the best way to combat the area's problem of declining groundwater supplies."	G	E-file 06, Antelope Valley Press articles\1973-01-21, AV Press.pdf
2/15/1973	"Water Use Will Increase in AV Area . . C.D. Smith"	Antelope Valley Press	Newspaper article reports that C.D. Smith, a member of the Board of Directors of AVEK, says that per-capita use of water was on the rise. The article quotes Smith: "When we apply this trend [increasing uses of water] locally," said Smith, "it indicates that the gradual population increase foreseen here will vastly accelerate the present groundwater overdraft problem, unless we begin using supplemental water from the State Water Project as soon as possible."	G	E-file 06, Antelope Valley Press articles\1973-02-15, AV Press.pdf
2/15/1973	"County Water Chief Urges AVEK to Lower Bond Vote Requirement"	Antelope Valley Press	Newspaper article reports that Los Angeles County Waterworks and Utilities Division Engineer Kenneth Putnam appeared at an AVEK hearing on obtaining new water supplies and told the hearing that AV groundwater levels were dropping. The paper quoted Putnam as stating: "Continued use in excess of natural recharge of the natural resource of the ground water basins of the area is a depletion of the resource. There does not appear to be an reversal of that situation coming in the immediate future." According to the paper, Putnam presented tables showing that AV groundwater levels were continuing to decline.	G	E-file 06, Antelope Valley Press articles\1973-02-15, AV Press (2).pdf
2/20/1973	"AVEK Moving to Solve Area Water Problems . . . Putnam"	Antelope Valley Press	Newspaper states that LA County water officials dispute arguments that groundwater in Lancaster area was rising.	G	E-file 06, Antelope Valley Press articles\1973-02-20, AV Press.pdf

2/25/1973	"Vocal Critic of AVEK Invited to Attend Hearing"	Antelope Valley Press	Newspaper article states that LA County water engineer Kenneth Putnam disputes claims that groundwater levels in Lancaster area are not dropping. Putnam presents evidence that long-term trends show declines.	G	E-file 06, Antelope Valley Press articles\1973-02-25, AV Press.pdf
9/11/1973	"AVEK Releases Information on Costs to AV Taxpayers"	Antelope Valley Press	Newspaper article states that if AV water users never build a distribution system to make use of State Water Project water, they will still be paying for that water because of contracts AVEK signed with the state. The article also says that AVEK President Al E. Skelton said that if local water users would approve funding for a AV water distribution system, the State Water Project contracted payments could be recovered from additional water sales "while at the same time, the steady drop in the groundwater table could be arrested." Skelton also said there was a continuing overdraft of groundwater, according to the article.	G	E-file 06, Antelope Valley Press articles\1973-09-11, AV Press.pdf
10/11/1973	"AVEK Defers Engineering, Financial Service Pacts"	Antelope Valley Press	Newspaper reports that AVEK directors deferred action on a proposal for engineering and financial consulting services. The directors also discussed "at length a recently published report relating to land subsidence in the Antelope Valley. The report shows that at one location -- 70th St. E. and Av. 1 -- the land has subsided 1.5 feet in a five-year period (from the 1966-67 fiscal year to the 1971-72 fiscal year). Land subsidence is caused by the removal of underground water, thus reducing the ground water storage capacity of the ground."	S	E-file 06, Antelope Valley Press articles\1973-10-11, AV Press (2).pdf
10/25/1973	"Engineering, Financial Services Oked by AVEK"	Antelope Valley Press	Newspaper article says that AVEK's directors approved consulting services to address how to deal with water and financial issues. Article states: "During Tuesday night's meeting, [AVEK] General Manager Wally Spinarski presented the latest tables and charts documenting the continuing general decline of he water table in Los Angeles County Waterworks District 4, which serves the Lancaster and Desert View Highlands areas."	G	E-file 06, Antelope Valley Press articles\1973-10-25, AV Press.pdf
11/1/1973	"AVEK Releases New Report on Utilization of Water"	Antelope Valley Press	Newspaper article states that C.D. Smith, a Director of AVEK, had stated that "we can see that stopping the present decline in the water table, or raising it [the water table], will save hundreds of thousands of dollars in energy costs for a long time in the future."	G	E-file 06, Antelope Valley Press articles\1973-11-01, AV Press.pdf
12/2/1973	"Engineer Cites Groundwater Depletion"	Antelope Valley Press	Newspaper article reports that David Hardan, an engineer with Boyle Engineering (a consultant to AVEK), stated that delay in using water from the State Water Project in the AV was speeding up groundwater depletions. The newspaper stated: "David Hardan of Boyle Engineering says local community water suppliers are having to drill new wells that are worsening the already dangerous groundwater 'overdraft.'"	G	E-file 06, Antelope Valley Press articles\1973-12-02, AV Press.pdf
12/27/1973	"Quartz Hill County Water District Wants More Water"	Antelope Valley Press	Newspaper article states that Quartz Hill Water District (in the AV) wanted to ask for water from the State Water Project. The article states that the District's Manager, Herb Spitzer, had said: "Water levels in our wells dropped about eight feet during the past year." The article also said Spitzer had said that good well sites were getting scarce within the district.	G	E-file 06, Antelope Valley Press articles\1973-12-27, AV Press.pdf

