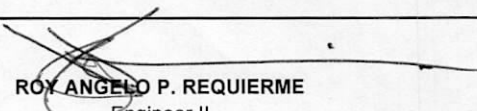
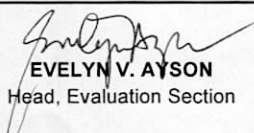


Republic of the Philippines National Water Resources Board 8th Floor NIA Building, EDSA, Quezon City		WATER PERMIT APPLICATION EVALUATION SHEET Groundwater Source																	
		Water Permit Application No. 38991 ✓	Control No. 2046																
		Date Filed: 7/29/04	At: NWRB																
1. Name and Address of Applicant: MANUELA CORPORATION, 2/F M. Star Bldg. Philam Life Village, Pamplona, Las Pinas City		2. Location of Source: <input checked="" type="checkbox"/> Well M-1A <input type="checkbox"/> Spring (Barangay, Municipality, Province) Pamplona, Las Pinas City																	
		3. Location of Diversion Point a. Map Sheet No. b. Latitude: 14-27-19.8 ✓ c. Longitude: 120-58-28.5 ✓																	
4. Checklist of documents and data requirements: a. <input checked="" type="checkbox"/> Ownership/right to land established b. <input checked="" type="checkbox"/> Brief description of proposed project/development c. <input checked="" type="checkbox"/> Location plan of water source & pt. of diversion (1:50,000 scale) d. <input checked="" type="checkbox"/> Location plan of area to be developed indicating the layout of proposed work e. <input checked="" type="checkbox"/> SEC Registration with Articles of Incorporation and Certification from the Corporate Secretary as to the present capital structure or DTI/Cert of Conformance f. <input type="checkbox"/> Investigation Report g. <input checked="" type="checkbox"/> Water analysis/Bacteriological test (for Domestic use only) h. <input checked="" type="checkbox"/> Pumping test results/Well log data i. <input checked="" type="checkbox"/> Clearances <input type="checkbox"/> NIA- PIO, CO <input type="checkbox"/> DPWH - DE, <input type="checkbox"/> DENR (for all uses that affect water quality) <input type="checkbox"/> ECC <input checked="" type="checkbox"/> MWSS (within its franchise area only) <input type="checkbox"/> NPC (for hydropower generation only) <input type="checkbox"/> WD (within its franchise area only) j. <input type="checkbox"/> Others : Barangay Cert as to the extent of Service of MWSS																			
5. Purpose: (Check as appropriate) a. <input checked="" type="checkbox"/> Domestic and Municipal Use b. <input type="checkbox"/> Irrigation c. <input type="checkbox"/> Power Generation d. <input type="checkbox"/> Fisheries e. <input type="checkbox"/> Livestock Raising f. <input type="checkbox"/> Industrial use, and g. <input type="checkbox"/> Other uses		6. Related Data: a. Area to be irrigated : <u>NA</u> hectares (for irrigation use) Crop Type : <u>NA</u> (for irrigation use) Water Duty : <u>0.0029</u> lps/person b. Population to be served by system : <u>1446</u> persons (for domestic use) c. Rated Capacity of Power Plant : <u>NA</u> kw (for hydropower) d. Fishpond area : <u>NA</u> ha. (for fishery) e. Livestock population to be served : <u>NA</u> heads (for livestock raising) f. Annual production _____ (product) : <u>NA</u> tons (for industrial)																	
7. Water Availability a. Existing MWSS wells within 0.5 km. radius																			
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:20%;">MWSS Well No.</th> <th style="width:40%;">NAME</th> <th style="width:20%;">Lateral Distance (m)</th> <th style="width:20%;"></th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>				MWSS Well No.	NAME	Lateral Distance (m)													
MWSS Well No.	NAME	Lateral Distance (m)																	
b. Existing wells within _____ km. radius																			
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">Water Permit No.</th> <th style="width:35%;">NAME</th> <th style="width:20%;">Amt. of water granted (lps)</th> <th style="width:30%;">Lateral Dist. (m)</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>				Water Permit No.	NAME	Amt. of water granted (lps)	Lateral Dist. (m)												
Water Permit No.	NAME	Amt. of water granted (lps)	Lateral Dist. (m)																
c. Pending Application within _____ km. Radius																			
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">Water Permit No.</th> <th style="width:35%;">NAME</th> <th style="width:20%;">Amt. of water applied for (lps)</th> <th style="width:30%;">Lateral Dist. (m)</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>				Water Permit No.	NAME	Amt. of water applied for (lps)	Lateral Dist. (m)												
Water Permit No.	NAME	Amt. of water applied for (lps)	Lateral Dist. (m)																
8. Hydrogeological data (Sub-area no.) SA I Static Water Level: 12.21 m Transmissivity: m2/d Specific Capacity: lps/m Mining Yield: 1506.83 lps. Safe Yield: 862.03 + 150.683 = 1012.713																			
9. Computation for beneficial use requirement Water Requirement = 1446 x 0.0029 = 4.19 lps ✓		10. Discharge of the Well: 6.5 ✓																	
11. Prior appropriation: (lps) 2022.875		12. Water available for appropriation:																	
13. Amount of water applied for (lps): 6.00 lps		14. Amt. of water recommended for approval: 4.19 lps																	
15. Remarks: (Amount recommended for approval must be equal to either the amount of water available for appropriation, beneficial use requirement, the amount of water applied for or well capacity, whichever is the least.) <p style="text-align: center;">Per evaluation amount of water needed is 4.19 lps, hence the same is recommended for approval. No MWSS water supply in the area.</p>																			
16. <input type="checkbox"/> CPC is required																			
Documents verified by:  JAIME M. NOFUENTE Head, Permit Section		Evaluated by:  ROY ANGELO P. REQUIRME Engineer II																	
Checked by:  EVELYN V. AYSON Head, Evaluation Section		Submitted by:  ATTY. ELENITO M. BAGALIHOG Chief, Water Rights Division																	

