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# **Appendix O**

**MUNICIPAL & DHS  
WELL LOGS**

STATE #E-2  
 WATER DEPT. #95

SAN BERNARDINO WATER DEPT. - DEVIL CANYON WELL NO. 2

In Devil Canyon Wash, 1,000-ft. North of Wiggins Hill.

Diameter - 22 Inches  
 Drilled - December, 1938  
 Drilled By - Roscoe Kosa

0	Ft.	to	177 Ft.	Pit
177	Ft.	to	200 Ft.	Tight Gravel and Boulders
200	Ft.	to	278 Ft.	Gravel and Boulders with some clay
278	Ft.	to	284 Ft.	Loose Sand and Gravel
284	Ft.	to	296 Ft.	Gravel and Boulders showing clay
296	Ft.	to	306 Ft.	Sandy Clay
306	Ft.	to	316 Ft.	Gravel and Boulders showing clay
316	Ft.	to	324 Ft.	Black conglomerate (tight)
324	Ft.	to	356 Ft.	Clay and Gravel (tight)
356	Ft.	to	400 Ft.	Gravel and Boulders showing Clay
400	Ft.	to	414 Ft.	Gravel and Boulders (tight)
414	Ft.	to	440 Ft.	(Cement)
440	Ft.	to	450 Ft.	Conglomerate with limestone Boulders Hill formation

Diameter of Perforations - 1/2"  
 Length of Perforations - 1-3/4"  
 Water Level - 177 Feet

Perforated

115  
 10  
 177-ft. - 292-ft. - 15 holes every 5"  
 306-ft. - 316-ft. - 16 holes every 5"  
 356-ft. - 400-ft. - 13 holes every 5"

For Well Test - 1948 - See Field Book 44 - Pg. 31 to 41

URS TDMT Only	Type:	TDCN: 10100
Project #: 62171.01	Site Name:	Newmark

STATE SERIAL #E-10e  
STATE WELL NUMBER 01N/04W-16E04,S

NEWMARK WELL NO. 4

65.0 feet West  $\frac{1}{2}$  of Reservoir Drive - 50.0 feet East  
 $\frac{1}{2}$  of Western Avenue

Diameter - 20 Inches  
6 Gage Casing - Double  
Depth - 441 Feet  
Drilled - April, 1967  
Drilled By - Russell H. Forney

0	Ft.	to	2 Ft.	Top Soil
2	Ft.	to	35 Ft.	Gravel 0-6" and some Clay
35	Ft.	to	40 Ft.	Gravel and Boulders - Loose
40	Ft.	to	189 Ft.	Loose Gravel 0-3" some Clay
189	Ft.	to	203 Ft.	Light Brown Sandy Clay
203	Ft.	to	205 Ft.	Gravel and Boulders
205	Ft.	to	223 Ft.	0-3" Gravel and Clay
223	Ft.	to	249 Ft.	Clean loose Gravel 0-2"
249	Ft.	to	276 Ft.	Clay and Gravel 0-2"
276	Ft.	to	311 Ft.	Gravel, some Clay 0-2"
311	Ft.	to	386 Ft.	Loose Gravel Boulders - some Clay
386	Ft.	to	390 Ft.	Yellow Clay Decomposed Granite
390	Ft.	to	398 Ft.	Granite fairly Hard, some Yellow Clay
398	Ft.	to	426 Ft.	Decomposed Granite, some Yellow Clay
426	Ft.	to	441 Ft.	Blue Granite Rocks fairly Hard

Static Water Level - April 18, 1967 - 265.0'

2,550 G. P. M. - Pumping Level - 293.0'

Perforated with Mills Mechanical Knife

$\frac{3}{8}$ " X  $3\frac{1}{2}$ " Blade

Perforations

300-ft. to 404-ft. - 12 Cuts @ L

STATE #E-10b

SAN BERNARDINO WATER DEPARTMENT

NEWMARK WELL NO. 2

175.0' South of Reservoir Drive, 40.0' West of  
Magnolia Drive, 300.0' East of Well #E-10.

Depth - 359.5'  
Diameter - 20 Inches  
Drilled - June, 1946  
Drilled By - E. W. Brockman & Son

0	Ft.	to	20 Ft.	Sand and Gravel
20	Ft.	to	110 Ft.	Cemented Gravel and Boulders.
110	Ft.	to	112 Ft.	Loose Rock
112	Ft.	to	148 Ft.	Cemented Sand - Coarse.
148	Ft.	to	198 Ft.	Coarse Sand and Gravel.
198	Ft.	to	204 Ft.	Sand and Gravel with Clay.
204	Ft.	to	240 Ft.	Sand and Gravel
240	Ft.	to	252 Ft.	Dirty Sand
252	Ft.	to	336 Ft.	Cemented Sand and Gravel
336	Ft.	to	340 Ft.	Gravelly Clay and Boulders.
340	Ft.	to	359½ Ft.	Hill Formation

Perforated at

148 Ft. to 240 Ft.

252 Ft. to 336 Ft.

8 Cuts per Round every 12" - 7/16" Mills Blade

STATE #E-10  
WATER DEPT. #27

SAN BERNARDINO WATER DEPT. - NEWMARK WELL.

Northeast Corner of "A" Street and Western Avenue.  
Arrowhead Suburban Farms.

Diameter 26-inches to 233-ft., Reduced to 12-inches.  
Cement Joint Between 223-ft. to 235-ft.

0	Ft.	to	80 Ft.	Shaft.
80	Ft.	to	150 Ft.	Gravel and Boulders Cemented.
150	Ft.	to	180 Ft.	Gravel Coarse Cemented.
180	Ft.	to	186 Ft.	Clay Yellow.
186	Ft.	to	251 Ft.	Sand & Gravel -Loose, perforated.
251	Ft.	to	265 Ft.	Sandy & Clay -Loose, perforated.
265	Ft.	to	406 Ft.	Sand & Gravel -Loose, perforated.
406	Ft.	to	415 Ft.	Bedrock (Schist.)

Water Stands 88-ft. from surface.

Hole torn in Casing at 115-ft. from surface in  
26-inch Casing.

June 22, 1966

Cleaned approximately 40.0' of sand from Well -  
Sounded to depth - 413 Feet.

Used 1 3/4" Swedge to flare 12" casing at 222.0' to protect  
Submersible Cable.

26" Casing separated at 160.0' on West side of Well.

Submersible Cable to be secured to East side of Pump Column to  
protect cable. - - - - - L. E. Maloy

STATE #E-10c

NEWMARK WELL NO. 3

283.0 feet East  $\frac{1}{2}$  of Western Avenue - 94.0 feet  
North  $\frac{1}{2}$  of 42nd. Street.

Diameter - 16 Inches  
8 Gage Double Casing  
Depth - 495 Feet  
Drilled - May, 1954  
Drilled By - John R. Beylik

0	Ft.	to	10 Ft.	Sand and Gravel
10	Ft.	to	20 Ft.	Sand and Gravel (coarse)
20	Ft.	to	30 Ft.	Gravel and Boulders
30	Ft.	to	130 Ft.	Sand, Gravel and Boulders
130	Ft.	to	160 Ft.	Cemented Sand and Gravel (coarse)
160	Ft.	to	170 Ft.	Cemented Sand with Clay and Gravel
170	Ft.	to	180 Ft.	Sand and Gravel (coarse)
180	Ft.	to	200 Ft.	Sandy Clay and Gravel
200	Ft.	to	212 Ft.	Sand and Gravel, loose Boulders
212	Ft.	to	214 Ft.	Sandy Clay
214	Ft.	to	230 Ft.	Sand and Gravel
230	Ft.	to	232 Ft.	Sandy Clay
232	Ft.	to	242 Ft.	Coarse Gravel and Boulders
242	Ft.	to	253 Ft.	Sandy Clay and Gravel, Boulders
253	Ft.	to	256 Ft.	Hard Sandy Clay
256	Ft.	to	260 Ft.	Sand, Coarse Gravel, loose Boulders
260	Ft.	to	262 Ft.	Hard Sandy Clay
262	Ft.	to	270 Ft.	Coarse Gravel, Boulders
270	Ft.	to	283 Ft.	Fine Sand
283	Ft.	to	305 Ft.	Coarse Gravel, loose Boulders
305	Ft.	to	306 Ft.	Hard Sandy Clay

NEWMARK WELL NO. 3

(Continued)

306	Ft.	to	330 Ft.	Fine Sand and Gravel
330	Ft.	to	331 Ft.	Sandy Clay
331	Ft.	to	381 Ft.	Fine Sand and Gravel loose Boulders
381	Ft.	to	462 Ft.	Coarse Gravel and Boulders
462	Ft.	to	475 Ft.	Hard Sandy Clay (red)
475	Ft.	to	495 Ft.	Schist - Bedrock

Static Water Level - May 10, 1954 - 191.5'

1,475 G. P. M. - Pumping Level - May 12, 1954 - 207.2'

Temperature - 66°

Perforated with a Mills Knife with a 7/16" Blade -  
8 Cuts to a Circle on 12" Centers.

