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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

File No. { Washington _____ District _____

2-31

ELEV. 822' GROUND ISTHUMUT

WEST DES MOINES CITY WELL (1967) TD 2460'

SWL = 95.93 340' OMM LINE

TD 2460'

TIME	AIRLINE	10" PIPE 6" ORIFICE ORIFICE	PL	DD	GPM		REMARKS				
6/5/67 6:05 PM			95.93 (SWL)		START TEST		PUMP ON		WATER cloudy		
6:07	40	34	217.60	121.67	824				"	77°	TEMP.
6:10	30	34	240.70	194.77	824				"		
6:15	75	31	275.35	179.42	786				"		
6:20	15	33	275.35	179.42	806				"		
6:25	18	33 1/2	268.42	172.49	812				"		
6:30	20	34 1/2	263.80	167.87	830				WATER slightly cloudy	: TEMP.	78°
6:40	20	34 1/2	263.80	167.87	830				WATER cloudy TO slightly cloudy		
6:45	20	34	263.80	167.87	824				SPEC. CAPAC. =		4.8
6:55	20	34	263.80	167.87	824				WATER sli cloudy - TEMP.	78°	
7:00	18	33 1/2	268.42	172.49	818				WATER ALMOST clear	"	"
7:10	6	42	296.19	200.21	906				INCREASED RATE		
7:20	2	41	305.38	209.45	896				WATER slightly cloudy		
7:30	1	41	307.69	211.76	896				" " "	TEMP.	79°
7:40	1	40	307.69	211.76	887				WATER clear		
7:45	1	40	307.69	211.76	887				"		
8:00	1	39	307.69	211.76	877				"		
8:15	1	38	307.69	211.76	867				"		
8:30	2	37 1/2	305.98	210.05	862				"		
9:00	3	36	303.98	208.02	847				"	TOOK WATER SAMPLE	
9:09				RECOVERY					PUMP OFF		
9:11	80		125.20								
9:11 1/2	85		103.65								
9:12	90		102.10								
9:12 1/2	94		92.86								
9:13	96		88.24								
9:13 1/2	98		83.62								
9:16	98		83.62								

WELL RECOVERED HIGHER THAN ORIGINAL STATIC WATER LEVEL

PH: 9
FE: .32

TOT HARDNESS 340 PPM
CaCO3 238

TOTAL ALKALINITY 276

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10 Hours Previous Pumping To Remove Acid

West Des Moines City Well - Pumping Test #2 After Acidizing w/ 8400 Gal. HCl 1790

	Time	Airline	PL	DD	10" pipe @ Orifice	GPM	SWL = 79'	Remarks Airline set @ 310			
6/22/67	10:30	310	79 (static)					Pump on			
	10:34	212	98	19	32½	806		- Water clean		Temp. 78° F	Sp. Cap. = 4.75
	10:45	218	92	13	31	786		"	"	Temp. 78°	
	11:00	218	92	13	31	786		"	"	"	
	11:05	218	92	13	31	786		"	"		
	11:10							Increased Pump Rate			
	11:25	209	101	22	52½	1005		Water clean			
	11:30	205	105	26	52	1000		"			
Noon	12:00	204	106	27	52	1000		"			
	12:30	202	108	29	52	1000		"	Temp. 78°		
	1:10	206	104	25	52	1000	Increased Pump Rate	"		"	
	1:13	204	106	27	62	1084					
	1:30	204	106	27	62	1089		Water clean			
	1:45	204	106	27	62	1089		"	Temp	78°	
	1:55	204	106	27	62	1084	Pump off to change orifice plate	"	"	"	
					10" pipe 8" orifice						
P.M.	1:58						Pumping resumed at increased Rate				
	2:00	195	115	36	19	1370	Water clean				
	2:15	194	116	37	19	1370	"				
	2:40	195	115	36	19	1370	"				
	3:00	195	115	36	19	1370	"				
	3:30	195	115	36	19	1370	"				
	4:00	195	115	36	19	1370	"	Increased Pump Rate			
	4:05	187	123	44	24	1529	"				
	4:15	187	123	44	24	1529	"	Temp. 78°			
	4:30	186	124	45	24	1529	"				
	5:00	186	124	45	24	1529	"				
	5:30	186	124	45	24	1529	"				
	6:00	186	124	45	24	1529	"				
	6:30	186	124	45	24	1529	"				
	6:55	186	124	45	24	1529	"	Increased Pumping Rate			

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WEST DES MOINES

	Time	Airline	PL	DD	10" Pipe 8" orifice	GPM		Remarks					
6-22-67 PM-	7:00	176	134	55	29	1669		WATER CLEAR					
	7:30	179	131	52	28 1/2	1655		"	"				
	8:00	177	133	54	28	1641		"	"				
	8:30	177	133	54	28 1/2	1655		"	"				
	9:00	177	133	54	28 1/2	1655							
	9:30	177	133	54	28 1/2	1655							
	9:45	177	133	54	28 1/2	1655		INCREASED PUMPING RATE					
	9:46	170	140	61	34	1809		WATER CLEAR					
	10:00	167	143	64	33 1/2	1795		"	"				
	10:15	167	143	64	33 1/2	1795		"	"				
	10:30	167	143	64	33 1/2	1795		"	"				
	10:45	167	143	64	33 1/2	1795		"	"				
	11:00	167	143	64	33 1/2	1795		"	"				
	11:15	167	143	64	33 1/2	1795		"	"				
	11:20	167	143	64	33 1/2	1795		INCREASED PUMPING RATE					
	11:22	158	152	73	39	1931		WATER CLEAR					
	11:30	138	172	93	50	2150		"	"				
	11:45	138	172	93	50	2150		"	"				
6-23-67	12:00 AM	138	172	93	50	2150							
	12:30	138	172	93	50	2150							
	1:00	138	172	93	50	2150							
	1:30	138	172	93	50	2150							
	2:00	138	172	93	50	2150							
	2:30	138	172	93	50	2150							
	3:00	138	172	93	50	2150							
	3:30	138	172	93	50	2150							
	4:00	138	172	93	50	2150							
	4:30	140	170	91	48	2106							
	5:00	140	170	91	48	2106							
	5:30	142	168	89	50 1/2	2160							
	6:00	138	172	93	50	2150							
	6:30	138	172	93	50	2150							

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	Time	Ain/line	PL	DD	10" pipe / 8" orifice	GPM			Remarks				
6-23-67	7:00 AM	138	172	93	50	2150			Water clear				
	7:30	138	172	93	50	2150							
	8:00	139	171	92	49	2128							
	8:30	139	171	92	49	2128							
	8:45	141	169	90	51	2172			Shut Down 9 Min. - Fuel Filters				
	8:50	139	171	92	51	2172							
	9:00	139	171	92	51	2172							
	9:30	138	172	93	51	2172							
	10:00	138	172	93	51	2172			Took water sample			Temp. 78°	
	10:30	138	172	93	51	2172							
	10:35								Pump off				
	10:35½	212		92									
	10:35¾	220		90									
	10:36	222		88									
	10:36½	228		82									
	10:37	230		80									