

**DEPARTMENT OF HEALTH SERVICES**

SOUTHERN CALIFORNIA BRANCH  
DRINKING WATER FIELD OPERATIONS  
1040 E. HERNDON AVENUE, SUITE 205  
FRESNO, CALIFORNIA 93720-3158  
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### Source Water Assessment Instructions

In order to help ensure the quality and integrity of our drinking water systems the Department of Health Services, Division of Drinking Water and Environmental Management, is implementing the Drinking Water Source Assessment Program. This program was developed to carry out a federal mandate to assess all drinking water sources and evaluate their vulnerability to contamination. It involves defining the protective zones around each well and identifying possible contaminating activities within these zones. Your system is scheduled to be evaluated, and we will need your help in completing this important project.

Your part in this assessment involves:

1. Identifying the Possible Contaminating Activity (PCA's) located within the delineation zones for each active well. The PCA's are included in Appendix A.
2. Supply missing information on the Well Data Sheets, particularly the capacity of the pump and the screened interval of the casing.
3. Be available to answer questions.

Checklists of Possible Contaminating Activities are included in Appendix A. Using the PCA checklist that best describes the type of area surrounding your well site (i.e. rural, residential, etc.) and the table labeled "Other Activities", please place a check mark next to any of the PCA's that are present within the well's delineation zones. If a listed PCA is not within the delineation zones for the well, or if you are unsure if a listed PCA is near your well, check the appropriate box on the checklist.

Please also complete the empty fields on the Well Data Sheets. The capacity of the pump and the screened interval of the well casing both need to be indicated. For further assistance regarding these procedures, consult the SWAP guidance documents on the Department's homepage at: <http://www.dhs.ca.gov/ps/ddwem/dswap/guidance/index.htm> or call Kassy Smith at (559) 447-3316. Please complete the PCA lists and the well data sheets and return by **April 15, 2003**. Your cooperation is appreciated.

## WELL DATA SHEET (Page 1 of 2)

Complete as much information as possible. Leave blank if information is not available, use N.A. if not applicable.

\* Indicates items required for Source Water Assessment

\*\* Indicates additional items required for assessments and Ground Water Rule

<b>SEE ATTCH. ON WELL #5</b>		Actual, Estimated or Default?
<b>DATA SHEET GENERAL INFORMATION</b>		
System Name	<b>Odd Fellows Sierra Recreation Association</b>	<i>from DHS database</i>
System Number	5510016	<i>from DHS database</i>
Source of Information ( <i>well log, DHS/County files, system, etc</i> )	DHS files	
Organization Collecting Information ( <i>DHS, County, System, other</i> )	DHS	
Date Information Collected/Updated	9/18/2000	
<b>WELL IDENTIFICATION</b>		
* Well Number or Name	Well No. 5	<i>from DHS database</i>
* DHS Source Identification Number ( <b>FRDS ID No.</b> )		
DWR Well Log on File? ("YES" or "NO")	YES	
State Well Number (from DWR)	5510016-006	
Well Status (Active, Standby, Inactive)	Active	<i>from DHS database</i>
<b>WELL LOCATION</b>		
Latitude		<i>from DHS database</i>
Longitude		<i>from DHS database</i>
Ground Surface Elevation (ft above Mean Sea Level)		
Street Address		
Nearest Cross Street		
City	Long Barn	
County	Tuolumne	
* Neighborhood/Surrounding Area ( <i>see Note 1</i> )	O	
Site plan on file? ("YES" or "NO")	NO	
DWR Ground Water Basin		<i>from DWR</i>
DWR Ground Water Sub-basin		<i>from DWR</i>
<b>SANITARY CONDITIONS</b>		
** Distance to closest Sewer Line, Sewage Disposal, Septic Tank (ft)	>125'	
Distance to Active Wells (ft)		
Distance to Abandoned Wells (ft)	None	
Distance to Surface Water (ft)	75'	
** Size of controlled area around well (square feet)	7000	<b>EST.</b>
* Type of access control to well site ( <i>fencing, building, etc</i> )	<b>BUILDING</b>	
* Surface Seal? (Concrete slab)("YES", "NO" or "UNKNOWN")	YES	
* Dimensions of concrete slab: Length(ft)/ Width(ft)/ Thick(in)	<b>8' x 6' x 6"</b>	
* Within 100 year flood plain? ("YES", "NO" or "UNKNOWN")	Unknown	
* Drainage away from well? ("YES" or "NO")	YES	
<b>ENCLOSURE/HOUSING</b>		
Enclosure Type ( <i>building, vault, none, etc.</i> )	Wooden	
Floor material	Concrete	
Located in Pit? ("YES" or "NO")	NO	
Pit depth (feet) (if applicable)	N.A.	
<b>WELL CONSTRUCTION</b>		
Date drilled	1986	
Drilling Method		
Depth of Bore Hole (feet below ground surface)	350'	
Casing Beginning Depth/Ending Depth(ft below surface); 2nd Casing Beginning Depth/Ending Depth; 3rd Casing, etc.	Unknown	
Casing Diameter (inches); 2nd Casing Diameter; 3rd Casing, etc.	7"	
Casing Material; 2nd Casing Material; 3rd Casing, etc.	PVC	