Perforated

232-ft. to 270-ft.

283-ft. to 305-ft.

331-ft. to 462-ft.

Casing Ends at 480-ft. - Open Hole to 490-ft.

STATE #E-35w

WATERMAN AVENUE WELL

300-ft. South of Marshall Blvd. and 270-ft. West  
of Waterman Avenue.

Diameter - 20 Inches  
6 Gage Casing  
Depth - 662 Feet  
Drilled - November, 1949.  
Drilled By - Barber-Bridge

0	Ft.	to	8 Ft.	Top Soil Sandy
8	Ft.	to	62 Ft.	Clay Sandy
62	Ft.	to	238 Ft.	Gravel to 6"
238	Ft.	to	258 Ft.	Gravel to 6" Clay Streaks
258	Ft.	to	267 Ft.	Gravel to 3"
267	Ft.	to	295 Ft.	Gravel to 3"- Clay
295	Ft.	to	438 Ft.	Gravel to 4"
438	Ft.	to	490 Ft.	Gravel and Boulders
490	Ft.	to	542 Ft.	Gravel and Boulders, Tight
542	Ft.	to	594 Ft.	Gravel and Boulders
594	Ft.	to	636 Ft.	Gravel and Boulders, Tight
636	Ft.	to	658 Ft.	Cemented Gravel
658	Ft.	to	662 Ft.	Clay Red Sandy

Bottom shoe at 638-ft. - inserted 18" X 5/16" X 36.0'  
Perforated Liner in bottom of Well.  
Test show maximum of 3,960 G.P.M. - Total head 163.0'  
Drawdown = 17.0'

For Details - See Field Book #48 - Pg. 7

Perforated 258-ft. to 267-ft.  
295-ft. to ~~618~~-ft.

Hydraulic Perforator

7/16" X 3" Hole  
8 Holes at 12" Center Line

STATE #E-0025L

31ST. AND MT. VIEW AVENUE WELL

35.0 feet West & North Bound Lane of Mt. View Avenue  
and 30.0 feet South & of 31st. Street.

Diameter - 20 Inches  
6 Gage Casing - Double  
Depth - 577 Feet  
Drilled - December, 1962  
Drilled By - Ray Roberts Pumps and  
Equipment

0	Ft.	to	60 Ft.	Sand
60	Ft.	to	72 Ft.	Sand and Pea Gravel
72	Ft.	to	102 Ft.	Sand
102	Ft.	to	224 Ft.	Sand and Gravel
224	Ft.	to	242 Ft.	Tight Pea Gravel
242	Ft.	to	281 Ft.	Gravel up to 5 inches
281	Ft.	to	289 Ft.	Red Sand
289	Ft.	to	303 Ft.	Sand Gravel and Streaks of Clay
303	Ft.	to	319 Ft.	Sand Clay and Gravel
319	Ft.	to	491 Ft.	Gravel, Clay and Sand Some 6" Gravel
491	Ft.	to	553 Ft.	Gravel up to 12 inches
553	Ft.	to	577 Ft.	Clay and Hill Formation, Decomposed Material

Static Water Level - December 17, 1962 - 251.0 feet

3,700 G. P. M.

Pumping Level - December 18, 1962 - 278.5 feet

Temperature - 66°

Perforated with Mills Mechanical Knife

Cut 1/2" X 3 1/4" - 9 Cuts to 12"

Perforations

325-ft. to 553-ft.

STATE #E-25g  
WATER DEPT. #192

SAN BERNARDINO WATER DEPT. - 30TH & MT. VIEW WELL  
(MARSHALL WELL)

Northeast Corner of 30th and Mt. View Streets, San Bernardino.

1926.

20-inch Diameter.

0	Ft.	to	104 Ft.	Shaft to Water.
104	Ft.	to	523 Ft.	Gravel.

Bottom 150-ft. is all that has been cut.

STATE #E-435a

LEROY STREET WELL

80.0 feet East  $\frac{1}{2}$  of LeRoy Street - 576.0 feet South  
 $\frac{1}{2}$  of Marshall Boulevard

Diameter - 20 Inches  
6 Gage Casing - Double  
Depth - 693 Feet  
Drilled - August, 1967  
Drilled By - Russell H. Forney

0	Ft.	to	3 Ft.	Top Soil
3	Ft.	to	63 Ft.	Sand some Gravel 2"
63	Ft.	to	113 Ft.	Gravel 3" some Brown Clay
113	Ft.	to	120 Ft.	Pea Gravel
120	Ft.	to	134 Ft.	Gravel Tight 4"
134	Ft.	to	151 Ft.	Gravel 3" Loose
151	Ft.	to	172 Ft.	Brown Silty Clay
172	Ft.	to	237 Ft.	Gravel 2" Loose
237	Ft.	to	303 Ft.	Gravel 3" Red Clay 75%
303	Ft.	to	308 Ft.	Gravel 2" Loose
308	Ft.	to	328 Ft.	Gravel 4" some Clay Tight
328	Ft.	to	338 Ft.	Gravel 4" Loose Clean
338	Ft.	to	358 Ft.	Coarse Sand 90% Gravel some Clay
358	Ft.	to	373 Ft.	Gravel 3" some Clay
373	Ft.	to	397 Ft.	Gravel and Boulders Tight
397	Ft.	to	457 Ft.	Gravel 4" some Blue Clay Tight
457	Ft.	to	573 Ft.	Loose Gravel 4"
573	Ft.	to	576 Ft.	Gravel 4" Decomposed Granite 50%
576	Ft.	to	632 Ft.	Gravel 8" Tight
632	Ft.	to	664 Ft.	Gravel Cemented some Blue Clay
664	Ft.	to	669 Ft.	Blue Clay
669	Ft.	to	692 Ft.	Shale Blue and Brown

Static Water Level - July 30, 1967 - 304.0'

3,700 G. P. M. - Pumping Level - 330.0'

Temperature - 64°

Perforated with Mills Mechanical Knife

3/8" X 3 1/2" Blade

Perforations

450-ft. to 660-ft. - 12 Cuts @ 12"  $\frac{1}{2}$

STATE #E-35z

LYNWOOD WELL

1,003.0 feet East  $\frac{1}{2}$  of Valencia - 224.0 feet South  
 $\frac{1}{2}$  Lynwood Avenue.

Diameter - 20 Inches  
6 Gage Casing - Double  
Depth - 690 Feet  
Drilled - July, 1954  
Drilled By - Water Well Supply

0	Ft.	to	7 Ft.	Top Soil
7	Ft.	to	13 Ft.	Yellow Sand and Gravel.
13	Ft.	to	26 Ft.	Yellow Sand and Big Gravel.
26	Ft.	to	66 Ft.	Yellow Sand and Gravel.
66	Ft.	to	102 Ft.	Yellow Sand and Big Gravel, tight with Clay.
102	Ft.	to	160 Ft.	Gray Sand and Big Gravel 3" tight.
160	Ft.	to	186 Ft.	Yellow Sand and Big Gravel, 10"
186	Ft.	to	199 Ft.	Yellow Sand and Gravel $1\frac{1}{2}$ " Water.
199	Ft.	to	209 Ft.	Yellow Clay and Sand and Gravel.
209	Ft.	to	221 Ft.	Yellow Sand and Gravel 3" Muddy with Clay.
221	Ft.	to	232 Ft.	Yellow Sand and Gravel 8" Clay Streaks.
232	Ft.	to	260 Ft.	Yellow Clay and Gravel.
260	Ft.	to	282 Ft.	Yellow Sandy Clay.
282	Ft.	to	310 Ft.	Yellow Clay and Gravel.
310	Ft.	to	314 Ft.	Yellow Gravel and Sand Clay Streaks.
314	Ft.	to	333 Ft.	Yellow Sand and Gravel 4".
333	Ft.	to	340 Ft.	Yellow Clay and Gravel tight with Clay.
340	Ft.	to	356 Ft.	Yellow Sand and Gravel 4" little streaks of Clay.