PUMPING TEST DATA SHEET

CLIENT		DATE	HOUR	TIME AFTER START/STOP OF PUMP (min)	WATER LEVEL (ft., m)	TIME (sec)	HEIGHT	DI, in, cm	GPM	LPS	m3hr	SHEET	1	OF	5
MANUELA 1-A		9-25-1988	7:40 AM	0	12.21 M							REMARKS STATIC WATER LEVEL COT USING 25HP SUB-PUMP SET @ 500FT.			
				1											
				2											
				3											
				4											
				5											
				6											
				7											
				8											
				9											
PROJECT		DEEPWELL													
LOCATION		LAS PIÑAS													
DURATION		FROM 25 MARCH 1988 TO 26 MARCH 1988													
DISCHARGE MEASUREMENTS															
ORIFICE METHOD ϕ IF				95	53.34 M	32			103.12						
TRAJECTORY METHOD P ϕ				10:30 AM	53.34										
VOLUMETRIC METHOD, VOL ✓				175	53.34										
WEIR BOX METHOD, DEGREE				10:40 AM	53.34										
STEP DRAWDOWN TEST		12:00 NN		185	53.34										
STEP NO. OF				10:50 AM	53.37										
CONSTANT DISCHARGE TEST ✓				195	53.37										
RECOVERY				11:00 AM	53.38										
WELL NO.				210	53.39										
PREPARED BY:				220	53.43										
ATTESTED BY:				230	53.43										
DRILLING INSPECTOR/ENGINEER				240	53.43										
				250	53.43										
				260	53.43										
				270	53.43										
				280	53.43										
				290	53.43										
				300	53.43										
				310	53.43										
		1:00 PM		320	53.43										
				335	53.44										
				350	53.44										
				365	53.50 M	32			103.12						