1/20/1974	"Water to be Discussed at AVBOT Seminar"	Antelope Valley Press	Newspaper article states that the AV Board of Trade was planning a seminar to be held in Palmdale to discuss agricultural issues later that month. The article adds: "Information received in the Board of Trade office from questionnaires mailed to 150 farmers in the valley indicate an average water level drop of about 10 feet per year in wells used by farmers for irrigation. It is becoming economically impossible for farmers to pump from the deep wells and new wells are not always productive."	G	E-file 06, Antelope Valley Press articles\1974-01-20, AV Press.pdf
1/24/1974	"Lee Discusses Water Proposal at Lancaster C of C Meeting"	Antelope Valley Press	Newspaper article discusses a meeting of the Lancaster Chamber of Commerce at which Antelope Valley Board of Trade Manager Chris Lee explained an idea for AV farmers to band together and purchase State Water Project water directly from AVEK. The new plan was necessary because AVEK voters had rejected bond issues to build a distribution system for water AVEK had contracted for from the State Water Project. Lee also explained that the plan was necessary because of declining groundwater levels and because groundwater replenishment was not as fast as groundwater useage.	G	E-file 06, Antelope Valley Press articles\1974-01-24, AV Press (3).pdf
1/31/1974	"Survey Reveals AV Groundwater Level Dropping"	Antelope Valley Press	Newspaper article states: "Severe declines in groundwater levels in [the] Antelope Valley are revealed by the latest data from [the] U.S. Geological Survey. A new USGS map, 'Water Level Contours for Spring 1973' indicates the general groundwater table has declined at an average yearly rate of from 3 to more than 10 feet per year." Article adds further details about the decline in groundwater levels.	G	E-file 06, Antelope Valley Press articles\1974-01-31, AV Press.pdf
1/31/1974	"Water and Oil Stories are Similar"	Antelope Valley Press	Newspaper article compares oil shortages with declining groundwater levels in AV.	G	E-file 06, Antelope Valley Press articles\1974-01-31, AV Press (3).pdf
1/31/1974	"Aqueduct Water for Farming Decision Will Take Some Time"	Antelope Valley Press	Newspaper article describes seminar held by the AV Board of Trade in Palmdale. Speaking at the meeting, Kenneth Putnam of the Los Angeles County Water Works Division, stated that groundwater levels were dropping in the AV area about 6-7 feet per year. Also, the Quartz Hill Water District's Michael Risolo said his district's groundwater levels were dropping 7-8 feet per year.	G	E-file 06, Antelope Valley Press articles\1974-01-31, AV Press (4).pdf
2/3/1974	"Water Experts Urge Aqueduct Water Use"	Antelope Valley Press	Newspaper article reports on seminar on water issues held in late January 1974 in Palmdale. At the meeting, a USGS official, William Hardt, stated that "continuing water table declines in nearly every groundwater basin from Pearblossom to Cantil. The groundwater levels have declined as much as 175 feet during the past 15 years, he [Hardt] revealed." LA County water engineer also warned that "the present groundwater overdraft is 'abusing a natural resource' and boosting costs fo householders."	G	E-file 06, Antelope Valley Press articles\1974-02-03, AV Press.pdf
2/7/1974	"Wally Spinarski Will Address Southland Group"	Antelope Valley Press	Newspaper article reports that AVEK General Manager Wally Spinarski will address the monthly meeting of the California Water Resources Association, during which he will "describe the rapid decline in local groundwater tables."	G	E-file 06, Antelope Valley Press articles\1974-02-07, AV Press.pdf

2/14/1974	"AVEK Water Users Consuming Twice as Much Ground Water"	Antelope Valley Press	Newspaper article states: "Water users in Antelope Valley-East Kern are consuming twice as much groundwater each year as is being replaced, according to a U.S. Government source [the USGS]." Considerable detail in article describing the USGS's findings on this matter	G	E-file 06, Antelope Valley Press articles\1974-02-14, AV Press (3).pdf
3/5/1974	"Water Plan May Spell Out Dawn of a New Day"	Antelope Valley Press	Newspaper editorial describes planning for DAWN (Domestic-Agriculture Water Network), a plan to utilize State Water Project water supplies due to declining groundwater levels. Newspaper states: "A number of Antelope Valley farmers have indicated that they are interested in obtaining supplemental water. The water table is dropping at an alarming rate throughout the Valley and the various water purveyors who have contracted with AVEK for supplemental water are anxious to 'get on the line.'" Newspaper urges quick approval for DAWN plan.	G	E-file 06, Antelope Valley Press articles\1974-03-05, AV Press.pdf
4/19/1974	"County Backs AVEK Water Bond Election"	Antelope Valley Press	Newspaper article states that DAWN plan will be on the June 4, 1974, ballot to pay for the DAWN distribution system. Article states that "County waterworks districts supplies are generally obtained from ground water of the Antelope Valley basin and are seriously depleted due to an extended history of overdraft."	G	E-file 06, Antelope Valley Press articles\1974-04-19, AV Press.pdf
4/28/1974	"Farm Use of Aqueduct Water Will Help Save Supply, Williams Says"	Antelope Valley Press	Newspaper article states that AVEK Board Member Ruel G. Williams said that using State Water Project water will be a fast and economical way to improve groundwater conditions in the AV. Newspaper states: "Williams said farmers now pump all their water from the declining groundwater supply. When they can use State Project water, he said, it will allow them to reduce their pumping from wells and relieve the 'overdraft' on the ground-basin that is now lowering the water table an average of 9 feet a year, according to data from water-well operators in the Lancaster basin." Williams also said seepage from State Water Project water use will help replenish groundwater supplies.	G	E-file 06, Antelope Valley Press articles\1974-04-28, AV Press.pdf
5/16/1974	"Overdraft of 71,000 Acre Feet Each Year Reported by Teerink"	Antelope Valley Press	Newspaper article states that John R. Teerink, the Director of the California Department of Water Resources, stated that AV groundwater overdraft is occurring at a rate of 71,000 acre-feet per year and is expected to double within the next twenty years without imported water. Teerink made these statements at a meeting of the Antelope Valley Board of Trade, and he added that the overdraft on AV groundwater would exceed AVEK's total share of State Water Project water within two years.	G	E-file 06, Antelope Valley Press articles\1974-05-16, AV Press.pdf
6/6/1974	"15 of 33 Bond Issues Win Voter Approval"	LA Times	AVEK bond proposal fails in vote.	G	E-file 01, Los Angeles Times pre-1985 articles\1974-06-06 AVEK bond issue fails.pdf
6/7/1974	"Bond Issue Okd, Final Tally Shows"	LA Times	$71 million AVEK bond issue did not fail; passed by 47 votes final count shows. Proceeds from bonds will be used to build distribution system for California Aqueduct water.	G	E-file 01, Los Angeles Times pre-1985 articles\1974-06-07 AVEK bond issue actually passed; 06-06-1974 news report wrong.pdf