URS TDMT Only: Type: \_\_\_\_\_ TDCN: 10063  
Project #: 62171-01 Site Name: Newark

LYNWOOD WELL

(Continued)

356	Ft.	to	582 Ft.	Yellow Sand and Gravel and Boulders 562-ft. to 582-ft. muddy with Clay.
582	Ft.	to	586 Ft.	Yellow Sand and Gravel Muddy Clay Balls.
586	Ft.	to	604 Ft.	Yellow Sand and Gravel and Clay, very hard.
604	Ft.	to	608 Ft.	Yellow Sand and Gravel 6" Muddy.
608	Ft.	to	620 Ft.	Yellow Sand and Gravel 6" Muddy Clay Balls.
620	Ft.	to	658 Ft.	Yellow Sand and Gravel Little Muddy.
658	Ft.	to	690 Ft.	Yellow Clay, with Sand and Gravel and streaks of shells.

Static Water Level - July 13, 1954 - 173.7'

2,300 G. P. M. - Pumping Level 201-ft.

Temperature - 66°

PERFORATOR - MOSS HYDRAULIC (4 Blades)

320-ft. to 335-ft.  
344-ft. to 584-ft.  
629-ft. to 660-ft.

From 320-ft. to 335-ft. and from 344-ft. to 509-ft. - Horizontal Louver Cuts 3" x 3/8" - 8 Cuts at 10" E.

From 509-ft. to 584-ft. - 2 1/2" x 3/8" - 9 Cuts at 10" E.

From 629-ft. to 660-ft. - 3" x 3/8" - 8 Cuts at 10" E.

STATE #E-25k

27TH STREET WELL

371.0 feet South  $\frac{1}{2}$  of 28th Street - 120.0 feet  
West  $\frac{1}{2}$  of Acacia Avenue.

Diameter - 20 Inches  
6 Gage Casing - Double  
Depth - 749 Feet  
Drilled - January, 1956  
Drilled By - Barber-Bridge  
Drilling Corporation

0	Ft.	to	3 Ft.	Top Soil
3	Ft.	to	32 Ft.	Sandy Clay
32	Ft.	to	52 Ft.	Sand and Gravel
52	Ft.	to	58 Ft.	Sandy Blue Clay
58	Ft.	to	62 Ft.	Gravel
62	Ft.	to	74 Ft.	Yellow Clay
74	Ft.	to	107 Ft.	Gravel and Boulders
107	Ft.	to	124 Ft.	Sandy Yellow Clay
124	Ft.	to	136 Ft.	Gravel and Boulders
136	Ft.	to	141 Ft.	Yellow Clay
141	Ft.	to	190 Ft.	Sand, Gravel and Boulders
190	Ft.	to	201 Ft.	Sand, Boulders and Gravel
201	Ft.	to	242 Ft.	Yellow Clay
242	Ft.	to	260 Ft.	Cemented Sand and Boulders
260	Ft.	to	268 Ft.	Yellow Clay
268	Ft.	to	289 Ft.	Clay Yellow
289	Ft.	to	326 Ft.	Cemented Sand and Gravel dirty - not very hard
326	Ft.	to	362 Ft.	Loose Gravel and Boulders little sand
362	Ft.	to	366 Ft.	Gravel and Boulders 4" to 10"
366	Ft.	to	389 Ft.	Gravel and Sand - Small boulders - 1" to 3" - brown sand
389	Ft.	to	402 Ft.	Gravel and Sand - Boulders 2" to 6"
<u>402</u>	Ft.	to	411 Ft.	Yellow Clay

27TH STREET WELL

(Continued)

411	Ft.	to	441 Ft.	Yellow Clay with Gravel
441	Ft.	to	454 Ft.	Cemented Sand, Gravel 1" to 2"
454	Ft.	to	457 Ft.	Sand, Gravel and Boulders 2" to 4"
457	Ft.	to	476 Ft.	Yellow Clay hard with Gravel
476	Ft.	to	486 Ft.	Sand and Gravel - Boulders 2" to 4"
486	Ft.	to	509 Ft.	Sand and Gravel 2" to 6"
509	Ft.	to	534 Ft.	Sand and Gravel 1/2" to 1"
534	Ft.	to	590 Ft.	Sand, Gravel - 2" to 6"
590	Ft.	to	622 Ft.	Sand, Gravel and Boulders 2" to 4"
622	Ft.	to	646 Ft.	Sand and Gravel - Boulders 2" to 8"
646	Ft.	to	663 Ft.	Sand and Gravel 1"
663	Ft.	to	668 Ft.	Hard Yellow Clay
668	Ft.	to	676 Ft.	Sand and Gravel - Small Boulders 1" to 3"
676	Ft.	to	698 Ft.	Cemented Sand, Gravel and Boulders 2"
698	Ft.	to	703 Ft.	Sand and Gravel
703	Ft.	to	708 Ft.	Yellow Clay
708	Ft.	to	719 Ft.	Sand and Gravel - tight boulders 2" to 6"
719	Ft.	to	732 Ft.	Hard Yellow Clay - little stone
732	Ft.	to	741 Ft.	Hard Red Clay with little stone.
741	Ft.	to	749 Ft.	Hard Yellow Clay with little rock.

Static Water Level - December 31, 1955 - 148.7'

3,050 G. P. M. - Pumping Level 174.1'

Temperature - 65°

Perforated with Mills Mechanical Knife  
3/8" X 3" Blade

Perforations

243-ft. to 259-ft. - 9 cuts @ 12" ⌘  
 290-ft. to 410-ft. - 9 cuts @ 12" ⌘  
 442-ft. to 456-ft. - 9 cuts @ 12" ⌘  
 477-ft. to 717-ft. - 9 cuts @ 12" ⌘

## NORTH "E" STREET WELL

270.0' East of E "E" Street and 257.0' North  
E 25th Street.

Diameter - 20 Inches  
6 Gage Casing  
Depth - 785 Feet  
Drilled - May, 1950.  
Drilled By - Barber-Bridge

0	Ft.	to	6 Ft.	Top Soil Sandy
6	Ft.	to	62 Ft.	Clay Brown Sandy
62	Ft.	to	75 Ft.	Clay Brown, streaks of Gravel 2"
75	Ft.	to	130 Ft.	Clay Brown
130	Ft.	to	214 Ft.	Gravel to 4"
214	Ft.	to	226 Ft.	Gravel, streaks Clay
226	Ft.	to	245 Ft.	Clay Yellow
245	Ft.	to	247 Ft.	Clay Blue
247	Ft.	to	270 Ft.	Clay Yellow Sandy
270	Ft.	to	301 Ft.	Gravel to 5" dirty
301	Ft.	to	320 Ft.	Clay Yellow
320	Ft.	to	332 Ft.	Clay Yellow Sandy
332	Ft.	to	360 Ft.	Gravel to 4" Boulders
360	Ft.	to	366 Ft.	Sand and Gravel 2"
366	Ft.	to	378 Ft.	Sand and Gravel 1"
378	Ft.	to	387 Ft.	Sand and Gravel 1" Dirty
387	Ft.	to	392 Ft.	Sand and Gravel 3"
392	Ft.	to	454 Ft.	Sand and Gravel and Clay
454	Ft.	to	498 Ft.	Gravel to 4"
498	Ft.	to	510 Ft.	Gravel to 2"
510	Ft.	to	608 Ft.	Gravel to 4"
608	Ft.	to	710 Ft.	Gravel and Boulders
710	Ft.	to	761 Ft.	Gravel and Boulders - Tight
761	Ft.	to	773 Ft.	Clay Yellow (Rocks)
773	Ft.	to	781 Ft.	Gravel, Boulders, Tight
781	Ft.	to	783 Ft.	Clay Red (Rocks)
783	Ft.	to	785 Ft.	Granite (4 hours)

20" X 16" X 1½" Shoe

Perforations - 1/2" X 3" Hole

460-ft. to 756-ft. - 9 Holes - 12" Centers

Water Level - 123.0' - drawdown - 21.0'

G.P.M. - 2,300

March 18, 1958 - Sounded Well - 758.0' - L. S.

