Flow Path Type	Wells and Springs (within groups, listed in downgradient order)	Well Open Interval: Shal-low >730 ft msl	Well Open Interval: Deep <700 ft msl	Relative Water Level: High	Relative Water Level: Low	Temperature Feb-03 (°C): <12	Temperature Feb-03 (°C): 12-13.5	Temperature Feb-03 (°C): > 13.5	Spec. Cond.	Average Specific Conductance (uS/cm): Very Low <200	Average Specific Conductance (uS/cm): Low 200-400	Average Specific Conductance (uS/cm): Mod. 400-600	Average Specific Conductance (uS/cm): High >700	Iso-tope Group (Fig. 37)	Water Ionic Type (Table 31)	Positive Tracer Test (sources & detections)	Com-ments	Contour Map: Upper	Contour Map: Lower	Geologic Formation (where water encountered)	Classification by PELA (2005): "Isolated, Perched, Un-connected, and/or Un-saturated"	Classification by PELA (2005): "Sat-urated"	Group Comments
A1	Reggiardo Spring					*X*			47	X					Na-Cl			X		sandstone (Tsm)			Springflow and stream baseflow from precipitation recharged into Santa Margarita Sandstone; little contact with other rocks. Very low mineral content. Low Ca:Mg ratio. All occur on Bonny Doon plateau north of quarry, except seep SP-5 on slope south of Plant Spring.
	Whitesell Sp (SP-11,-12,&-13)						X		174	X				**1**	mixed			X		sandstone (Tsm)			
	Strong Sp (SP-14,-15,&-16)					X			106	X				**1**				X		sandstone/schist			
	Martin Rd Sp (SPNA-3)								110	X					Na-Cl			X		sandstone/granitic			
	Mill Creek (CR-3)					X			103	X				**1**				X		sandstone/granitic			
	SP-5 (S. of Plant Sp)					X			154	X				**1**						sandstone (Tsm)			
A2	**BD-40**		X	X					453			X			$Ca\text{-}HCO_3$			X		marble	X		Groundwater in marble aquifer upgradient of quarry (both north and east) recharged by sinkholes and leakage from overlying Santa Margarita Sandstone. Along fractures, occurs in higher zones than those recharged by stream swallow holes. Water levels relatively high. Mineral content and Ca:Mg ratio moderate to high. Cascades to deeper zones and/or seeps from quarry walls.
	BD-41		X	X			X		470			X		2	$Ca\text{-}HCO_3$			X		marble	X		
	M6B	X		X			X		572			X		2				X		marble	X		
	BD-42	X		X			X		409			X		2	$Ca\text{-}HCO_3$		high yield	X		marble	X		
	DDH-38	X		X														X		*marble*			
	BD-44	X		X					488			X			Ca & mixed-HCO3			X		marble	X		
	DDH-26	X		X														X		*marble*			
	M3B	X		X				X	847				X	2				X		marble	X		
	M2A	X		X														X		intrusives/marble	X		
B1	Laguna Ck trib. (SS-5)					X			71	X				**3**				X		marble			Streamflow available for capture into swallow holes. Isotopic and mineral signature probably differs seasonally (first three listed samples are from rainy period in February 2003). Note $Ca\text{-}HCO_3$ type water with high Ca:Mg ratio before entering swallow hole.
	Upper Laguna Ck (CR-1)					X			113	X				**3**		X		X		marble			
	Reggiardo Ck trib. (SS-2)					X			173	X				**1`**		X		X		schist			
	Reggiardo Ck at swallow hole (SS-1)					X			168	X				**3**	$Ca\text{-}HCO_3$	X		X		marble			
	Laguna Ck at div. (CR-2)								275		X			**3**	$Ca\text{-}HCO_3$				X	marble, sandstone, schist, granitic			
	Reggiardo Ck at div.								250		X				$Ca\text{-}HCO_3$				X				
B2	**M5A**	X		X			X		383		X			4		X	high yield	X	X	marble	X		Groundwater in marble aquifer upgradient of quarry (both north and east) in deep fracture-zone conduits recharged by stream swallow holes. Water levels relatively deep. Mineral content low to moderate. Northern conduit near M5A occurs at relatively high elevation.
	M6A		X		X		X		323		X			4			high yield		X	marble		X	
	M1B		X		X		X		285		X			4		X	high yield		X	intrusives		X	
	M3A		X		X		X		494			X		4					X	marble		X	
	M2B		X		X		X		374		X			4					X	marble		X	
	PELA-3	uncertain due to bridging			X														X	marble		X	Groundwater in relatively unfractured marble. Water levels representative of deep fracture zone conduits.
	PELA-4				X														X	marble			
A3 & B3	DDH-36		X		X													?		*marble*			Groundwater in marble aquifer beneath quarry floor. Potential mixing of paths A and B.
	DDH-32		X		X														X	*marble*			
	M4B		X		X														X	marble			
	BD-43		X		X														X	*marble*			
	PELA-1		X		X														X	marble			
	PELA-2		X		X														X	marble, diorite			
	DDH-37		X	X														?		*marble*			Relatively high DDH-32 & -37 water level from pre-quarry conditions.
	M7A		X		X														X	intrusives			
	NZA		X		X											X	high yield		X	marble			
C	DDH-19		X		X														X	marble			Groundwater flowing along grade from quarry to Liddell Spring. Water quality and isotopic differences suggest that these wells are unrepresentative of conduit flow to spring.
	BD-45		X		X		X		712				X	2	Ca-HCO3				X	marble (?)		X	
	QM-2		X*		X			X	914				X	5	mixed Ca				Z	marble		X	
	QM-5		X		X		X		436			X		2					X	landslide deposits			
	DH-3		X		X		X		560			X		5					X	landslide debris?			
D	DDH-10		?		X													X		marble			South of quarry but with water levels above expected grade between quarry and springs. Water quality and isotopic differences suggest that these wells and seeps represent relatively minor flow paths.
	DDH-13		X		X													?		marble			
	QM-4A		X		X			X	526			X		5	$Ca\text{-}HCO_3$			X		marble	X		
	QM-1		X*		X			X	1,121				X	5	mixed Na			X		granitic		X	
	QM-3		X		X			X	718				X	5	mixed Na			X		marble/granitic	X		
	seep E. of Plant Sp (SP-4)					X			269		X			5				X		schist, gr, sandstone			
	seep W. of Plant Sp (SP-6)					X			472		X			5				X		schist, granitic			
	seep S. of Liddell Sp (SP-2)					X			536			X		5				X		landslide, etc.			
	Dump Sp (SP-8)							X	1,556				X	5	$Ca\text{-}SO_4$				X	quarry wastepile			High mineral content and isotopic signatures suggest groundwater (SP-8) and percolated stormflow (SP-7) influenced by quarry waste material.
	Pipe Sp (SP-7)					X			1,556				X	5	$Ca\text{-}SO_4$				X	quarry wastepile			
	Liddell Sp							X	478			X		4	$Ca\text{-}HCO_3$	X			X	marble			Mostly a mixture of paths A and B. High Ca:Mg ratio (also Plant and Williams springs).
	Plant Sp						X		393		X			4	$Ca\text{-}HCO_3$	X			X	schist, granitic			Fracture flow from stream swallow holes.
	Williams Sp								750				X		$Ca\text{-}HCO_3$	n/s			X	sandstone (Tlo)			Marble aquifer, little or no stream swallow hole recharge.

* Screened below elevation of Liddell Spring
n/s not sampled
Bold indicates wells monitored during recent years

Summary of Conceptual Groundwater Flow Paths

Table 27

Nolan Associates