9/26/1974	"$18 Per Acre Foot Set for Agricultural Water"	Antelope Valley Press	Newspaper article states that AVEK was considering prices for surplus agricultural water. The article states that voters the previous June had approved legislation to permit AVEK to "sell water for the purpose of relieving the overdraft on the ground basin."	G	E-file 06, Antelope Valley Press articles\1974-09-26, AV Press.pdf
2/17/1977	"Palmdale Bulge--It's Sinking in One Place"	LA Times	Mysterious uplifting and sinking of ground around Palmdale discussed.	S	E-file 01, Los Angeles Times pre-1985 articles\1977-02-17 Causes of Palmdale subsidence unknown.pdf
2/20/1977	"DWP: Rationing Unlikely but Conservation Essential"	LA Times	Drought causes concern for southern California water officials. ". . . water districts in the Santa Clarita and Antelope valleys, which have over-pumped, today are facing the chance that wells will go dry."	G	E-file 01, Los Angeles Times pre-1985 articles\1977-02-20 Drought may cause Antelope Valley wells to go dry.pdf
1/1/1978	USGS WSP 2046, "Calibration of a Mathematical Model of the Antelope Valley Ground Water Basin, California," by Timothy J. Durbin	USGS publication	On p. 1 of this report, the section entitled "Abstract" states: "During the last 50 years, pumpage of ground water in excess of natural recharge has resulted in the steady decline of the ground-water level in the basin. The change in water level has been as much as 200 feet (61 meters). By 1972 the cumulative overdraft was about 9 million acre-feet (11,000 cubic hectometers)." Under the heading "Introduction" on p. 1, the report states: "Ground water has been the principal source of water for economic development in the [Antelope] valley. During the last 50 years, however, pumpage of ground water -- chiefly for agricultural uses -- in excess of natural recharge has resulted in the steady decline of the ground-water level in the basin. During this prior, water levels in wells near Lancaster have declined as much as 200 ft (61 m). By 1972 the cumulative overdraft was about 9 million acre-ft (11,000 hm3)." On p. 2, the report adds: "Because of the depletion of local ground-water supplies in Antelope Valley, the Antelope Valley-East kern Water Agency, the Little Rock Irrigation District, and the Palmdale Water District have contracted for a combined maximum annual entitlement of 158,000 acre-ft (195 hm3) of imported water from he California Water Project."	G	E-file 05, US Government sources\1978-00-00, USGS WSP 2046, Groundwater Antelope Valley.pdf
4/10/1978	"Palmdale Backed as Airport Site"	LA Times	Report on proposed airport near Palmdale says: "Unless a distribution system for imported water is initiated by the early 1980s, groundwater resources . . . will be unable to support future activity."	G	E-file 01, Los Angeles Times pre-1985 articles\1978-04-10 Palmdale airport study cites groundwater concerns.pdf

10/1/1980	"Planned Utilization of Water Resources in the Antelope Valley," by the California Department of Water Resources, Southern District	California Department of Water Resources report	The "Foreword" to this report states on p. iii: "Heavy reliance on the local ground water supply is characteristic of many areas in Southern California. The Antelope Valley, which lies astrice the Los Angeles, Kern, and San Bernardino County lines, is no exception. Currently, about 90 percent of the total water supply comes from the Valley's ground water basins. The remainder comes from the limited local surface water and reclaimed water and increasing amounts of imported water from the State Water Project. This heavy burden on the ground water basins has resulted in marked declines in ground water levels in the Valley." Under the heading "Introduction and Summary" (p. 1), the report states: "Since 1900, when the initial steps were taken toward the full development of irrigated agriculture, ground water levels have consistently declined, especially in the heavy agricultural pumping area centered around Lancaster where as much as 60 metres (200 feet) of decline have been found."	G	E-file 02, California State publications\1980-10-00, CA DWR, Water Resources of AV.pdf
3/14/1984	USGS report, "Ground Failure Caused by Groundwater Withdrawal from Unconsolidated Sediments -- United States," by Thomas L. Holzer	USGS unpublished report	Page 1 of this report states: "Aseismic ground failure is associated with regional land subsidence caused by ground-water withdrawal in at least 14 areas in 6 states in the United States." The places where such ground failure has occurred is shown on a map included with the report, and one of those places is the Antelope Valley in California. The report then discusses ground failures in a general way with very little mention of specifics dealing with just the Antelope Valley.	B	E-file 05, US Government sources\1984-03-14, Holzer, Ground failure due to groundwater pumping.pdf
2/22/1989	"Antelope Valley Spreading Grounds Study, Phase 1 - Preliminary Report," by Los Angeles County Department of Public Works, Land Development Division	LA County document	This report discusses possible area for water spreading in the Antelope Valley, and the report explains on p. 6: "Before extensive pumping began in the valley (prior to 1955) artesian conditions were prevalent in the Lancaster Subunit (Reference 30, Plates Ia and Ib). However, groundwater withdrawals have lowered the water table up to several hundred feet, and artesian conditions have ceased to exist. In addition, heaving pumping has resulted in groundwater depressions near Lancaster (see Plate III)." On p. 7, under the heading "VI. Need, Requirements, and Criteria for Potential Recharge and Spreading Areas," the report states: "General Need: The existing and the projected development rate in the Antelope Valley area will continue to increase the demand on producing aquifers. Recharge is a logical solution to alleviate the present overdraft condition of the Antelope Valley groundwater basin."	B	E-file 07, Miscellaneous sources\1989-02-22, AV Spreading Grounds Study.pdf
3/28/1990	"Air Base to Buy a Billion Gallons of Water Annually"	LA Times	"The new water supply will allow Edwards to curtail ground-water pumping, which is believed to be contributing to the sinking and cracking of the lake bed."	B	E-file 04, Los Angeles Times post 1984 articles\1990-03-28, LA Times -- Edwards AFB to Buy Water from AVEK to help end subsidence.pdf