STATE #E- 26k

23RD. AND "E" STREET WELL

61.0 feet West of "E" Street - 90.0 feet North  
of 23rd. Street.

Diameter - 20 Inches  
6 Gage Casing - Double  
Depth - 958 Feet  
Drilled - November, 1964  
Drilled By - Water Well Supply

0	Ft.	to	10 Ft.	Brown Top Soil
10	Ft.	to	124 Ft.	Brown Sandy Clay
124	Ft.	to	130 Ft.	Yellow Sandy Clay
130	Ft.	to	150 Ft.	Yellow Sand and Gravel
150	Ft.	to	172 Ft.	Brown Sandy Clay
172	Ft.	to	214 Ft.	Yellow Sand and Gravel Layers of Clay
214	Ft.	to	244 Ft.	Yellow Sand and Gravel Tight
244	Ft.	to	253 Ft.	Yellow Coarse Gravel up to 4"
253	Ft.	to	262 Ft.	Yellow Clay
262	Ft.	to	284 Ft.	Yellow Sandy Clay
284	Ft.	to	292 Ft.	Yellow Fine and Coarse Sand and Gravel, Tight
292	Ft.	to	305 Ft.	Yellow Coarse Sand and Gravel up to 10 inches
305	Ft.	to	340 Ft.	Yellow Clay
340	Ft.	to	350 Ft.	Yellow Muddy Sand and Small Gravel
350	Ft.	to	370 Ft.	Yellow Coarse Sand and Big Gravel up to 8" Tight
370	Ft.	to	424 Ft.	Yellow fine muddy sand and small gravel, tight
424	Ft.	to	448 Ft.	Yellow Coarse Sand and Small Gravel, Tight
448	Ft.	to	482 Ft.	Yellow Clay, Sandy
482	Ft.	to	492 Ft.	Yellow Coarse Sand and Small Gravel, Tight
492	Ft.	to	546 Ft.	Yellow Coarse Sand and Big Gravel Tight

23RD. AND "E" STREET WELL

(Continued)

546	Ft.	to	658 Ft.	Yellow Coarse Sand and Gravel up to 3"
658	Ft.	to	672 Ft.	Yellow Coarse Sand and Gravel and Big Boulders
672	Ft.	to	692 Ft.	Yellow Clay and Gravel
692	Ft.	to	772 Ft.	Yellow Coarse Sand, Big Gravel up to 8"
772	Ft.	to	828 Ft.	Yellow Muddy Sand and Clay - Big Gravel, Tight
828	Ft.	to	854 Ft.	Yellow cemented Sand and Gravel Layers of Red and Very Hard Clay
854	Ft.	to	864 Ft.	Yellow Sandy Clay
864	Ft.	to	866 Ft.	Yellow Muddy Sand and Big Gravel
866	Ft.	to	872 Ft.	Yellow Sandy Clay and Gravel
872	Ft.	to	904 Ft.	Yellow Clay
904	Ft.	to	920 Ft.	Yellow Sandy Clay and Big Boulders
920	Ft.	to	958 Ft.	Red Clay, Very Hard and Some Big Gravel

Static Water Level - November 27, 1964 - 230.0'

3,056 G. P. M. - Pumping Level 264.0'

Temperature - 66°

Perforated with Mills Mechanical Knife

3/8" X 3 1/2" Blade

Perforations

354-ft. to 370-ft. - 9 cuts @ 12"  $\frac{5}{8}$ "  
 428-ft. to 448-ft. - 9 cuts @ 12"  $\frac{5}{8}$ "  
 494-ft. to 828-ft. - 9 cuts @ 12"  $\frac{5}{8}$ "

For Details - See Field Book No. 63

STATE #E-36p

SAN BERNARDINO WATER DEPT. - PERRIS HILL WELL NO. 4

1,450-ft. East of Waterman Avenue, 200-ft. South of  
Highland Avenue, 300-ft. West of #E-36a.

Diameter - 20 Inches  
Depth - 314-Ft.  
Drilled - January 7, 1948.  
Driller - Bill Cruz  
Drilled By - W. A. Rice

0	Ft.	to	32 Ft.	Silt and Clay
32	Ft.	to	54 Ft.	Gravel
54	Ft.	to	86 Ft.	Coarse Gravel
86	Ft.	to	90 Ft.	Gravel and Clay
90	Ft.	to	98 Ft.	Coarse Gravel
98	Ft.	to	124 Ft.	Clay and Silt
124	Ft.	to	126 Ft.	Cemented Gravel
126	Ft.	to	134 Ft.	Clay and Gravel
134	Ft.	to	214 Ft.	Coarse Gravel
214	Ft.	to	216 Ft.	Gravel and Red Clay
216	Ft.	to	242 Ft.	Clay - Sandy
242	Ft.	to	250 Ft.	Gravel
250	Ft.	to	252 Ft.	Clay - Sandy
252	Ft.	to	294 Ft.	Gravel
294	Ft.	to	314 Ft.	Decomposed Rock and Shale

5/8" Mills Perforator - 9 Cuts at 12"  $\pm$

Perforated at

130 Ft. to 215 Ft.  
244 Ft. to 291 Ft.

Pumped 11 Hours - Pumping only 50 M. I. at Total head 240-ft.  
Water clear - No Sand - Removed Pump to re-perforate.

3/8" Mills Perforator - 8 Cuts at 12"  $\pm$   
Perforated - 283 Ft. to 270 Ft. *Reperforated - Area See FH BK. 43*  
Sounded Well - 270 Feet - discontinued perforating.  
Cleaned Well out and Sand Pumped for several hours.

Installed Pump for second time and continued 36 Hr. Test.

Final Test - 276 M. I. at 109.0' Total Lift  
(See Field Book No. 43, Page 153)

STATE #E-31e

17TH & SIERRA WAY WELL

Southwest Corner of Sierra Way and 17th Streets.

Diameter - 20 Inches  
6 Gage Casing  
Depth - 700 Feet  
Drilled - June, 1948  
Drilled By - Barber-Bridge

0	Ft.	to	21 Ft.	Top Soil
21	Ft.	to	38 Ft.	Yellow Clay
38	Ft.	to	44 Ft.	Sand and Gravel - tight and dirty
44	Ft.	to	47 Ft.	Sand and Gravel - 2"
47	Ft.	to	61 Ft.	Yellow Clay
61	Ft.	to	71 Ft.	2" Gravel - some to 8"
71	Ft.	to	73 Ft.	Yellow Clay
73	Ft.	to	97 Ft.	Clay - Blue - sticky
97	Ft.	to	108 Ft.	Clay - Yellow
108	Ft.	to	121 Ft.	Clay - Blue - streaks Gravel
121	Ft.	to	131 Ft.	Clay - Yellow
131	Ft.	to	149 Ft.	Sand and Gravel - 1½"
149	Ft.	to	152 Ft.	Clay - Yellow
152	Ft.	to	154 Ft.	Sand and Gravel - Fine
154	Ft.	to	167 Ft.	Clay - Yellow
167	Ft.	to	178 Ft.	Mucky - Sand and Gravel Yellow
178	Ft.	to	194 Ft.	Sand and Gravel - ¾" to 4"
194	Ft.	to	201 Ft.	Clay - Yellow
201	Ft.	to	212 Ft.	Clay - Blue
212	Ft.	to	224 Ft.	Clay - Yellow
224	Ft.	to	232 Ft.	Gravelly Clay
232	Ft.	to	251 Ft.	Clay - Yellow
251	Ft.	to	252 Ft.	Gravel
252	Ft.	to	265 Ft.	Cemented Gravel
265	Ft.	to	267 Ft.	Tight Gravel - 1"
267	Ft.	to	278 Ft.	Blue Clay
278	Ft.	to	291 Ft.	Yellow Clay
291	Ft.	to	298 Ft.	Cemented Gravel
298	Ft.	to	302 Ft.	Sand and Gravel - 1½" some to 6"
302	Ft.	to	304 Ft.	Yellow Clay

17TH & SIERRA WAY WELL (Continued)