## WELL DATA SHEET (Page 2 of 2)

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<i>** Indicates additional items required for assessments and Ground Water Rule</i>		
		Actual, Estimated or Default?
<b>WELL CONSTRUCTION (continued)</b>		
Conductor casing used? ("YES", "NO" or "UNKNOWN") (See Note 2)	Unknown	
Conductor casing removed? ("YES", "NO" or "UNKNOWN")	Unknown	
* Depth to highest perforations/screens (ft below surface) (or "UNKNOWN")	Unknown	
Screened Interval Beginning Depth/Ending Depth (ft below surface); 2nd Screened Interval Beg. Depth/Ending Depth; 3rd Screened Interval, etc.		
* Total length of screened interval (ft) (default = 10% pump capacity in gpm) (or "UNKNOWN")	Unknown	
* Annular Seal? ("YES", "NO" or "UNKNOWN") (See Note 3)	YES	
* Depth of Annular Seal (ft)	90'	
Material of Annular Seal (cement grout, bentonite, etc.)	Cement grout	
Gravel pack, Depth to top (ft below ground surface)		
Total length of gravel pack (ft)		
<b>AQUIFER</b>		
* Aquifer Materials (list all that apply: sand, silt, clay, gravel, rock, fractured rock)	Sand, Silt, Clay	
* Effective porosity (decimal percent) (default = 0.2) (or "UNKNOWN")	Unknown	
* Confining layer (Impervious Strata) above aquifer? ("YES", "NO" or "UNKNOWN")	Unknown	
Thickness of confining layer, if known (ft)		
Depth to confining layer, if known (ft below ground)		
* Static water level (ft below ground surface)		
Static water level measurement: Date/Method		
Pumping water level (ft below ground surface)		
Pumping water level measurement: Date/Method		
<b>WELL PRODUCTION</b>		
Well Yield (gpm)		
Well Yield Based On (i.e., pump test, etc.)		
Date measured		
Is the well metered? ("YES" or "NO")	YES	
Production (gallons per year)	4 MG	
Frequency of Use (hours/year)	1460 hrs	
Typical pumping duration (hours/day)	3 hrs	
<b>PUMP</b>		
Make		
Type	Submersible	
Size (hp)	10 HP 3PH.	
* Capacity (gpm)	50 gpm	
Depth to suction intake (ft below ground surface)		
Lubrication Type	Water	
Type of Power: (i.e., electric, diesel, etc.)	electric	
Auxiliary power available? ("YES" or "NO")	NO	
Operation controlled by: (i.e., level in tank, pressure, etc.)	Manual	
Pump to Waste capability? ("YES" or "NO")		
Discharges to: (i.e., distribution system, storage, etc.)	distributon system	
<b>REMARKS AND DEFECTS (use additional sheets as necessary)</b>		
Incomplete; 09/18/00; AN		

## WELL DATA SHEET (Page 3 of 2)

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### NOTES

1. Neighborhood/Surrounding Area (list all that apply): A= Agricultural, Ru = Rural, Re = Residential, Co = Commercial, I = Industrial, Mu = Municipal, P = Pristine, O = Other

R.E.