1/20/1991	"Antelope Valley Water in Healthy Supply for Now"	LA Times	Conservation measures have helped ease water limitations in AV. "As a result, underground wells that were in danger of being depleted by the demands of farmers have been recharged, and the once dangerously low water table has begun rising. Although rationing may be needed in the future, the present supply of ground water satisfies the demand, a water official said. . . . The outlook for water in this desert basin was not always so rosy. From the 1920s until the mid-1970s, agriculture, consisting mainly of alfalfa farmers, was the biggest user of water in the area. The water came from ground wells and, during that period, the water table dropped 100 to 150 feet, Hartley [an LA County water official] said. 'Obviously, if you continue with that kind of operation, you're not going to have any more water left in the basin,' he said. Ground-water pumping also caused areas near Lancaster and the southern portion of the Rogers Dry Lake Bed at Edwards Air Force Base to subside by as much as three to five feet."	G	E-file 04, Los Angeles Times post 1984 articles\1991-01-20, LA Times -- AVEK deliveries cause decline in subsidence.pdf
1/22/1991	"Official Now Says High Desert Faces Rationing"	LA Times	Drought may force AVEK-area rationing, despite earlier predictions of enough water supplies. Newspaper states: "The Antelope Valley gets about half of its water from the California Aqueduct and most of the rest from ground water. Pumping of ground water could be increased, but local officials have been reluctant to increase it by much because it appears to be causing the ground to sink, which could damage buildings."	G	E-file 04, Los Angeles Times post 1984 articles\1991-01-22, LA Times -- AVEK sees rationing due to drought.pdf
3/13/1991	"Antelope Valley Groundwater Recharge Study, Phase 2, Air Force Site Along Amargosa Creek," by Los Angeles Department of Public Works	LA County document	Report examines possiblities of groundwater recharge in Antelope Valley. On p. 2, the report states: "At the turn of the century, the water table of the upper confined aquifer was relatively shallow (60-100 feet deep), and the flow from wells onto the surface occurred int he low-lying areas due to artesian conditions. Due to agricultural, industrial and domestic use, the water table has since dropped dramatically int he Lancaster Subunit. Currently, the water table in the City of Lancaster is at a depth of about 350 feet."	G	E-file 07, Miscellaneous sources\1991-03-13, AV Groundwater Recharge report.pdf
3/17/1991	"Pumping Threatens to Sink High Desert's Future"	LA Times	Newspaper states: "Scientists believe that the cracks, called fissures, are the result of too much pumping of ground water for residents and crops in recent decades. With the removal of the water, some areas of the valley have fallen up to five feet in 20 years, in a process called subsidence."	B	E-file 04, Los Angeles Times post 1984 articles\1991-03-17, LA Times -- Pumping Threatens to Sink High Desert.pdf
6/10/1991	"Underground Water Level Falling at a Dramatic Rate"	LA Times	Over-pumping of groundwater is a problem throughout California. Newspaper offers examples, and states: "Closer to home, 70 cracks have materialized recently on a swath of desert scheduled for development near Lancaster, and at nearby Edwards Air Force Base, a 12-foot-deep fissure stretching for half a mile has forced the closure of a runway. Scientists blame the cracks on extensive ground-water pumping, which has caused some sections of the rapidly growing Antelope Valley to sink more than five feet in 20 years."	B	E-file 04, Los Angeles Times post 1984 articles\1991-06-10, LA Times, Underground water levels falling rapidly.pdf

1/1/1992	USGS WRI 92-4035, "Land Subsidence and Problems Affecting Land Use at Edwards Air Force Base and Vicinity, California, 1990," by James C. Blodgett and J.S. Williams	USGS publication	The "Abstract" on p. 1 of this report states: "Land subsidence in Antelope Valley, which includes Edwards Air Force Base, was first reported in the 1950's; by 1967, about 200 square miles of Antelope Valley were affected by as much as 2 feet of subsidence." The second paragraph of the "Abstract" adds: "A gradual decline of ground-water levels, more than 90 feet at some wells since 1947, is associated with the land subsidence. The amount of land subsidence at the base varies depending on the relative quantities of water pumped from various well fields and the differences in geologic substrata." The third paragraph of the "Abstract" states: "Land subsidence is causing surface deformation at Edwards Air Force Base and surrounding areas." The "Introduction" to the report on p. 1 states: "Land subsidence is a long-term phenomenon in the Antelope Valley of California. . . . In the Antelope Valley, subsidence is attributed to compaction of fine-grained materials in the aquifer system that are dewatered because of groundwater pumping." On p. 4, the report states: "During 1922-90, ground-water pumping in excess of natural recharge has resulted in a steady decline of the ground-water level in the basin. . . . Land subsidence is associated with declining ground-water levels caused by pumping and the presence of beds of fine-grained (lacustrine) material that are subject to compaction." This report contains maps and photos showing areas of subsidence. . . . Land subsidence in Antelope Valley was first reported by Lewis and Miller (1968) after several differential leveling survey lines through Rosamond, Palmdale, and Redman (fig. 1) were compared. Between 1955 and 1967, about 200 mi2 in Antelope Valley were affected by land subsidence, with subsidence of 1.8 feet in Lancaster (fig. 1) and more than 2 ft in two areas 6 to 10 mi east of Lancaster." The "Summary" section of the report (p. 24) adds: "A gradual decline of ground-water levels, more than 90 feet at some wells since 1947, is associated with the land subsidence."	B	E-file 05, US Government sources\1992-00-00, USGS WRI 92-4035, Land Subsidence at EAFB.pdf

1/1/1993	USGS WRI 93-4114, "Hydrogeology and Land Subsidence, Edwards Air Force Base, Antelope Valley, California, January 1989-December 1991," by C.J. Londquist, D.L. Rewis, D.L. Galloway, and W.F. McCaffrey	USGS publication	The first page of the "Abstract" section of this report (paginated at "Abstract 1") states: "Land subsidence has long been recognized as a problem in some parts of the Antelope Valley area of California. . . . The land subsidence has been attributed to the pumping of ground water around the margins of the [Rogers] lakebed [at Edwards Air Force Base]." In the "Introduction" section on p. 2, the report states: "Land subsidence has long been recognized as a problem in some parts of the Antelope Valley area of California. . . . During the early stages of the study [to determine the reason for subsidence at Edwards Air Force Base], the distribution of land subsidence near Rogers Lake [at the base] was correlated with the distribution of ground-water level declines resulting primarily from ground-water withdrawals from base production wells. . . . The investigations reported on here focus on the area of EAFB; however, because the hydrologic processes under study are governed by physical, hydrologic, and geologic boundaries that occur at the scale of Antelope Valley, the investigations [in this report] necessarily include areas of Antelope Valley outside of the boundaries of EAFB (fig. 1)."	B	E-file 05, US Government sources\1993-00-00, USGS WRI 93-4114, Hydrogeology and Land Subsidence.pdf
1/1/1994	USGS WRI 94-4184, "Determination of Land Subsidence Related to Ground-Water-Level Declines Using Global Positioning Sytem and Leveling Surveys in Antelope Valley, Los Angeles and Kern Counties, California, 1992," by Marti E. Ikehara and Steven P. Phillips	USGS publication	This document states on the title page that it was "Prepared in cooperation with the Antelope Valley Water Group." The "Abstract" section (p. 1) states: "Land subsidence has occurred where compressible sediments are present in Antelope Valley, California, as a result of ground-water-level declines, particularly in the Lancaster ground-water subbasin." The "Abstract" then explains that over a subsidence had taken place over a 60-year period, and the "Abstract" adds: "A contour map of land subsidence shows a 210-square-mile (542-square-kilometer) area of Antelope Valley, generally bounded by Avenue K, Avenue A, 90th Street West, and 120th Street East, has subsided between 2 and 7 feet (0-61 and 2.13 meters.)" The "Abstract" continues: "Land subsidence in Antelope Valley is caused by aquifer-system compaction that is related to ground-water-level declines and the presence of fine-grained, compressible sediments." The first sentence of the "Introduction" (p. 2) states: "Land subsidence, related to ground-water-level declines resulting primarily from ground-water withdrawals, historically has been a problem in parts of Antelope Valley, California (fig. 1) (Poland, 1984)." The report then adds all the detail based on benchmark measurements around the Antelope Valley.	B	E-file 05, US Government sources\1994-00-00, USGS WRI 94-4184, Subsidence and groundwater in AV.pdf

