

EXPLANATION OF CURRENT USE CODE

CODE	MEANING			
C	Commercial			
D	Domestic			
E	Power generation			
I	Irrigation			
L	Livestock			
M	Mining			
N	Industrial			
O	Observation			
P	Public supply			
T	Institutional			
U	Unknown			
X	Unused			

APPENDIX A4. Summary of trace element chemistry of groundwater samples.

Sample ID	Sample Name	Site Name	Formation	Collection Date	As (µg/L)	Al (µg/L)	Am (µg/L)	B (µg/L)	Br (µg/L)	Ca (µg/L)	Co (µg/L)	Cr (µg/L)	Cu (µg/L)	Hg (µg/L)	Li (µg/L)	Mn (µg/L)	Ni (µg/L)	Pb (µg/L)	Sh (µg/L)	Se (µg/L)	Th (µg/L)	Ti (µg/L)	Ti (µg/L)	U (µg/L)	V (µg/L)	Zn (µg/L)				
EB013	EB013A	MWB Well #15, Phlags	115NCH	7/15/02	-0.001	-0.001	0.000	0.000	0.1	<-0.001	<-0.001	0.002	0.001	<-0.0005	0.012	0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	<-0.001	0.003	0.007	0.021

EXPLANATION OF CODES USED IN APPENDICES A2-A5

1. Formation codes		2. Site type codes	
Code	Meaning	CODE	MEANING
110AVMB	Quaternary fill	D	Diversion of surface water, etc
112ANCH	Upper Santa Fe Group, Ancha Formation	ES	Ephemeral stream
112SNTFA	Upper Santa Fe Group, axial facies	GW	Groundwater other than spring (well)
112SNTFOB	Upper SantaFe Group, Loma Barbon member of Arroyo Ojito Formatin	L	Lake, pond or reservoir
112SNTFP	Upper Santa Fe Group, piedmont facies	M	Meteorological (rain, snow)
112TRTO	Tuerto Gravels	O	Outfall of wastewater or return flow
120ELRT	El Rito Formation	OT	Other
120IRSV	Tertiary Intrusives	PS	Perennial stream
121TSUQ	Santa Fe Group, undifferentiated Tesuque Formation	SP	Spring
122SNTFP	Lower Santa Fe Group, piedmont facies		
123ESPN	T Espinaso Formation		
123GLST	T Galisteo Formation		
210CRCS	Cretaceous undivided		
210HOSTD	K Hosta Dalton		
210MCDK	K Mancos/Dakota undivided		
210MNCS	K Mancos undivided		
210MNCSL	K Lower Mancos		
210MNCSU	K Upper Mancos		
211DKOT	K Dakota		
211MENF	K Menefee		
211MENF/HARN	Harmon Sandstone Member of Menefee		
211MENFU	K Upper Menefee (above Harmon Sandstone)		
211PNLK	K Point Lookout		
220ENRD	J Entrada		
220JRSC	Jurassic undivided		
221MRSN	J Morrison		
221MRSN/BBSN	Brushy Basin Member of Morrison		
221MRSN/JCKP	Jackpile Sandstone Member of Morrison		
221MRSN/RCAP	Recapture Shale Member of Morrison		
221MRSN/WWCN	Westwater Canyon Member of Morrison		
221TDLT	J Todilto		
231AGZC	Tr Agua Zarca		
231AGZCU	Tr Upper Agua Zarca		
231PFDL	Tr Petrified Forest		
231PFDL	Tr Lower Petrified Forest (below middle sandstone)		
231PFDL	Tr Middle Petrified Forest sandstone		
231PFDL	Tr Upper Petrified Forest (above middle sandstone)		
231SNTR	Tr Santa Rosa		
310YESO	P Yeso		
318ABO	P Abo		
325MDER	Penn Madera undivided		
325MDERL	Penn Lower Madera		
325MDERU	Penn Upper Madera		
400EMBD	Embudo Granite (undifferentiated PreCambrian near Santa Fe)		

The following analytes were removed from Appendix tables for reasons indicated below.	
Deleted	Reason
3H	Concentrations generally below detection limits; Not many reported values
Be	Concentrations generally below detection limits; Not many reported values
H2S	Concentrations generally below detection limits; Not many reported values
Sr90	Not many reported values
Sn	Concentrations generally below detection limits; Not many reported values
HRD	Calculated parameter
ALK	Calculated parameter
NH3	Nitrogen only shown as NO3(N)
NH4	Nitrogen only shown as NO3(N)
NO2	Nitrogen only shown as NO3(N)
NO2(N)	Nitrogen only shown as NO3(N)
NO2+NO3(N)	Nitrogen only shown as NO3(N)
TKN	Nitrogen only shown as NO3(N)
TN	Nitrogen only shown as NO3(N)
CN6	Concentrations generally below detection limits; Not many reported values

APPENDIX B1. Location and site information about surface water sites.