304	Ft.	to	307	Ft.	Sand and Gravel
307	Ft.	to	369	Ft.	Clay Yellow
369	Ft.	to	406	Ft.	Gravelly Clay - Yellow
406	Ft.	to	409	Ft.	Sand and Gravel - 3/4"
409	Ft.	to	423	Ft.	Clay - Yellow
423	Ft.	to	428	Ft.	Sand and Gravel - 3/4"
428	Ft.	to	432	Ft.	Clay Yellow
432	Ft.	to	434	Ft.	Sand and Gravel - 3/4"
434	Ft.	to	458	Ft.	Clay - Yellow
458	Ft.	to	467	Ft.	Mucky - Sand and Gravel - 1/2"
467	Ft.	to	484	Ft.	Clay - Yellow streaks Tight gravel
484	Ft.	to	487	Ft.	Cemented Gravel
487	Ft.	to	492	Ft.	Sand and Gravel - 3/4" Boulders
492	Ft.	to	494	Ft.	Clay - Yellow
494	Ft.	to	507	Ft.	Sand and Gravel - 3/4" Boulders
507	Ft.	to	512	Ft.	Dirty Sand and Gravel with Boulders
512	Ft.	to	639	Ft.	Sand and Gravel - Boulders
639	Ft.	to	641	Ft.	Yellow Clay
641	Ft.	to	677	Ft.	Sand and Gravel - Boulders
677	Ft.	to	681	Ft.	Yellow Clay
681	Ft.	to	693	Ft.	Sand and Gravel - Boulders (dirty)
693	Ft.	to	697	Ft.	Boulders
697	Ft.	to	700	Ft.	Sand and Gravel - Small Gravel

693 feet to 700 feet Open hole - casing froze and unable to move with 3,000 pounds pressure.

Perforator - Barber-Bridge (Special) Hydraulic with 9/16" Mills Knife

9 Cuts at 12" Center Line

Cut

494 Ft. to 571.5 Ft.  
576.5 Ft. to 670 Ft.

Water Level - June 22, 1948 - 53 Feet below G. S.

Test Pumped - 3,660 G. P. M.

January 8, 1958 - Sounded Well - 686.0'

# WATER DEPARTMENT

CITY HALL

300 N. "D" STREET 92401 • P. O. BOX 710 92402

SAN BERNARDINO, CALIFORNIA

(714) 383-5141

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FAX TRANSMITTAL  
CITY OF SAN BERNARDINO  
MUNICIPAL WATER DEPARTMENT  
195 N. "D" STREET  
SAN BERNARDINO, CA 92402  
(714) 384-5176/5087  
FAX No. 384-5478

DATE SENT: 6/21/91

PAGES SENT: 5

FAX TO (COMPANY): URS

FAX NUMBER: 213-436 2029

ATTENTION: NATALYN ALA

FROM: M LOWE

SUBJECT: FORMATION REPORT

COMMENTS: 17th & SERRIA WAY #2

17th street  
replacement  
well

# Layne-Western Company, Inc.

## FORMATION REPORT

DATE: 5-21-91 START DATE: 5-21-91  
 CUSTOMER: City of San Bernardino COMPLETION DATE: \_\_\_\_\_  
 JOB NUMBER: 6486 DIAMETER OF HOLE: 17 1/2 Pilot  
 CUSTOMER WEL NUMBER: \_\_\_\_\_ DEPTH OF WELL: \_\_\_\_\_

FOOTAGE	DESCRIPTION OF FORMATION
0-58	Concreted
58-68	Sand, gravel
68-71	Boulders
71-84	Clay + sand
84-89	Sand, gravel
89-110	clay + Fine + coarse sand
110-119	Fine + coarse sand
119-130	Sand, gravel
130-140	Sand, gravel
140-150	Sand, gravel
150-160	sand, gravel, spots of Rock + clay
160-170	Fine + coarse sand
170-180	Sand, gravel, small rocks
180-189	Sand, gravel
189-200	Sandy clay
200-206	Sandy clay
206-210	sand, gravel, small rocks
210-220	Sand, gravel, small rocks
220-230	Sand, gravel, small rocks
230-240	Fine + coarse sand, clay
240-250	Fine + coarse sand, <sup>spots of</sup> clay + Rocks
250-260	Sand, gravel, Rocks + spots of clay
260-268	sand, gravel, <sup>spots of</sup> Boulders + spot of clay

# Layne-Western Company, Inc.

## FORMATION REPORT

DATE: 5-25-91  
 CUSTOMER: City of San Bernardino  
 JOB NUMBER: 6486  
 CUSTOMER WELL NUMBER: \_\_\_\_\_

START DATE: 5-21-91  
 COMPLETION DATE: \_\_\_\_\_  
 DIAMETER OF HOLE: 17 1/2 Pilot  
 DEPTH OF WELL: \_\_\_\_\_

FOOTAGE	DESCRIPTION OF FORMATION
268-270	sand, gravel, clay
270-280	Fine + coarse sand, Brown, Gray, yellow clay
280-290	Fine + coarse sand, Brown clay
290-300	sand, gravel, Rocks
300-302	sand, gravel, Rocks
302-310	sand, gravel
310-320	sand, gravel
320-330	sand, gravel and spots of clay
330-334	sand, gravel, and spots of clay
334-340	clay, little sand
340-348	sand, gravel, clay
348-360	sand, gravel + spots of Rocks + clay
360-370	sand, gravel + spots of clay + Rocks
370-380	sand, gravel, spots of Rocks
380-389	sand, gravel, spots of clay
389-390	sand, gravel, spots of Rocks
400-410	sand, gravel, spots of Rocks
410-420	sand, gravel
420-430	Fine + coarse sand
430-440	sand, gravel, clay + spots of Rocks
440-450	sand, gravel, + spots of Rocks
450-460	sand, gravel, Rocks
460-470	sand, gravel, Rocks

# Layne-Western Company, Inc.

## FORMATION REPORT

DATE: 5-27-91

START DATE: 5-21-91

CUSTOMER: City of San Bernardino

COMPLETION DATE: \_\_\_\_\_

JOB NUMBER: 6586

DIAMETER OF HOLE: 17 1/2" Pilot

CUSTOMER WELL NUMBER: \_\_\_\_\_

DEPTH OF WELL: \_\_\_\_\_

FOOTAGE	DESCRIPTION OF FORMATION
470-480	sand, gravel, spots of Rocks
480-490	sand, gravel, spots of Rocks
492-501	sand, gravel, Boulders
501-510	sand, gravel, spots of Rocks
510-520	sand, gravel, Boulders
520-530	sand, gravel, Boulders
530-538	sand, gravel, Boulders
538-547	sand, gravel, spots of Boulders
547-557	sand, gravel, spots of Boulders
557-564	sand, gravel, Boulders
564-568	sand, gravel, spots of Boulders
568-576	sand, gravel, Boulders
576-580	sand, gravel, Boulders
580-590	sand, gravel, Boulders
590-600	sand, gravel, Boulders
600-610	sand, gravel, Boulders
610-620	sand, gravel, Boulders
620-630	sand, gravel, Boulders
630-640	sand, gravel, Boulders
640-646	sand, gravel, Boulders
646-656	sand, gravel, Boulders spots of clay
656-658	sand, gravel, Boulders

# Layne-Western Company, Inc.

## FORMATION REPORT

DATE: 6-9-91 START DATE: 5-21-91  
 CUSTOMER: City of San Bernardino COMPLETION DATE: \_\_\_\_\_  
 JOB NUMBER: \_\_\_\_\_ DIAMETER OF HOLE: 7 1/2 P.I.  
 CUSTOMER WELL NUMBER: \_\_\_\_\_ DEPTH OF WELL: \_\_\_\_\_

FOOTAGE	DESCRIPTION OF FORMATION
650-660	Sand, gravel, Boulders
660-670	Sand, gravel Boulders
670-680	Sand, gravel, Boulders
680-690	Sand, gravel, Boulders
690-700	Sand, gravel Boulders
700-710	Sand, gravel, Boulders
710-720	Sand, gravel, rocks
720-730	Sand, gravel Rocks
730-740	Sand + gravel
740-750	Sand, brown clay, Rocks + gravel
750-760	Clay + heavy heavy moisture sand mixed w/ clay
760-770	clay + sand
770-780	white sand
780-790	white sand
790-800	Sand (white)
800-810	Sand (white)
810-820	clay + sand
820-830	Sand some clay + Rocks
830-840	gravel + Rocks
840-850	Sand gravel + some Rocks
850-860	Sand Rocks + gravel
860-870	Sand Rocks, gravel + little clumps of white clay
870-880	Sand Rocks, gravel + heavy clumps of white clay



STATE #E-31f

SIXTEENTH AND SIERRA WAY WELL

31.0' N.N.P.L. of 16th Street - 130.5' W.W.P.L.  
of Sierra Way.