1/1/1995	USGS WRI 94-532, "U.S.Geological Survey Subsidence Interest Group Conference, Edwards Air Force Base, Antelope Valley, California, November 18-19, 1992: Abstracts and Summary," ed. by Keith R. Prince, Devin L. Galloway, and Stanley A. Leake.	USGS publication	This is a collection of papers delivered at the conference. One that addresses the Antelope Valley is: "Hydrogeology and Land Subsidence, Antelope Valley, California," by Clark J. Londquist. The article begins on p. 38. Clark states that groundwater pumping in the Antelope Valley began in the early 1900s and peaked in the 1950s. He adds: "After this peak period, ground-water use in the valley began to decline because of declining water levels, increasing energy costs, and the availability of imported water." (p. 38). He continues: "The estimated ground-water pumpage from the Antelope Valley has exceeded the estimated annual recharge almost every year since the early 1920's. This imbalance is reflected in the declining aquifer hydraulic heads over most of the valley. In some areas there have been declines of more than 100 ft since the early 1950's, and indications are that declines before this period may have been as great or greater." (p. 38). Another paper in this collection is: "Land Subsidence and Problems Affecting Land Use at Edwards Air Force Base and Vicinity, California, 1990," by James C. Blodgett, which begins on p. 40. Blodgett states on p. 40: "The amount of land subsidence at the base varies depending on the decline of aquifer heads related to ground water pumping from various well fields, and the occurrence of fine-grained compressible sediments in geologic substrata near the zones of ground-water production (Londquist and others, 1993)." Another paper in this collection is: "Land Subsidence as a Resource Management Objective in Antelope Valley, California," by Steven P. Phillips (beginning on p. 44). Phillips states (p. 44): "The combination of about 6.6 ft of land subsidence (4.9 ft from 1961-92; Ikehara and Phillips, 1994) attributable to ground-water withdrawal (Londquist and others, 1993), and the unpredictable nature of surface-water supply, underscores the need for management of Antelope Valley water resources (see Ikehara #1 and Blodgett abstracts for additional information on the measurement of land subsidence in the Antelope Valley)."	B	E-file 05, US Government sources\1995-00-00, USGS WRI 94-532, Subsidence at EAFB.pdf
1/1/1995	USGS WRI 94-4208, "Land and Water Use in the Antelope Valley, California," by William E. Templin, Steven P. Phillips, Daniel E. Cherry, Myrna L. DeBortoli, and Others	USGS publication	The "Abstract" to this report says that although groundwater pumping in the Antelope Valley declined after the California Aqueduct brought water to the region in the early 1970s, a drought and increased urbanization in the late 1980s and early 1990s "renewed concern about a possible return to extensive depletion of ground-water storage and increased land subsidence." (p. 1).	B	E-file 05, US Government sources\1995-00-00, USGS WRI 94-4208, Land and Water Use in AV.pdf

1/1/1995	USGS WRI 95-4131, "Ground-Water-Level Monitoring, Basin Boundaries, and Potentiometric Surfaces of the Aquifer System at Edwards Air Force Basin, California, 1992," by Diane L. Rewis	USGS publication	The "Introduction" to this report states on p. 1: "Land subsidence, resulting from aquifer-system compaction caused by declining ground-water levels, and the associated playa-surface deformation of Rogers Lake affect the strategic and economic operations at Edwards Air Force Base (EAFB), Antelope Valley, California (fig. 1)." The report adds that a monitoring program was developed, described in the report, to track subsidence.	B	E-file 05, US Government sources\1995-00-00, USGS WRI 95-4131, Ground-Water Monitoring, EAFB.pdf
10/4/1995	"Land Subsidence and Its Relation to Past and Future Water Supplies in Antelope Valley, California," by Devin L. Galloway, Steven P. Phillips, and Marti E. Ikehara	USGS publication	This paper is a chapter in "Current Research and Case Studies of Land Subsidence: Proceedings of the Dr. Joseph F. Poland Symposium, Association of Engineering Geologists Special Publication No. 8. The "Abstract" to the paper states: "Extensive ground-water pumpage for agriculture during the period 1952 to 1968 played a significant role in the development of more than 6 ft of land subsidence measured between 1926 and 1992 in Antelope Valley, California." The report adds that although groundwater pumping has declined since the 1970s, "annual ground-water extraction still exceeds the estimated mean natural recharge to the valley by nearly two-fold. As a result, ground-water levels, historically depleted throughout the central part of the valley, continue to decline in urban and isolated agricultural areas where ground-water is high." The report adds that future subsidence can be expected even if existing ground-water levels are maintained. The also is considerable discussion of the history of subsidence and its linkage to groundwater depletion in this paper.	B	E-file 07, Miscellaneous sources\1995-10-04, Land Subsidence and relation to Antelope Valley.pdf
11/1/1995	"Final Report: Antelope Valley Water Resource Study, Antelope Valley Water Group," by Kennedy/Jenks Consultants	Antelope Valley Water Group report	This report is extremely detailed and has many examples of the linkages between groundwater depletion and subsidence. For example, on p. 7-5, the report states: "Groundwater levels have declined by as much as 200 feet (USGS, 1994). This decline has significantly increased pumping costs, resulting in overdrafting of the aquifer and land subsidence." On p. 7-6, the report states: "The high pumping rates of the 1950s and 1960s resulted in groundwater overdraft and subsidence of the ground surface as shown on Figure 7-6. Some of the areas of highest subsidence are coincident with current groundwater depressions." Search this document on "subsidence" for multiple examples.	B	E-file 07, Miscellaneous sources\1995-11-00, Water Resources of AV report.pdf