2. Conductor Casing - Oversized casing used to stabilize bore hole during well construction. Should be removed during installation of annular seal.

3. Annular Seal - Seal of grout in the space between the well casing and the wall of the drilled hole. Sometimes called "sanitary seal".

W.D. 350  
 G.A.M 150  
 Pump Set 336'  
 120 P.S.I. at well

2-18-88

Odd Fellows Park  
 WELL #5

WELL #5

NOTE: ~~ORDER PUMP END ONLY + HITACHI MOTOR~~

	LIST 2210 <sup>00</sup>
1 EA Goulds 45T10 10 H.P. 230 V 3 φ Pump.	1990 <sup>00</sup>
336' 2" GALV. DROP PIPE	636 <sup>90</sup>
340' #6/3 sub Cable	340 <sup>00</sup>
1 EA Magnetic Starter #2 <span style="margin-left: 20px;">2EP Jacket</span>	381 <sup>00</sup>
1 EA Set of #64(5) NUTS	31 <sup>50</sup>
1 EA 2" Well Head Flange (Union Check Valve Gate Valve & Nipples)	75 <sup>00</sup>
<del>1 EA Misc. Elect.</del>	<del>30 <sup>00</sup></del>
1 EA 2" 80 Check Valve (in Line)	38 <sup>00</sup>
1 EA Splice Kit	10 <sup>00</sup>
1 EA 85/8 x 2" Well Seal	46 <sup>00</sup>
1 EA 200 P.S.I. Pressure Gauge	4 <sup>00</sup>
	3582 <sup>40</sup>
	MAT 214 <sup>94</sup>
	TX 200 <sup>00</sup>
	LABOR
	3997 <sup>34</sup>
LABOR 200 <sup>00</sup>	

Pump End S/N # 768 DATE - LD

Motor 3365 54918  
 MK-87  
 S/N 190034

Starter #  
 14EP32A #81  
 Size 1 3/4

## Well No. 5 or Kern Creek Well

The Association drilled this well in August of 1986 to increase the source capacity of the system. The well is 350 feet deep and contains 12 3/4 inch diameter casing from 0 to 34 feet, 10 3/4 inch steel casing from 0 to 86 feet, and 7 inch diameter steel casing from 0 to 146 feet. The 7 inch casing is perforated from 95 to 140 feet and the well is gravel packed from 90 to 145. A bentonite and grout seal is provided to a depth of 90 feet. The well is located more than 125 feet from the nearest private sewage disposal system and about 75 feet from Kern Creek which is a seasonal creek.

The well is equipped with a 10 horsepower submersible pump with 3 phase electrical service. The well was pump tested at approximately 150 gpm by air lifting during drilling. The well is presently producing approximately 50 gpm and is the main source of supply. A 110 volt electrical outlet has been installed to enable emergency hypochlorination. The hypochlorination equipment was used for the spring has been relocated into this well site for emergency use.

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**Delineation of Water Protection Zones**

District Name DHS Merced District District No. 11 County Tuolumne  
 System Name ODD FELLOWS SIERRA REC ASSOC System No. 5510016  
 Source Name WELL 05 Source No. 006 PS Code 5510016-006

Completed by Kassy Smith Date March, 2003

**Method Used to Delineate Protection Zones**

**X 1. Calculated Fixed Radius**

- 2. Modified Calculated Fixed Radius (Attach documentation for direction of ground water flow.)
- 3. More Detailed Methods
- 4. Arbitrary Fixed Radius (For use only by or permission of DHS)