Point ID	SiteNames	Location_ID	UTM Easting (NAD 83)	UTM Northing (NAD 83)	Elevation (ft asl)	SiteType
EB-492	Santa Fe River 1	17N.10E.21.234	420,204	3,949,898	7421.60	ES
EB-493	Santa Fe River 2	17N.10E.20.424	418,999	3,949,504	7322.40	ES
EB-495	Little Tesuque Creek 2	17N.10E.6.244	417,501	3,954,784	7070.80	ES
EB-497	Tesuque Creek 2	18N.10E.31.432	417,124	3,955,895	6965.50	ES
EB-498	Rio Tesuque 1	18N.10E.31.321	416,528	3,956,339	6879.40	ES
EB-499	Rio Tesuque 2	19N.9E.7.324	407,194	3,972,212	5817.40	ES
EB-500	Pojoaque Creek	19N.9E.7.223	407,846	3,972,986	5836.80	ES
EB-501	Arroyo Hondo 1	16N.10E.18.213	416,748	3,942,377	7137.70	ES
EB-502	Arroyo Hondo 2	16N.10E.18.224	417,279	3,942,280	7179.20	ES
EB-503	Rio Chupadero	18N.10E.16.322	419,970	3,960,373	7675.40	ES
EB-595	Santa Fe River above WWTP	16N.8E.10.123	401,950	3,944,200	6301.50	ES
EB-622	San Marcos Creek SW	14N.8E.10	401,040	3,924,413	5896.00	ES
EB-624	Bonanza Creek SW	15N.8E.9	400,057	3,933,375	6100.00	ES
EB-527	Hyde Park Estates Little Eva	18N.10E.9.3234	419,918	3,952,918	7839.00	GW
EB-623	Las Lagunitas SW	15N.8E.5	399,086	3,935,590	6036.00	L
EB-458	Santa Fe Wastewater Treatment Plant	16N.8E.9.4241	401,291	3,943,267	6266.00	O
EB-494	Little Tesuque Creek 1	17N.10E.1.114	424,322	3,954,647	8429.70	PS
EB-496	Tesuque Creek 1	18N.11E.16.331	428,529	3,960,120	11035.80	PS
EB-620	Rio Grande - Santa Cruz	20N.8E.3.442	403,255	3,983,428	5582.30	PS
EB-621	Rio Grande - Otowi	19N.8E.18.331	396,940	3,970,664	5502.60	PS
EB-457	Sunrise Springs, Spring	16N.8E.33.1214	400,236	3,937,629	6049.50	SP

Site type codes:

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ES	Ephemeral stream
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O	Outfall of wastewater or return flow
OT	Other
PS	Perennial stream
SP	Spring

APPENDIX B2. Summary of field parameters and major element chemistry of surface water samples