1/1/1996	USGS OFR 96-186, "Time-Series Ground-Water-Level and Aquifer-System Compaction Data, Edwards Air Force Base, Antelope Valley, California, January 1991 through September 1993," by Lawrence A. Freeman	USGS publication	The "Introduction" to this report states on p. 1: "Long-term withdrawal of ground water at Edwards Air Force Base has resulted in aquifer-system compaction. This has produced three results: 1. Land-surface deformation resulting in the formation of earth fissures and erosion caused by altered surface-water drainage gradients; 2. Permanent loss of ground-water storage capacity of the aquifer system (Ikehara and Philips, 1994); and 3. Structural damage to man-made facilities as a result of land surface subsidence."	B	E-file 05, US Government sources\1996-00-00, USGS OFR 96-186, Groundwater Data at EAFB.pdf
1/1/1998	USGS WRI 98-4022, "Regional Water Table (1996) and Water-Table Changes in the Antelope Valley Ground-Water Basin, California," by Carl S. Carlson, David A. Leighton, Steven P. Phillips, and Loren F. Metzger	USGS publication	The "Introduction" to this report states: "Antelope Valley is located in the western part of the Mojave Desert in southern California, about 50 mi northeast of Los Angeles (fig. 1). Ground water historically has been the primary source of water in this region because of the scarcity of surface water. Water use in the valley has increased significantly since development began in the late 1800's. Ground-water pumping for agricultural uses peaked in the 1950's, possibly exceeding 400,000 acre-feet per year (acre-ft/yr) in 1953 (Snyder, 1955). Increased pumping costs from greater pumping lifts (greater depth to water because of declining ground-water levels) and increased electric power costs (Templin and others, 1995) resulted in a decrease in agricultural pumping in the early 1970's. By the early 1980's, ground-water pumping for urban use ground-water pumping for urban use, which grew rapidly with urban development in the 1970's and 1980's, exceeded agricultural use. Since the late 1940's, ground-water pumping has exceeded estimated average annual recharge, 40,700 acre-ft/yr (Durbin, 1978), resulting in hundreds of feet of drawdown and more than 6 ft of land subsidence in some areas (Ikehara and Phillips, 1994). Since 1972, supplemental surface water has been imported from the California Water Project to help meet the demand for water in the Antelope Valley. To plan for future development in the Antelope Valley, an understanding of present ground-water conditions, and recent changes, is needed." Under "Water-Level Changes," the report notes that in some areas since the 1970s, groundwater levels have risen due to declines in pumping (after the California Aqueduct brought supplies), but that regardless of this situation, groundwater levels remain at historic lows.	G	E-file 05, US Government sources\1998-00-00. USGS WRI 98-4022, AV groundwater levels.pdf
1/1/1998	USGS OFR 98-561, Water Levels in Antelope Valley Wells, 1975-1998 (table)	USGS publication	This is a table from USGS OFR 98-561 showing well measurements in AV wells from 1975-1998. Many show declines.	G	E-file 05, US Government sources\1998-00-00, USGS OFR 98-561, 1975-1998, Water Levels in AV wells (table).pdf

4/29/1999	"Water System Master Plan for Los Angeles County, Waterworks District No. 40 (Antelope Valley)," draft report by Krieger & Stewart, Inc., Engineering Consultants, for Los Angeles County Department of Public Works	LA County document	Muliple examples of the linkage between groundwater declines and land subsidence in the Antelope Valley. Search this document on "subsidence" to show these examples.	B	E-file 07, Miscellaneous sources\1999-04-29, LA County Water System Master Plan (Antelope Valley).pdf
1/1/2000	USGS WRI 00-4015, "Aquifer-System Compaction: Analyses and Simulations-the Holly Site, Edwards Air Force Base, Antelope Valley, California," by Michelle Sneed and Devin L. Galloway	USGS publication	The "Abstract" to this report on p. 1 states: "Land subsidence resulting from ground-water-level declines has long been recognized as a problem in Antelope Valley, California. At Edwards Air Force Base (EAFB), ground-water extractions have caused more than 150 feet of water-level decline, resulting in nearly 4 feet of subsidence.	B	E-file 05, US Government sources\2000-00-00, USGS WRI 00-4015, Aquifer-System Compaction and Subsidence at EAFB.pdf
1/1/2001	USGS WRI 01-4038, "Numerical Simulation of Ground-Water Flow and Land Subsidence at Edwards Air Force Base, Antelope Valley, California," by Tracy Nishikawa, Diane L. Rewis, and Peter Martin	USGS publication	The "Abstract" of this report on p. 1 states: "Edwards Air Force Base (EAFB) in southern California historically has relied on ground water for its water-supply needs. Pumping of ground water at the base has led to problems such as declining water levels and land subsidence." Under the heading "Introduction" on p. 2, the report states: "Pumping of ground water at the base has led to declining water levels [about 90 ft between 1950-96 (Londquist and others, 1993; Carlson and others, 1998] and land subsidence [more than 3.5 ft between 1926-92 (Ikehara and Phillips, 1994)]." [The brackets in the previous quote are in the original.] Under "Purpose and Scope" on p. 2, the report states: "In 1988, the U.S. Geological Survey (USGS), in cooperation with the Department of the Air Force, began investigations of the effects of land subsidence and declining ground-water levels at EAFB."	B	E-file 05, US Government sources\2001-01-01, USGS WRI 01-4038, Groundwater and subsidence at EAFB.pdf