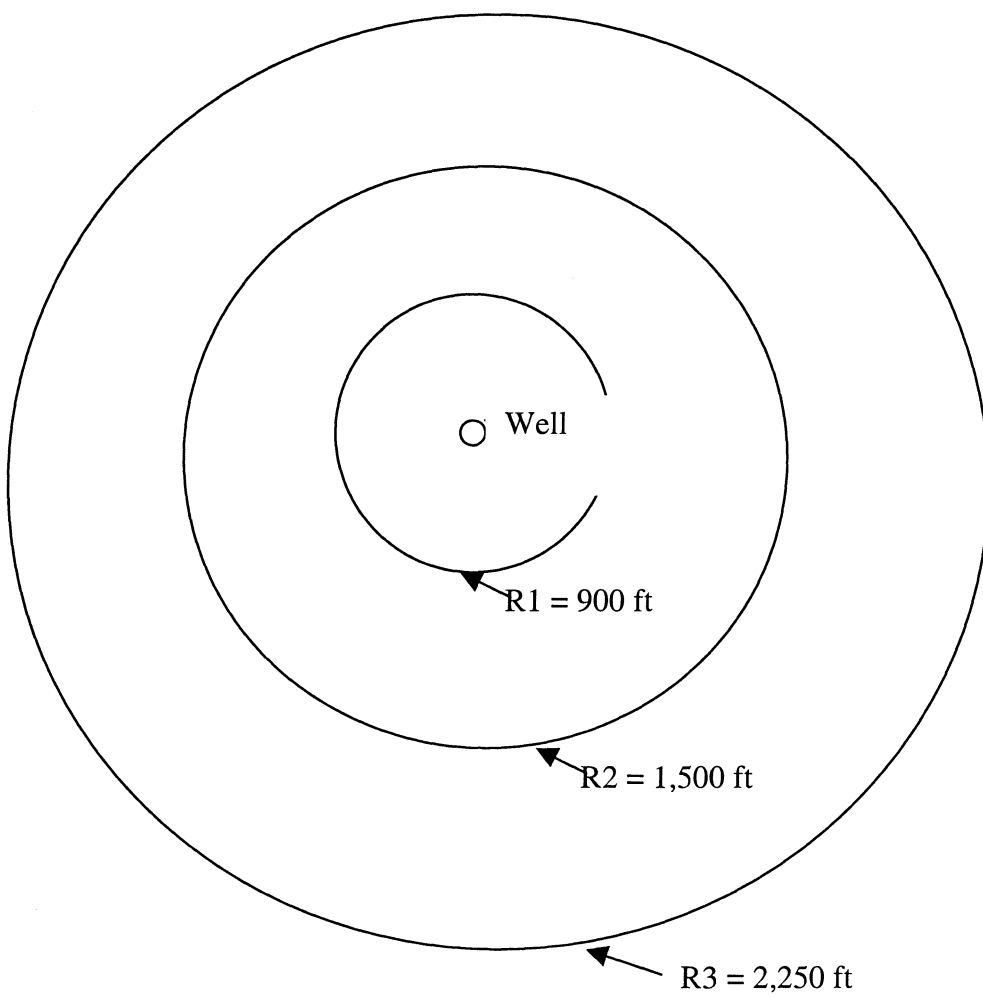
**Fractured Rock Aquifer**

Maximum Pumping Rate of Well (Q)	<u>15</u>	gallons/minute
	<u>24</u>	acre feet/year
	<u>1,054,005</u>	cubic feet/year
Effective Porosity	<u>0.20</u>	<input type="checkbox"/> Default Value
Screened Interval of Well	<u>10.0</u>	feet <input checked="" type="checkbox"/> Default Value

Protection Zone	Calculated Value	Minimum Value	Radius of Protection Zone
Zone A - 2 Year TOT*	869 Feet	900 Feet	<b>900</b> Feet
Zone B5 - 5 Year TOT*	1,374 Feet	1,500 Feet	<b>1,500</b> Feet
Zone B10 - 10 Year TOT*	1,943 Feet	2,250 Feet	<b>2,250</b> Feet