Diameter - 20 Inches  
6 Gage Casing  
Depth - 708 Feet  
Drilled - January, 1950.  
Drilled By - Barber-Bridge

0	Ft.	to	12 Ft.	Top Soil
12	Ft.	to	48 Ft.	Clay Yellow
48	Ft.	to	68 Ft.	Sand and Gravel - 4" Dirty
68	Ft.	to	74 Ft.	Clay Yellow
74	Ft.	to	82 Ft.	Gravel to 2"
82	Ft.	to	111 Ft.	Clay Blue
111	Ft.	to	149 Ft.	Gravel 4"
149	Ft.	to	196 Ft.	Clay Yellow - streaks sand
196	Ft.	to	198 Ft.	Clay Blue
198	Ft.	to	256 Ft.	Clay Yellow - streaks sand
256	Ft.	to	265 Ft.	Gravel to 4" Dirty
265	Ft.	to	275 Ft.	Clay Yellow - sandy
275	Ft.	to	280 Ft.	Clay Blue - showing wood
280	Ft.	to	288 Ft.	Clay Yellow
288	Ft.	to	300 Ft.	Gravel 2" Tight
300	Ft.	to	304 Ft.	Gravel to 3"
304	Ft.	to	306 Ft.	Clay Yellow
306	Ft.	to	316 Ft.	Gravel to 1" Dirty
316	Ft.	to	378 Ft.	Clay Yellow - sandy
378	Ft.	to	396 Ft.	Clay Yellow - streaks sand
396	Ft.	to	414 Ft.	Gravel to 3"
414	Ft.	to	463 Ft.	Clay Yellow - sandy
463	Ft.	to	468 Ft.	Gravel 1" Dirty
468	Ft.	to	488 Ft.	Clay Yellow - streaks gravel
488	Ft.	to	502 Ft.	Gravel and Boulders
502	Ft.	to	546 Ft.	Sand and Gravel 3"
546	Ft.	to	610 Ft.	Gravel and Boulders
610	Ft.	to	630 Ft.	Cemented Gravel
630	Ft.	to	693 Ft.	Gravel and Boulders Tight
693	Ft.	to	702 Ft.	Cemented Gravel - Dirty
702	Ft.	to	712 Ft.	Decomposed Granite

Shoe set at 708-ft. - Bottom of Hole 712-ft.

Perforations - 1/2" X 3" Hole

490-ft. to 658-ft. - 9 Holes - 12" Centers

658-ft. to 680-ft. - 8 Holes - 12" Centers

Water Level - 48.0' - drawdown - 41.0'

G.P.M. - 3,550

STATE #E-401

GILBERT STREET WELL

219-ft. East  $\frac{1}{2}$  of Waterman Avenue - 135-ft. North  
 $\frac{1}{2}$  of Gilbert Street.

Diameter - 20 Inches  
6 Gage Casing to 625.0'  
625.0' to 685.0' -  $\frac{1}{4}$ "  
single Wall Thickness  
14" diameter.

Depth - 685 Feet  
Drilled - October, 1952  
Drilled By - Barber-Bridge

0	Ft.	to	5 Ft.	Top Soil
5	Ft.	to	48 Ft.	Clay Brown
48	Ft.	to	57 Ft.	Gravel 2" -
57	Ft.	to	84 Ft.	Clay Blue
84	Ft.	to	114 Ft.	Clay Yellow
114	Ft.	to	132 Ft.	Clay, Rocks and Gravel
132	Ft.	to	143 Ft.	Gravel and Boulders -
143	Ft.	to	158 Ft.	Clay Yellow Sandy
158	Ft.	to	172 Ft.	Gravel 4" -
172	Ft.	to	186 Ft.	Clay Yellow
186	Ft.	to	190 Ft.	Clay and Gravel
190	Ft.	to	210 Ft.	Gravel 4" -
210	Ft.	to	218 Ft.	Clay Blue
218	Ft.	to	222 Ft.	Gravel 4" -
222	Ft.	to	230 Ft.	Clay Brown
230	Ft.	to	346 Ft.	Clay Yellow
346	Ft.	to	378 Ft.	Clay Sandy and Gravel
378	Ft.	to	381 Ft.	Gravel 2" Tight
381	Ft.	to	426 Ft.	Clay Sand and Gravel
426	Ft.	to	434 Ft.	Gravel 4" Tight
434	Ft.	to	480 Ft.	Clay Sand and Gravel
480	Ft.	to	670 Ft.	Cemented Gravel
670	Ft.	to	680 Ft.	Clay Sand and Gravel
680	Ft.	to	685 Ft.	Clay Sandy

October 28, 1952 - Static Water Level - 72-ft.  
2,350 G. P. M. - Pumping Level - 93-ft.  
Water Temperature - 67°

GILBERT STREET WELL

(Continued)

Perforated

480-ft. to 603-ft. - B & B Mills  
Perforator -  
1/2" X 3" -  
9 holes to a circle  
at 12" centers.

625-ft. to 685-ft. - 3/16" X 3" Milled  
Perforations -  
9 holes per 9 Inches

For Details of original Log and Well Testing (See  
Field Book No. 54 - Page 27 to Page 45)

AUG 1 1990

No. 294134

Notice of Intent No. CITY OF SAN BERNARDINO  
Local Permit No. or I MUNICIPAL WATER DEPT. 02159030

State Well No. OIS/04W04B04  
Other Well No. \_\_\_\_\_

(1) OWNER: Name City of San Bernardino  
Address P.O. Box 710  
City San Bernardino, CA ZIP 92403

(12) WELL LOG. Total depth 1215 ft Completed depth 1180 ft  
from ft to ft Formation (Describe by color, character size or material)

(2) LOCATION OF WELL (See instructions)  
County San Bernardino Owner's Well Number \_\_\_\_\_  
Well address if different from above 10 & J St.'s  
Township 1S Range 4W Section 4  
Distance from cities, roads, railroads, fences, etc  
40' West Avenue J, 100' North of 10th St.

0 - 60	Sand
60 - 120	Gravel, Sand & Rock
120 - 150	Clay, Sand & Gravel
150 - 230	Gravel & Sand
230 - 290	Clay, Sand & Gravel
290 - 330	Gravel & Gray Clay
330 - 380	Clay & Sand
380 - 390	Clay, Gravel & Sand
390 - 430	Gravel & Sand
430 - 470	Gravel & Clay
470 - 530	Gravel & Sand
530 - 540	Clay & Gravel
540 - 570	Clay
570 - 590	Clay & Sand
590 - 650	Gravel, Sand & Clay
650 - 660	Gray Clay
660 - 720	Gravel & Sand & Clay
720 - 750	Gravel & Sand
750 - 800	Gravel, Sand & Clay
800 - 830	Brown Clay, Some Sand
830 - 880	Brown Clay & Gravel
880 - 990	Clay & Gravel, Some Sand
990 - 1020	Clay
1020 - 1100	Clay & Gravel
1100 - 1170	Gravel & Sand
1170 - 1200	Clay & Hard Sand
1200 - 1215	Hard Sand & Granite

(3) TYPE OF WORK  
New Well  Deepening   
Reconstruction   
Reconditioning   
Horizontal Well   
Destruction  (Describe destruction materials and procedures in item 12)  
(4) PROPOSED USE  
Domestic   
Irrigation   
Industrial   
Test Well   
Municipal   
Other  (Describe)

WELL LOCATION SKETCH (Describe)

(5) EQUIPMENT  
Rotary  Reverse   
Cable  Air   
Other  Bucket   
GRAVEL PACK  
Yes  No  Size 15  
Diameter of bore 30"  
Packed from 200' to 1180'

(7) CASING INSTALLED  
Steel  Plastic  Concrete

From ft	To ft	Dia in	Gage or Wall	From ft	To ft	Slot size
0	280	20	5/16	280	1180	3/32
1160	1180	20	5/16			