Point ID	Sample Point ID	Site Name	Collection Date	Site Type ²	Sp. Cond. (µS/cm)	Dissolved Oxygen (mg/L)	pH field	Temp (°C)	Br (mg/L)	Ca (mg/L)	Cl (mg/L)	CO3 (mg/L)	Sp. Cond. (µS/cm)	HCO3 (mg/L)	K (mg/L)	Mg (mg/L)	Na (mg/L)	pH Lab	SO4 (mg/L)	Total Dissolved Solids (mg/L)	Ion Balance (% Difference)
EB-492	EB-492A	Santa Fe River 1	5/28/87	ES							1.9										
EB-493	EB-493A	Santa Fe River 2	8/26/87	ES							2.1										
EB-500	EB-500A	Pojoaque Creek	6/3/87	ES							3.3										
EB-500	EB-500C	Pojoaque Creek	4/26/88	ES							3.3										
EB-493	EB-493B	Santa Fe River 2	8/26/87	ES							4.6										
EB-497	EB-497A	Tesuque Creek 2	6/3/87	ES							4.9										
EB-493	EB-493E	Santa Fe River 2	9/19/88	ES							5.5										
EB-502	EB-502A	Arroyo Hondo 2	5/28/87	ES							5.5										
EB-493	EB-493D	Santa Fe River 2	8/25/88	ES							6.2										
EB-493	EB-493C	Santa Fe River 2	4/28/88	ES							6.5										
EB-498	EB-498A	Rio Tesuque 1	6/3/87	ES							7										
EB-500	EB-500B	Pojoaque Creek	8/26/87	ES							7.1										
EB-503	EB-503A	Rio Chupadero	6/3/87	ES							8.1										
EB-501	EB-501A	Arroyo Hondo 1	5/28/87	ES							8.4										
EB-495	EB-495A	Little Tesuque Creek 2	6/3/87	ES							10.7										
EB-503	EB-503B	Rio Chupadero	8/26/87	ES							11.7										
EB-497	EB-497B	Tesuque Creek 2	4/27/88	ES							13.2										
EB-503	EB-503C	Rio Chupadero	4/26/88	ES							14.2										
EB-501	EB-501C	Arroyo Hondo 1	8/28/88	ES							16.9										
EB-499	EB-499A	Rio Tesuque 2	6/3/87	ES							17.3										
EB-499	EB-499C	Rio Tesuque 2	4/26/88	ES							19.9										
EB-499	EB-499B	Rio Tesuque 2	8/26/87	ES							22										
EB-495	EB-495B	Little Tesuque Creek 2	8/26/87	ES							23.8										
EB-495	EB-495C	Little Tesuque Creek 2	4/27/88	ES							37										
EB-501	EB-501D	Arroyo Hondo 1	9/1/95	ES						58.7	19.1	<2		196	2.14	12.3	21.7	7.83	28.9	264	5.8
EB-595	EB-595A	Santa Fe River above WWTP	5/12/05	ES	251	4.7	8.3	23.2	<0.1	31	12	3.8	230	87	1.6	5	9.6	8.4	23	141	0.7
EB-624	EB-624A	Bonanza Creek SW	9/8/98	ES						47.4	7	<1	322	231	3.5	12.1	27.2	7.6	16	274	3.5
EB-622	EB-622A	San Marcos Creek SW	9/8/98	ES						81.2	25	<1	461	303	2.5	12.5	43.5	7.4	42	330	3.6
EB-623	EB-623A	Las Lagunitas SW	9/8/98	L						16	8	8		87	2.3	6.8	21.3	9	13	158	3.4
EB-458	EB-458A	Santa Fe Wastewater Treatment Plant Effluent	3/13/85	O	470		6.7	18.5		24	47.9			108	9.36	2.68	69		54	385	4.6
EB-496	EB-496A	Tesuque Creek 1	6/3/87	PS							1.2										
EB-496	EB-496B	Tesuque Creek 1	8/26/87	PS							1.3										
EB-494	EB-494A	Little Tesuque Creek 1	6/3/87	PS							11.7										
EB-494	EB-494B	Little Tesuque Creek 1	8/26/87	PS							26.8										
EB-494	EB-494C	Little Tesuque Creek 1	4/28/88	PS							34.8										
EB-620	EB-620C	Rio Grande - Santa Cruz	1/6/01	PS	317		8.6	5.3	0.04		7.3									152.2	
EB-621	EB-621C	Rio Grande - Otowi	1/6/01	PS	326		8.8	5.9	0.055		7.6									157.1	
EB-620	EB-620B	Rio Grande - Santa Cruz	1/5/02	PS	323		8.1	3.6	0.03		6.4								37.7061	212	
EB-620	EB-620A	Rio Grande - Santa Cruz	8/18/01	PS	359		7.6	19.8	0.035		6.27								57.6	173.2	
EB-621	EB-621F	Rio Grande - Otowi	8/16/03	PS	283		8.1	24.6	0.046	36	3.419			109	2.3	6.4	15		47.913	186	2.1
EB-621	EB-621A	Rio Grande - Otowi	8/18/01	PS	362		7.7	20.6	0.035	49	6.53				3.5	7.6	22		56.4	174.3	50.3
EB-621	EB-621B	Rio Grande - Otowi	1/5/02	PS	337		7.8	2.8	0.04	32	7.56			147	2.9	6.2	22		35.8815	222	-4.1
EB-621	EB-621E	Rio Grande - Otowi	1/12/03	PS	220		8.3	6.5	0.0369	40	9.1			153	3.2	8.5	25		51.12	332	0.4
EB-621	EB-621D	Rio Grande - Otowi	8/22/02	PS	391		8.4	24.8	0.77	49	3.75			131	2.5	8.7	81		84.78	259	25.3
EB-457	EB-457A	Sunrise Springs, Spring	1/14/85	SP	200		6.5	11.2		26	5.2			149	1.17	2.4	32.2		22.5	188	-2.5

APPENDIX B3. Summary of minor element chemistry of surface water samples.

Point ID	Sample Point ID	Site Name	Collection Date	Site Type ²	F (mg/L)	Fe (mg/L)	Mn (mg/L)	NO3 as N (mg/L)	PO4 (mg/L)	SiO2 (mg/L)	Sr (mg/L)
EB-501	EB-501D	Arroyo Hondo 1	9/1/95	ES		<0.05		0.81			
EB-595	EB-595A	Santa Fe River above WWTP	5/12/05	ES	0.27	0.24	0.02	0.04	<0.5	14	0.11
EB-458	EB-458A	Santa Fe Wastewater Treatment Plant	3/13/85	O	0.09				2.56	11.77	
EB-620	EB-620A	Rio Grande - Santa Cruz	8/18/01	PS				0.171			
EB-620	EB-620B	Rio Grande - Santa Cruz	1/5/02	PS				0.6547			
EB-621	EB-621A	Rio Grande - Otowi	8/18/01	PS				0.124			0.73
EB-621	EB-621B	Rio Grande - Otowi	1/5/02	PS				0.8801			0.55
EB-621	EB-621D	Rio Grande - Otowi	8/22/02	PS				0.033			0.39
EB-621	EB-621E	Rio Grande - Otowi	1/12/03	PS				0.1793			0.3
EB-621	EB-621F	Rio Grande - Otowi	8/16/03	PS				0.6244			0.28
EB-457	EB-457A	Sunrise Springs, Spring	1/14/85	SP	0.32				0.01	21	