1/1/2002	USGS OFR 01-414, "Vertical-Deformation, Water-Level, Microgravity, Geodetic, Water-Chemistry, and Flow-Rate Data Collected During Injection, Storage, and Recovery Tests at Lancaster, Antelope Valley, California, September 1995 through September 1998," by Loren F. Metzger, Marti E. Ikehara, and James F. Howle	USGS publication	The "Introduction" to this report states on p. 1: "Historically, ground-water withdrawals in the Lancaster area of the Antelope Valley in southern California have exceeded natural replenishment, resulting in overdraft and land subsidence. Since the 1920's ground-water levels have declined as much as 200 feet (ft) in the area and land subsidence has exceeded 6 ft in some areas (Ikehara and Phillips, 1994). Reliance on ground water eased somewhat int he 1970's due to the importation of surface water from northern California by way of the State Water Project (SEP) and the California Aqueduct. However, rapid population growth and the resulting demand for water has [sic] increased ground-water withdrawals and renewed concerns about overdraft and subsidence."	B	E-file 05, US Government sources\2002-00-00, USGS OFR 01-414, Water tests in Antelope Valley.pdf
1/1/2003	USGS WRI 03-4016, "Simulation of Ground-Water Flow and Land Subsidence, Antelope Valley Ground-Water Basin, California," by David A. Leighton and Steven P. Phillips	USGS publication	This report was "Prepared in cooperation with the Antelope Valley Water Group." The "Abstract" on p. 1 states: "The Antelope Valley ground-water basin is about 940 square miles and is separated from the northern part of the Antelope Valley by faults and low-lying hills. Prior to 1972, ground-water provided more than 90 percent of the total water supply in the valley; since 1972, it has provided between 50 and 90 percent. Most ground-water pumping in the valley occurs in the Antelope Valley ground-water basin, which includes the rapidly growing cities of Lancaster and Palmdale. Ground-water declines of more than 200 feet in some parts of the ground-water basin have resulted in an increase in pumping lifts, reduced well efficiency, and land subsidence of more than 6 feet in some areas."	B	E-file 05, US Government sources\2003-00-00, USGS WRI 03-4016, Groundwater and subsidence in AV.pdf

1/1/2003	USGS WRI 03-4019, "Determination of Specific Yield and Water-Table Changes Using Temporal Microgravity Surveys Collected During the Second Injection, Storage, and Recovery Test in Lancaster, Antelope Valley, California, November 1996 through April 1997," by James F. Howle, Steven P. Phillips, Roger P. Denlinger, and Loren F. Metzger	USGS publication	Prepared in cooperation with the Los Angeles Department of Public Works and the Antelope Valley-East Kern Water Agency. The "Introduction" to this report states beginning on p. 1: "Historically, ground-water withdrawals from the alluvial-aquifer system in the Lancaster area of the Antelope Valley in southern California (fig. 1) have exceeded natural replenishment, resulting in overdraft and land subsidence. Since the 1920s, ground-water levels have declined as much as 200 ft in the study area, and land subsidence has exceeded 6 ft (Ikehara and Phillips, 1994). Reliance on ground water eased somewhat in the 1970s because of the importation of surface water from northern California by way of the State Water Project (SWP) and the California Aqueduct. However, rapid population growth and the resulting demand for water has increased ground-water withdrawals and renewed concerns about overdraft and subsidence." This report examines the feasibility of recharging the aquifer in the Antelope Valley.	B	E-file 05, US Government sources\2003-00-00, USGS WRI 03-4019, Water Table Changes in AV 1996-97.pdf
1/1/2003	USGS WRI 03-4062, "Processes Affecting the Trihalomethane Concentrations Associated with the Third Injection, Storage, and Recovery Test at Lancaster, Antelope Valley, California, March 1998 through April 1999," by Miranda S. Fram, Brian A. Bergamaschi, Kelly D. Goodwin, Roger Fujii, and Jordan F. Clark	USGS publication	The "Introduction" to this report at p. 3 states: "Ground water is an important source of water supply in the Antelope Valley, California (fig. 1). Since the late 1940s, ground-water pumpage has exceeded natural recharge, resulting in as much as 350 feet (ft) of water-level declines and more than 6 ft of land subsidence in some areas (Ihehara and Phillips, 1994). The report discusses injecting water to offset groundwater declines and subsidence.	B	E-file 05, US Government sources\2003-00-00, USGS WRI 03-4062, Groundwater Testing, AV.pdf
12/1/2003	USGS FS [Fact Sheet] 069-03, "Measuring Human-Induced Land Subsidence from Space," by G.W. Bawden, M. Sneed, S.V. Stork, and D.L. Galloway	USGS publication	This report discusses land subsidence in several regions. The report is not paginated, but under the heading "Antelope Valley, California," the report states: "Extensive pumping in Antelope Valley since the 1940s contributed to nearly 2 m of subsidence in Lancaster and more than 1 m south of Rogers Lake, Edwards Air Force Base." There are two maps on this page with color-illustrated images of the Antelope Valley indicating subsidence.	B	E-file 05, US Government sources\2003-12-00, USGS FS 069-03, Subsidence.pdf

2/27/2004	CA DWR Bulletin 118 update	California Deparment of Water Resources report	Un-paginated page 2 says: "Because of recent groundwater pumping, groundwater levels and flow have been altered in urban areas such as Lancaster and Edwards Air Force Base. Groundwater pumping has caused subsidence of the ground surface as well as earth fissures to appear in Lancaster and on Edwards Air Force Base. By 1992, 292 square miles of Antelope Valley had subsided more than one foot. This subsidence has permanently reduced aquifer-system storage by about 50,000 acre-feet[.]"	B	E-file 02, California State publications\2004-02-27, CA DWR Bulletin 118 update.pdf
2/27/2004	"California's Groundwater, Bulletin 118," 2004 update (section entitled "Antelope Valley Groundwater Basin), by the California Department of Water Resources	California Department of Water Resources report	Under the heading "Groundwater Level Trends" (the report is unpaginated), the report states: "From 1975 through 1998, groundwater level changes ranged from an increase of 84 feet to a decrease of 66 feet (Carlson and Phillips 1998). The parts of the basin with declining water levels are along the highway 14 corridor from Palmdale through Lancaster to Rosamond and surrounding Rogers Lake on Edwards Air Force Base (Carlson and Phillips 1998). . . . Because of recent groundwater pumping, groundwater levels and flow have been altered in urban areas such as Lancaster and Edwards Air Force Base. Groundwater pumping has caused subsidence of the ground surface as well as earth fissures to appear in Lancaster and on Edwards Air Force Base. By 1992, 292 square miles of Antelope Valley had subsided more than one foot. This subsidence has permanently reduced aquifer-system storage by about 50,000 acre-feet (Sneed and Galloway 2000; Ikehara and Phillips 1994)."	B	E-file 02, California State publications\2004-02-27, CA DWR Bulletin 118 update.pdf
1/1/2005	"California Water Plan Update 2005, Vol. 3, Chapter 10, South Lahontan Hydrologic Region"	California Department of Water Resources report	On page 10-5 of the report, under the heading "State of the Region: Challenges," the report states: "Many of the rapidly developing urban parts of this region are susceptible to shortfalls in available water supplies. For example, a recent study by the Antelope Valley Water Group concluded that the valley has low reliability to meet demands from existing and future groundwater supplies., the SWP [State Water Project], Littlerock Reservoir, and recycling. The report further stated that the region could only expect to meet full 1998 water demands about half the time without overdrafting the groundwater resources." On page 10-10, the report states: "The [Palmdale Water District] master plan highlights PWD's desire to maintain the capability to obtain 40 percent of its water supply from groundwater. However, becauseof declining groundwater levels are an ongoing concern in the Palmdale area, there is uncertainty about whether the groundwater basin's perennial yield could support the desired level of pumping. . . . The Draft Environmental Impact Report for the [PWD] plan identified a continuing decline in groundwater levels as an unavoidable effect from building new wells and pumping additional groundwater, as desired to maintain groundwater as 40 percent of PWD's total supply."	G	E-file 02, California State publications\2005-00-00, CA Water Plan Update, vol. 3, chap. 10.pdf