(8) PERFORATIONS  
Wire  Screen   
Type of perforation or size of screen

(9) WELL SEAL:  
Was surface sanitary seal provided? Yes  No  If yes to depth 200 ft  
Were strata sealed against pollution? Yes  No  Interval \_\_\_\_\_ ft  
Method of sealing \_\_\_\_\_

(10) WATER LEVELS:  
Depth of first water, if known \_\_\_\_\_ ft  
Standing level after well completion 93 ft

(11) WELL TESTS:  
Was well test made? Yes  No  If yes by whom? \_\_\_\_\_  
Type of test Pump  Bailer  Air lift   
Depth to water at start of test 83 ft At end of test 93 ft  
Discharge 3100 gal/min after 36 hours Water temperature \_\_\_\_\_  
Chemical analysis made? Yes  No  If yes, by whom? San Bernardino  
Was electric log made Yes  No  If yes, attach copy to this report

URS TDMT Only Type: \_\_\_\_\_ TDCN: 10080  
Project #: 2171-01 Site Name: Newman K

Work started 3-2 1990 Completed 3-7 1990

WELL DRILLER'S STATEMENT:  
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief

Signed Charles T. Jarry (Well Driller)  
NAME McCalla Bros., Div. of Layne-Western Co.  
Address 3132 W. 17th St.  
City Santa Ana, CA ZIP 92703  
License No 510011 Date of this report 7-26-90

STATE #E- 32t

7TH STREET WELL

655.0 feet North  $\frac{1}{2}$  of 7th Street - 853.0 feet West  
 $\frac{1}{2}$  of Waterman Avenue.

Diameter - 20 Inches  
6 Gage Casing - Double  
Depth - 962 Feet  
Drilled - February, 1965  
Drilled By - Water Well Supply

0	Ft.	to	24 Ft.	Yellow Top Soil
24	Ft.	to	32 Ft.	Blue Sandy Clay
32	Ft.	to	49 Ft.	Yellow Dry Sandy Gravel
49	Ft.	to	59 Ft.	Gray Sandy Clay
59	Ft.	to	68 Ft.	Gray Cemented Sand and Gravel
68	Ft.	to	94 Ft.	Gray Sand and Large Gravel
94	Ft.	to	108 Ft.	Yellow Sandy Clay, Small Gravel
108	Ft.	to	130 Ft.	Yellow Sandy Clay, Small Gravel, Streak Blue Clay
130	Ft.	to	158 Ft.	Gray Cemented Sand and Gravel
158	Ft.	to	160 Ft.	Gray Loose Gravel 2"
160	Ft.	to	168 Ft.	Yellow Sandy Clay
168	Ft.	to	190 Ft.	Yellow Gravel to 4"
190	Ft.	to	192 Ft.	Brown Clay
192	Ft.	to	202 Ft.	Blue Clay
202	Ft.	to	208 Ft.	Yellow Clay
208	Ft.	to	246 Ft.	Yellow Tight Sand, Gravel and Clay
246	Ft.	to	250 Ft.	Yellow Sand and Gravel 8"
250	Ft.	to	266 Ft.	Yellow Sand and Gravel Tight, Streaks 4" to 6" Gravel
266	Ft.	to	270 Ft.	Yellow Sandy Clay, Tight
270	Ft.	to	271 Ft.	Blue Clay Tight
271	Ft.	to	310 Ft.	Yellow Sandy Clay, Tight
310	Ft.	to	312 Ft.	White Sandy Clay, Tight
312	Ft.	to	318 Ft.	Yellow Sand and Clay
318	Ft.	to	328 Ft.	Sand and Gravel
328	Ft.	to	329 Ft.	Pink Clay

7TH STREET WELL  
(Continued)

329	Ft.	to	343 Ft.	Brown Sand and Gravel Clay Streaks
343	Ft.	to	370 Ft.	Brown Clay Hard Sand and Gravel
370	Ft.	to	380 Ft.	Blue Hard Black and Blue Clay
380	Ft.	to	388 Ft.	Brown Tight Sand
388	Ft.	to	390 Ft.	Brown Sand and Gravel
390	Ft.	to	400 Ft.	Brown Cemented Sandy Clay
400	Ft.	to	404 Ft.	Brown Large Gravel and Sand
404	Ft.	to	412 Ft.	Brown Cemented Sand and Clay
412	Ft.	to	418 Ft.	Brown Large Gravel
418	Ft.	to	427 Ft.	Brown Tight Sand and Gravel
427	Ft.	to	430 Ft.	Brown Sand and Gravel
430	Ft.	to	445 Ft.	Brown Fine Sand, Some Clay
445	Ft.	to	454 Ft.	Brown Hard Clay
454	Ft.	to	458 Ft.	Brown Sand and Gravel
458	Ft.	to	460 Ft.	Brown Clay Hard
460	Ft.	to	472 Ft.	Brown Hard Sand, Streaks Clay
472	Ft.	to	480 Ft.	Brown Sand and Gravel
480	Ft.	to	491 Ft.	Brown Small Gravel and Sand
491	Ft.	to	510 Ft.	Brown Sand, Small Gravel
510	Ft.	to	511 Ft.	Brown Clay
511	Ft.	to	552 Ft.	Brown Sand and Small Gravel
552	Ft.	to	568 Ft.	Brown Large Gravel Boulders
568	Ft.	to	700 Ft.	Brown Large Gravel Boulders
700	Ft.	to	710 Ft.	Brown Clay Sandy, Some Gravel
710	Ft.	to	805 Ft.	Brown Sand and Gravel
805	Ft.	to	816 Ft.	Brown Small Gravel, Fine Sand
816	Ft.	to	830 Ft.	Brown Large Gravel and Sand
830	Ft.	to	836 Ft.	Brown Sandy Clay, Small Gravel
836	Ft.	to	848 Ft.	Brown Fine Sand

7TH STREET WELL  
(Continued)

848	Ft.	to	859 Ft.	Brown Clay
859	Ft.	to	868 Ft.	Brown Sand and Gravel
868	Ft.	to	878 Ft.	Brown Large Gravel and Sand
878	Ft.	to	880 Ft.	Brown Clay
880	Ft.	to	892 Ft.	Brown Large Gravel and Sand
892	Ft.	to	898 Ft.	Brown Small Sand, Streaks of Clay
898	Ft.	to	914 Ft.	Brown Large Gravel
914	Ft.	to	917 Ft.	Brown Small Gravel with Clay
917	Ft.	to	962 Ft.	Brown Large Gravel

4-ft. cement plug in bottom

Static Water Level - February 2, 1965 - 122.0'

3,675 G. P. M. - Pumping Level - 145.0'

Temperature - 65°

Perforated with Mills Mechanical Knife  
3/8" X 4" Blade

Perforations

552-ft. to 830-ft. - 9 cuts @ 12"  $\pm$   
861-ft. to 938-ft. - 9 cuts @ 12"  $\pm$

For Details - See Field Book No. 68







ecology and environment, inc.

# MUD LOG

CLIENT DEPT. HEALTH SERVICES, CA (DOHS)  
 WELL SITE 3 NO 3C (CORE)  
 LOCATION S. 15 T. 1 N. R. 4 W.  
SOUTHWEST CORNER OF PLAYGROUND  
GOLDEN VALLEY JR HIGH SCHOOL  
SAN BERNARDINO  
 COUNTY SAN BERNARDINO STATE CA  
 ELEVATION 1290' (APPROXIMATELY)  
 SPUD DATE 1-21-88 FINAL DATE 2-11-88  
 TOTAL DEPTH 506.6'  
 DRILLING CO PIONEER DRILLING, REDLANDS, CA  
 PUSHER PAT MORRICK  
 GEOLOGIST MARK SLATTEN, RG #4351  
 LOGGING PERSONNEL MARK SLATTEN, E+E  
EARL LAPENSEE, E+E  
KEVIN CLARK, E+E  
 DATE BEGUN 2-15-88 DATE RELEASED 8-88  
 INTERVAL LOGGED 0-506.6' FOOTAGE 506.6'  
 SERVICES PERFORMED DRILL RATE  
LITHOLOGIC LOG  
GRAIN SIZE ANALYSIS  
MARSH FUNNEL VISCOSITY

