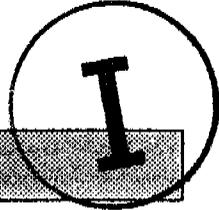


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FORMATION LOG

Kings River Ranch Well C-4

CLIENT:	Kings River Ranch
WELL NAME:	Well C-4
WELL LOCATION:	Kings River Valley
DATE WORK STARTED:	September 8, 1993
CONTRACTOR:	Pete Cope Drilling
GEOLOGIST:	Rick Hoffman

DEPTH (In feet)	PENETRATION RATE (min./20')	DESANDER ACTIVITY (1 to 4)	FORMATION NAME	FORMATION DESCRIPTION	
0'- 8'	4/ 20	2	Alluvium and Older Alluvium	SOIL: med. to drk. brn. sandy & silty loam	
8'- 30'	4/ 40	3		SAND: crs. grained, sub-angl. drk. lithic frags to 3/16" dia., mod. well sorted	
30'- 40'	5/ 60	2		SANDY CLAY: med. brn. crs. sandy clay	
40'- 50'	5/ 80	3		SAND: crs. grained, well sorted, sand, 90% drk. lithic frags, no clay	
50'- 80'	5/ 100	2		SANDY CLAY & SILTY CLAY: brn crs. sandy clay & silty clay, poorly sorted frags, sub-angl.	
80'- 98'	5/ 120	2		SILTY CLAY: brn. silty clay & clay, mod. firm	
98'- 134'	5/ 140	3		SAND & GRAVEL: med. brn. crs. grained sand & gravel; sub-angl. 80% drk lithic, 20% qtz & granitic	
134'- 150'	8/ 160	3		SANDY CLAY: med. brn. crs. sandy clay	
150'- 187'	7/ 180	3		SAND: crs. grained, well sorted, sub-angl. to sub-rd. 90% drk. lithic & volc., minor qtz.	
187'- 200'	6/ 200	3		SILTY CLAY: med. brn. silty clay	
200'- 210'	4/ 220	3		SAND: crs. grained sand, well sorted, sub-angl. to sub-rd., 30% drk. brn to blk. lithic frags, 10% qtz & granitic frags	
210'- 290'	4/ 240	3		Older Alluvium	SAND & SANDY CLAY: med. to crs. grained sand, sub-angl. to sub-rd., 90% drk. lithic frags, interbedded with sandy clay
	6/ 260	3			
	5/ 280	3			
290'- 308'	4/ 300	3		SAND: med. to crs. grained sand, well sorted, sub-angl. to sub-rd., 90% drk. lithic frags, 10% qtz & granitic frags	
308'- 322'	4/ 320	3		SILTY CLAY: med. brn. silty clay	
322'- 337'	5/ 340	3		SAND: med. to crs. grained sand, sub-angl. 80% drk. lithic frags	
337'- 355'	5/ 360	3		SANDY CLAY: fine grained, med. brn. sandy clay	
355'- 385'	5/ 380	3		SAND: med. to crs. grained sand, mod. well sorted, sub-angl. to sub-rd., 90% drk. lithic frags in fine sandy matrix	
385'- 440'	4/ 400	2		Older Alluvium	SANDY CLAY: med. brn. med. sand & sandy clay, sub-angl. 90% drk lithic clasts in muddy brn. fine sand matrix, mod. clay
	3/ 420	2			
	4/ 440	2			
440'- 460'	9/ 460	2	SAND: med. to crs. grained sand, mod. well sorted, sub-angl. to sub-rd., drk. lithic frags, no clay		

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FORMATION LOG

Kings River Ranch Well C-4 -- continued

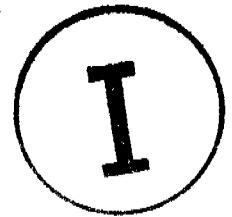
DEPTH (In feet)	PENETRATION RATE (min./20')	DESANDER ACTIVITY (1 to 4)	FORMATION NAME	FORMATION DESCRIPTION
460'- 520'	11/ 480	3	Alluvium and Older	SAND & GRAVEL: as above, crs. grained sand only, becomes well sorted gravel to 1/8" dia. below 490'
	10/ 500	3		
	11/ 520	3		
520'- 530'	11/ 540	3	Older	SAND: med. to crs. sand, sub-angl. to sub-rd.; drk. lithic & qtz.
	9/ 560	3		
530'- 600'	11/ 580	3	Alluvium	SAND: crs. sand, well sorted, sub-rd. drk. gray lithic frags, ave. 1/16" dia., no clay
	11/ 580			

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**SUMMARY LETTER: Kings River Ranch Well Design Recommendations
January 19, 1995**



WELL C-4 Recommended Well Design

Estimated ground surface elevation (GSE): 4252'
 Estimated top of static water level (SWL): 4155'
 Estimated depth to SWL (below GSE): 97'

Estimated specific capacity range: 25 to 40 gpm/ft. of drawdown
 Estimated maximum flow rate without causing cascading water
 (based on top of perforations at 135'): 950 to 1520 gpm

DEPTH	CASING TYPE	BLANK TOTAL	WELL SCREEN
0-135	blank casing	135	
135-185	well screen		50
185-205	blank casing	20	
205-245	well screen		40
245-265	blank casing	20	
265-335	well screen		70
335-355	blank casing	20	
355-385	well screen		30
385-405	blank casing	20	
405-605	well screen		200
605-615	blank casing w/cap	10	
TOTALS		225	390

WELL CASING TYPE: Johnson Hi-Cap, Extra Heavy wire wrap well screen
SLOT SIZE: 0.100" continuous wire wrap, mild steel
GRAVEL PACK: Gopher Pit, "Well Sand 1/4" (see attached sieve analysis)

1000 PF concrete

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