1/1/2005	"Antelope Valley Integrated Water Management Plan," by the Regional Water Management Group of the Antelope Valley Integrated Regional Water Management Plan	Regional Water Management Group document	This report was prepared by the Regional Water Management Group of the Antelope Valley Integrated Regional Water Management Plan, which resulted from the passage of Proposition 50 in 2002, authorizing the issuance of California State bonds to finance water project. The "Executive Summary" of this report states on p. ES-xx: "Because the amounts [of groundwater in the Antelope Valley] pumped were greater than the amounts being replenished, groundwater levels have declined significantly through the Antelope Valley Region. The long-term depletion of aquifers cannot be continued indefinitely without serious consequences. The historical declines in groundwater levels with the Antelope Valley Region have caused permanent damage to aquifers in some area through land subsidence, or sinking." There are multiple other examples within this report noting groundwater declines and linking those declines to land subsidence (search "subsidence").	B	E-file 07, Miscellaneous sources\2005-00-00, AV Integrated Regional Water Management Plan.pdf
1/1/2005	USGS SIR 2005-5074, "Generalized Water-Level Contours, September-October 2000 and March-April 2001, and Long-Term Water-Level Changes at the U.S. Air Force Plant 42 and Vicinity, Palmdale, California," by Allen H. Christensen	USGS publication	The "Introduction" to this report states on p. 1: "Historically, the U.S. Air Force Plant 42 (Plant 42) has relied on ground water as the primary source of water owing, in large part, to the scarcity of surface water in the region. Since 1972, supplemental surface water has been imported from he California State Water Project to help meet the demand for water. Despite the importation of surface water, ground-water withdrawal for municipal, industrial, and agricultural use has resulted in ground-water-level declines at Plant 42 and vicinity as large as 200 ft since the early 1900s."	G	E-file 05, US Government sources\2005-00-00, USGS SIR 2005-5074 Water Level Changes Near Palmdale.pdf
12/1/2005	USGS WRI 2005-3112, "Water Resources Investigations at Edwards Air Force Base since 1988," by Michelle Sneed, Tracy Nishikawa, and Peter Martin	USGS publication	The "Introduction" to this report beginning on p. 1 states: "Edwards Air Force Base (EAFB) in southern California (fig. 1) has relied on ground water to meet its water-supply needs. The extraction of ground water has led to two major problems that can directly affect the mission of EAFB: declining water levels (more than 120 ft since the 1920s) and land subsidence, a gradual downward movement of the land surface (more than 4 ft since the late 1920s). As water levels decline, this valuable resource becomes depleted, thus requiring mitigating measures. Land subsidence has caused cracked (fissured) runways and accelerated erosion on Rogers lakebed."	B	E-file 05, US Government sources\2005-12-00, USGS WRI Fact Sheet 2005-3112, EAFB.pdf
8/8/2006	"Final Facilities Planning Report, Antelope Valley Recycled Water Project," by Kennedy/Jenks Consultants	LA County document	This report was prepared for the Los Angeles County Waterworks District No. 40, which includes the Antelope Valley. Page A-6 of this report states: "According to the USGS, groundwater levels in the Lancaster area have declined by as much as 200 feet from 1915 to 1988 (USGS, 1994). The report also notes that in some parts of the Antelope Valley, groundwater levels have been increasing. There are multiple examples within this report discussing the groundwater changes as well as subsidence. (Search "groundwater" or "subsidence".)	B	E-file 07, Miscellaneous sources\2006-08-08, AV Recycled Water Project report.pdf

5/1/2007	"City of Lancaster Groundwater Recharge Feasibility Study," by RMC Water and Environment	City of Lancaster document	This report examines the feasibility of recharging groundwater supplies. Page ES-1 notes that a number of water resources issues face the Antelope Valley, one of which is: "An overdrafted groundwater basin, which limits the amount of water that can be economically and sustainably pumped in the long-term." The study also generally notes the connection between groundwater pumping and land subsidence.	B	E-file 07, Miscellaneous sources\2007-05-00, Lancaster Groundwater Recharge Feasibility Study.pdf
2/29/2008	"City Seeking Help to Recharge Amargosa"	Antelope Valley Press	Article says City of Palmdale has asked Palmdale Water District to become a partner in a program to recharge groundwater using water from California Aqueduct. The article states: "The project was proposed because of overdrafted groundwater in the Antelope Valley basin -- too much water pumped from wells." The article also states: "In certain spots the water table dropped 200 fet within 18 years, [Leon] Swain [Palmdale's director of public works] said. "'That's a real concern. It allows land subsidence,' he said. 'In land subsidence, the earth settles, making less room for underground water storage capacity.'" The article concludes: "Palmdale Water District Board President Dick Wells gave the project his nod of approval, though no official decision has been made by the water board. 'We're putting a recharge where the overdraft is greatest,' Wells said."	B	E-file 06, Antelope Valley Press articles\2008-02-29, AV Press.pdf