REMARKS

HOLE SIZE

CASING RECORD

HOLE SIZE	CASING RECORD

MUD TYPE H<sub>2</sub>O + E2 MUD

LITHOLOGY

	SANDSTONE		DOLOMITE
	SHALE		CHERT
	SILTSTONE		GRANITE
	LIMESTONE		VOLCANICS
	CONGLOMERATE		CLAY

ABBREVIATIONS	DST	Drill Stem Test	WT	Mud Weight	
NB	New Bit	PR	Pool Returns	VIS	Viscosity
NCB	New Core Bit	TG	Trip Gas	WL	Water Loss
NH	No Returns	LAT	Logged After Trip	WG	Water Gain
		CG	Connection Gas	MF	Marsh Funnel

DRILLING DATA	FEET	(Value X 10 = %)					REMARKS	CORING RUNS IN FEET	
		Gravel	Coarse	Medium	Fine	Very Fine			
0-10	0-10	5	10	45	40	0	NR, E2 MUD	0-10 (NR)	2999-300 (8)
10-20	0-2	3	50	45	0	0	NR, E2 MUD	10-20 (5)	300-306.2 (17)
20-30	0-2	3	50	45	0	0	CORE LOSS IN CONNECTION	20-30 (5)	306.2-310 (26)
30-40	0-12	23	33	32	0	0	NR, E2 MUD	30-40 (NR)	310-316.4 (16)
40-50	0-2	3	50	45	0	0	NR, E2 MUD	40-50 (5)	316.4-320 (NR)
50-54.7	0-12	23	35	30	0	0	TAKING WATER, 3 BARREL	50-54.7 ( )	320-324.4 (45)
54.7-55.5	0-2	3	50	45	0	0	NR, E2 MUD	54.7-55.5 (50)	324.4-330 (8)
55.5-60	0-2	3	50	45	0	0	NR, E2 MUD	55.5-60 (50)	330-335.4 (35)
60-70	0-7	13	40	40	0	0	NR, E2 MUD	60-70 (5)	335.4-337.8 (20)
70-77.6	0-5	10	45	40	0	0	NR, E2 MUD	70-77.6 (5)	337.8-344.9 (7)
77.6-80	0-5	10	45	40	0	0	NR, E2 MUD	77.6-80 (20)	344.9-349.4 (20)
80-86	0-3	5	52	40	0	0	NR, E2 MUD	80-86 (17)	349.4-352.3 (33)
86-90	0-10	20	40	30	0	0	NR, E2 MUD	86-90 (12)	352.3-355.7 (50)
90-92.8	0-5	10	45	40	0	0	NR, E2 MUD	90-92.8 (NR)	355.7-358.7 (66)
92.8-100	0-5	10	45	40	0	0	NR, E2 MUD	92.8-100 (6)	358.7-360 (25)
100-107.7	0-5	15	40	40	0	0	NR, E2 MUD	100-107.7 (NR)	360-363.5 (32)
107.7-110	0-2	8	45	45	0	0	NR, E2 MUD	107.7-110 (31)	363.5-367.3 (45)
110-114.3	0-5	15	40	40	0	0	NR, E2 MUD	110-114.3 (17)	367.3-368 (NR)
114.3-120	0-5	15	40	40	0	0	NR, E2 MUD	114.3-120 (12)	368-371 (67)
120-126.2	0-5	10	45	40	0	0	NR, E2 MUD	120-126.2 (30)	371-372.8 (67)
126.2-130	0-10	20	40	30	0	0	TAKING WATER	126.2-130 (4)	372.8-376 (90)
130-138	0-10	20	40	30	0	0	NR, E2 MUD	130-138 (4) (NR)	376-378.7 (33)
138-140	0-25	24	23	19	0	0	NR, E2 MUD	138-140 (10)	378.7-381.7 (67)
140-142.2	0-15	20	35	30	0	0	NR, E2 MUD	140-142.2 (10)	381.7-386 (45)
142.2-144.3	0-10	15	40	25	0	0	NR, E2 MUD	142.2-144.3 (25)	386-389 (67)
144.3-146.6	0-8	15	42	35	0	0	NR, E2 MUD	144.3-146.6 (18)	389-393.2 (68)
146.6-149.2	0-2	6	50	42	0	0	NR, E2 MUD	146.6-149.2 (NR)	393.2-395 (68)
149.2-153	0-8	12	40	40	0	0	NR, E2 MUD	149.2-153 (20)	395-400 (10)
153-155.2	0-6	6	50	42	0	0	NR, E2 MUD	153-155.2 (20)	400-404.1 (49)
155.2-160	0-8	12	40	40	0	0	NR, E2 MUD	155.2-160 (10)	404.1-406.7 (58)
160-162.5	0-6	18	40	36	0	0	NR, E2 MUD	160-162.5 (35)	406.7-410 (15)
162.5-166.9	0-12	23	33	32	0	0	NR, E2 MUD	162.5-166.9 (25)	410-414.2 (16)
166.9-171.8	0-12	23	33	32	0	0	NR, E2 MUD	166.9-171.8 (35)	414.2-420 (15)
171.8-174.4	0-15	18	40	30	0	0	NR, E2 MUD	171.8-174.4 (36)	420-422.7 (60)
174.4-180.9	0-11	17	40	32	0	0	NR, E2 MUD	174.4-180.9 (9)	422.7-425.4 (28)
180-189.4	0-3	7	45	45	0	0	NR, E2 MUD	180-189.4 (95)	425.4-430 (65)
189.4-194.2	0-8	14	40	38	0	0	NR, E2 MUD	189.4-194.2 (50)	430-433.7 (78)
194.2-200	0-4	11	45	40	0	0	NR, E2 MUD	194.2-200 (25)	433.7-435.4 (80)
200-207.1	0-10	20	40	30	0	0	NR, E2 MUD	194.2-200 (25)	435.4-438.3 (67)
207.1-210	0-6	12	42	40	0	0	NR, E2 MUD	200-207.1 (14)	438.3-440.7 (55)
210-215.2	0-8	14	40	38	0	0	NR, E2 MUD	207.1-210 (30)	440.7-443.2 (60)
215.2-218	0-4	11	45	40	0	0	NR, E2 MUD	210-215.2 (13)	443.2-446.2 (33)
218-220	0-10	20	40	30	0	0	NR, E2 MUD	215.2-218 (13)	446.2-448.2 (30)
220-227.4	0-11	14	40	35	0	0	NR, E2 MUD	218-220 (13)	448.2-451 (14)
227.4-230	0-6	12	42	40	0	0	NR, E2 MUD	220-227.4 (8)	451-456 (NR)
230-235.3	0-17	23	37	23	0	0	NR, E2 MUD	227.4-230 (NR)	456-458.5 (16)
235.3-240	0-17	28	30	25	0	0	NR, E2 MUD	230-235.3 (20)	458.5-461.8 (65)
240-246.4	0-26	39	20	15	0	0	NR, E2 MUD	235.3-240 (NR)	461.8-464.8 (30)
246.4-250	0-22	28	30	20	0	0	NR, E2 MUD	240-246.4 (9)	464.8-468.4 (80)
250-255.2	0-25	37	28	10	0	0	NR, E2 MUD	246.4-250 (30)	468.4-472.8 (90)
255.2-260	0-22	38	25	15	0	0	NR, E2 MUD	250-255.2 (NR)	472.8-476.5 (75)
260-265	0-25	37	28	10	0	0	NR, E2 MUD	255.2-260 (NR)	476.5-481 (67)
265-270	0-22	38	25	15	0	0	NR, E2 MUD	260-265 (20)	481-486.5 (55)
270-275.4	0-25	35	22	18	0	0	NR, E2 MUD	265-270 (17)	486.5-490 (30)
275.4-278	0-19	32	27	22	0	0	NR, E2 MUD	270-275.4 (50)	490-493.7 (55)
278-283	0-24	33	25	18	0	0	NR, E2 MUD	275.4-278 (33)	493.7-500 (31)
283-290	0-15	28	35	30	0	0	NR, E2 MUD	278-283 (33)	500-503.4 (100)
290-294.9	0-18	22	38	23	0	0	NR, E2 MUD	283-290 (22)	503.4-506.6 (100)
294.9-300	0-20	25	30	25	0	0	NR, E2 MUD	290-294.9 (10)	506.6-510 (100)

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