APPENDIX B5. Summary of stable hydrogen and oxygen isotope data from surface water samples.

Point ID	Sample Point ID	Site Name	Collection Date	Site Type ²	$\delta^2\text{H}$	$\delta^{18}\text{O}$
EB-493	EB-493A	Santa Fe River 2	8/26/87	ES	-85	-12.4
EB-493	EB-493B	Santa Fe River 2	8/26/87	ES	-79	-11.2
EB-493	EB-493C	Santa Fe River 2	4/28/88	ES	-79	-10.65
EB-493	EB-493E	Santa Fe River 2	9/19/88	ES	-75.5	-10.7
EB-493	EB-493F	Santa Fe River 2	11/10/88	ES	-77	-10.4
EB-493	EB-493G	Santa Fe River 2	11/30/88	ES	-76	-10.3
EB-495	EB-495A	Little Tesuque Creek 2	6/3/87	ES	-90	-12.6
EB-495	EB-495B	Little Tesuque Creek 2	8/26/87	ES	-68	-10.4
EB-495	EB-495C	Little Tesuque Creek 2	4/27/88	ES	-85.5	-12.05
EB-497	EB-497A	Tesuque Creek 2	6/3/87	ES	-91	-13.2
EB-497	EB-497B	Tesuque Creek 2	4/27/88	ES	-91.5	-13
EB-498	EB-498A	Rio Tesuque 1	6/3/87	ES	-90	-13.1
EB-499	EB-499A	Rio Tesuque 2	6/3/87	ES	-83	-11.5
EB-499	EB-499B	Rio Tesuque 2	8/26/87	ES	-78	-10.6
EB-499	EB-499C	Rio Tesuque 2	4/26/88	ES	-81	-11.2
EB-500	EB-500A	Pojoaque Creek	6/3/87	ES	-87	-13
EB-500	EB-500B	Pojoaque Creek	8/26/87	ES	-83	-11.8
EB-500	EB-500C	Pojoaque Creek	4/26/88	ES	-84.5	-11.9
EB-501	EB-501A	Arroyo Hondo 1	5/28/87	ES	-85	-11.5
EB-501	EB-501B	Arroyo Hondo 1	8/26/87	ES	-72	-10
EB-501	EB-501C	Arroyo Hondo 1	8/28/88	ES	-75.5	-10.35
EB-502	EB-502A	Arroyo Hondo 2	5/28/87	ES	-85	-11.9
EB-503	EB-503A	Rio Chupadero	6/3/87	ES	-89	-13
EB-503	EB-503B	Rio Chupadero	8/26/87	ES	-83	-12.1
EB-503	EB-503C	Rio Chupadero	4/26/88	ES	-91.5	-12.65
EB-494	EB-494A	Little Tesuque Creek 1	6/3/87	PS	-86	-12.8
EB-494	EB-494B	Little Tesuque Creek 1	8/26/87	PS	-79	-11.7
EB-494	EB-494C	Little Tesuque Creek 1	4/28/88	PS	-86.5	-12.3
EB-496	EB-496A	Tesuque Creek 1	6/3/87	PS	-89	-13.2
EB-496	EB-496B	Tesuque Creek 1	8/26/87	PS	-86	-12.9
EB-620	EB-620A	Rio Grande - Santa Cruz	8/18/01	PS	-88	-12
EB-621	EB-621A	Rio Grande - Otowi	8/18/01	PS	-88	-12.1
EB-621	EB-621B	Rio Grande - Otowi	1/5/02	PS	-100	-13.8
EB-621	EB-621D	Rio Grande - Otowi	8/22/02	PS	-78	-10
EB-621	EB-621E	Rio Grande - Otowi	1/12/03	PS	-95	-12.7
EB-621	EB-621F	Rio Grande - Otowi	8/16/03	PS	-86	-11.2

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NO2	Nitrogen only shown as NO3(N)
NO2(N)	Nitrogen only shown as NO3(N)
NO2+NO3(N)	Nitrogen only shown as NO3(N)
TKN	Nitrogen only shown as NO3(N)
TN	Nitrogen only shown as NO3(N)
CN6	Concentrations generally below detection limits; Not many reported values