\*TOT = Time of Travel





**Source Water Assessment**

**Well**

Odd Fellows Sierra Recreation Association

System No. 5510016

Drinking Water Source Assessment and Protection (DWSAP) Program

**Inventory of Possible Contaminating Activities (PCA Inventory)**

District Name DHS Merced District District No. 11 County Tuolumne

System Name ODD FELLOWS SIERRA REC ASSOC System No. 5510016

Source Name WELL 05 Source No. 006 PS Code 5510016-006

Completed by Kassy Smith Date March, 2003

PCA (Risk Ranking)	PCA in Zone A	PCA in Zone B5	PCA in Zone B10	*	Comments
<b>Commercial/Industrial Activities</b>					
Automobile- Body shops (H)				N	
Automobile- Car washes (M)				N	
Automobile- Gas stations (VH)				N	
Automobile- Repair shops (H)				N	
Boat services/repair/ refinishing (H)				N	
Chemical/petroleum pipelines (H)				N	
Chemical/petroleum processing/storage (VH)				N	
Dry cleaners (VH)				N	
Electrical/electronic manufacturing (H)				N	
Fleet/truck/bus terminals (H)				N	
Furniture repair/ manufacturing (H)				N	
Home manufacturing (H)				N	
Junk/scrap/salvage yards (H)				N	
Machine shops (H)				N	
Metal plating/ finishing/fabricating (VH)				N	
Photo processing/printing (H)				N	
Plastics/synthetics producers (VH)				N	
Research laboratories (H)				N	
Wood preserving/treating (H)				N	
Wood/pulp/paper processing and mills (H)				N	
Lumber processing and manufacturing (H)				N	
Sewer collection systems (H in Zone A, otherwise L)				N	
Parking lots/malls (>50 spaces) (M)				N	
Cement/concrete plants (M)				N	
Food processing (M)				N	
Funeral services/graveyards (M)				N	
Hardware/lumber/parts stores (M)				N	
Appliance/Electronic Repair (L)				N	
Office buildings/complexes (L)				N	
Rental Yards (L)				N	
RV/mini storage (L)				N	

Y = Yes      N = No      U = Unknown

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**Inventory of Possible Contaminating Activities (PCA Inventory)**

System Name ODD FELLOWS SIERRA REC ASSOC System No. 5510016  
 Source Name WELL 05 Source No. 006 PS Code 5510016-006

PCA (Risk Ranking)	PCA in Zone A	PCA in Zone B5	PCA in Zone B10	*	Comments
<b>Residential/Municipal Activities</b>					
Airports - Maintenance/ fueling areas (VH)				N	
Landfills/dumps (VH)				N	
Railroad yards/ maintenance/ fueling areas (H)				N	
Septic systems - high density (>1/acre) (VH in Zone A, otherwise M)	✓			Y	125+
Sewer collection systems (H in Zone A, otherwise L)				N	
Utility stations - maintenance areas (H)		✓		Y	
Wastewater treatment plants (VH in Zone A, otherwise H)				N	
Drinking water treatment plants (M)				N	
Golf courses (M)				N	
Housing - high density (>1 house/0.5 acres) (M)	✓			Y	
Motor pools (M)				N	
Parks (M)	✓			Y	
Waste transfer/recycling stations (M)				N	
Apartments and condominiums (L)				N	
Campgrounds/ <u>Recreational areas</u> (L)	✓			Y	BEACH/ LAKE
Fire stations (L)				N	
RV Parks (L)				N	
Schools (L)				N	
Hotels, Motels (L)				N	
<b>Agricultural/Rural Activities</b>					
Grazing (> 5 large animals or equivalent per acre) (H in Zone A, otherwise M)				N	
Concentrated Animal Feeding Operations (CAFOs) as defined in federal regulation1 (VH in Zone A, otherwise H)				N	
Animal Feeding Operations as defined in federal regulation2 (VH in Zone A, otherwise H)				N	
Other Animal operations (H in Zone A, otherwise M)				N	
Farm chemical distributor/ application service (H)				N	
Farm machinery repair (H)				N	
Septic systems - low density (<1/acre) (H in Zone A, otherwise L)				N	
Lagoons / liquid wastes (H)				N	
Machine shops (H)				N	

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**Inventory of Possible Contaminating Activities (PCA Inventory)**

System Name ODD FELLOWS SIERRA REC ASSOC System No. 5510016  
 Source Name WELL 05 Source No. 006 PS Code 5510016-006

PCA (Risk Ranking)	PCA in Zone A	PCA in Zone B5	PCA in Zone B10	*	Comments
<b>Agricultural/Rural Activities</b>					
Pesticide/fertilizer/ petroleum storage & transfer areas (H)				N	
Agricultural Drainage (H in Zone A, otherwise M)				N	
Wells - Agricultural/ Irrigation (H)				N	
Managed Forests (M)				Y	
Crops, irrigated (Berries, hops, mint, orchards, sod, greenhouses, vineyards, nurseries, vegetable) (M)				N	
Fertilizer, Pesticide/ Herbicide Application (M)				N	
Sewage sludge/biosolids application (M)				N	
Crops, nonirrigated (e.g., Christmas trees, grains, grass seeds, hay, pasture) (includes drip-irrigated crops) (L)				N	
<b>Other Activities</b>					
NPDES/WDR permitted discharges (H)				N	
Underground Injection of Commercial/Industrial Discharges (VH)				N	
Historic gas stations (VH)				N	
Historic waste dumps/ landfills (VH)				N	
Illegal activities/ unauthorized dumping (H)				N	
Injection wells/ dry wells/ sumps (VH)				N	
Known Contaminant Plumes (VH)				N	
Military installations (VH)				N	
Mining operations - Historic (VH)				N	
Mining operations - Active (VH)				N	
Mining - Sand/Gravel (H)				N	
Wells - Oil, Gas, Geothermal (H)				N	
Salt Water Intrusion (H)				N	
Recreational area - surface water source (H)	✓			Y	SWIM/ LAKE AREA (SEASONAL)
Underground storage tanks - Confirmed leaking tanks (VH)				N	
Underground storage tanks - Decommissioned - inactive tanks (L)				N	
Underground storage tanks - Non-regulated tanks (tanks smaller than regulatory limit) (H)				N	
Underground storage tanks - Not yet upgraded or registered tanks (H)				N	
Underground storage tanks - Upgraded and/or registered				N	

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**Inventory of Possible Contaminating Activities (PCA Inventory)**

System Name ODD FELLOWS SIERRA REC ASSOC System No. 5510016  
 Source Name WELL 05 Source No. 006 PS Code 5510016-006

PCA (Risk Ranking)	PCA in Zone A	PCA in Zone B5	PCA in Zone B10	*	Comments
<b>Other Activities</b>					
- active tanks (L)				N	
Above ground storage tanks (M)		✓		Y	CONVALT TANK.
Wells - Water supply (M)				Y	
Construction/demolition staging areas (M)				N	
Contractor or government agency equipment storage yards (M)				N	
Dredging (M)				N	
Transportation corridors - Freeways/state highways (M)				N	
Transportation corridors - Railroads (M)				N	
Transportation corridors - Historic railroad right-of-ways (M)				N	
Transportation corridors - Road Right-of-ways (herbicide use areas) (M)				N	
Transportation corridors - Roads/ Streets (L)				N	
Hospitals (M)				N	
Storm Drain Discharge Points (M)	✓			Y	DRAINS TO Sugar Pine Creek
Storm Water Detention Facilities (M)				N	
Artificial Recharge Projects - Injection wells (potable water) (L)				N	
Artificial Recharge Projects - Injection wells (non-potable water) (M)				N	
Artificial Recharge Projects - Spreading Basins (potable water) (L)				N	
Artificial Recharge Projects - Spreading Basins (non-potable water) (M)				N	
Medical/dental offices/clinics (L)				N	
Veterinary offices/clinics (L)				N	
Surface water - streams/ lakes/rivers (L)	✓			Y	Sugar Pine CREEK / SEASONAL
Wells - monitoring, test holes (L)				N	

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