PUMPING TEST DATA SHEET

CLIENT	DATE	HOUR	TIME AFTER START/STOP OF PUMP (min)	WATER LEVEL (ft., m)	TIME (sec)	HEIGHT	X/Y In, cm	GPM	LPS	m3hr	REMARKS
PROJECT	3-25-1988	2:00 PM	380	53.51 M	32			103.12			
			400	53.51							
			420	53.51							
		3:00 PM	440	53.51							
			460	53.51	32			103.12			
			480	53.51							
LOCATION		4:00 PM	500	53.81							
			530	53.85							
		5:00 PM	560	53.96							
			650	53.96							
		7:00 PM	680	53.96							
		8:00 PM	740	53.96							
DURATION			800	53.96							
			860	53.96							
			920	53.96							
		3-26-1988	12:00 MN	980	53.96						
				1040	53.96						
			2:00 AM	1100	53.96						
DISCHARGE MEASUREMENTS											
ORIFICE METHOD Ø/P			1160	53.96							
TRAJECTORY METHOD PØ			1220	53.96							
VOLUMETRIC METHOD, VOL	✓	3-26-1988	4:00 AM	1280	53.96						
WEIR BOX METHOD, DEGREE			6:00 AM	1340	53.96						
STEP DRAWDOWN TEST			7:40 AM	1440	53.96 M	32					END OF CDT
STEP NO. OF											
CONSTANT DISCHARGE TEST	✓										
RECOVERY											
WELL NO.											
PREPARED BY:											
ATTESTED BY:											
DRILLING INSPECTOR/ENGINEER											

PUMPING TEST DATA SHEET

CLIENT	DATE	HOUR	TIME AFTER START/STOP OF PUMP (min)	WATER LEVEL (ft., m)	TIME (sec)	HEIGHT	X/Y In, cm	GPM	LPS	m3hr	REMARKS
MANUELA 1-A		***	R E C	D V E R		Y ***					
	3-26-1988	7:40 AM	0	53.96 M							
			1	52.45							
PROJECT DEEPWELL			2	51.96							
			3	51.51							
			4	50.89							
			5	49.84							
			6	48.38							
			7	47.83							
LOCATION LAS PIÑAS			8	47.21							
			9	46.25							
		7:50 AM	10	45.98							
			11	45.36							
DURATION FROM 26 MARCH 1988 TO 28 MARCH 1988			12	45.06							
			13	44.72							
			14	44.33							
			15	43.71							
DISCHARGE MEASUREMENTS			16	43.42							
ORIFICE METHOD Ø/P			17	43.19							
TRAJECTORY METHOD PØ			18	42.94							
VOLUMETRIC METHOD, VOL		8:00 AM	19	42.66							
WEIR BOX METHOD, DEGREE			20	42.37							
STEP DRAWDOWN TEST			21	42.29							
STEP NO. OF			22	42.18							
CONSTANT DISCHARGE TEST			23	42.00							
RECOVERY ✓			24	41.77							
WELL NO.			25	41.46							
PREPARED BY:			26	41.17							
			27	40.79							
			28	40.53							
ATTESTED BY:			29	40.31							
		8:10 AM	30	40.00							
	DRILLING INSPECTOR/ENGINEER			32	39.81 M						

PUMPING TEST DATA SHEET

CLIENT	DATE	HOUR	TIME AFTER START/STOP OF PUMP (min)	WATER LEVEL (ft., m)	TIME (sec)	HEIGHT	X/Y In, cm	GPM	LPS	m3hr	REMARKS
	3-26-1988	8:14 AM	34	39.48 M							
			36	39.08							
			38	38.71							
PROJECT		8:20 AM	40	38.45							
			42	38.12							
			44	37.89							
			46	37.53							
			48	36.94							
LOCATION		8:30 AM	50	36.66							
			52	36.41							
			54	36.35							
			56	36.25							
			58	36.16							
DURATION		8:40 AM	60	37.07							
			65	35.93							
			70	35.76							
			75	35.68							
			8:55 AM	75	35.68						
FROM _____ TO _____		3:25 PM	465	39.58							
			470	38.32							
DISCHARGE MEASUREMENTS			475	37.20							
ORIFICE METHOD Ø/P			485	34.98							
TRAJECTORY METHOD PØ			3:50 PM	490	34.42						
VOLUMETRIC METHOD, VOL			510	32.61							
WEIR BOX METHOD, DEGREE			520	31.90							
STEP DRAWDOWN TEST			540	31.27							
STEP NO. _____ OF _____			5:00 PM	560	30.52						
CONSTANT DISCHARGE TEST			590	29.28							
RECOVERY ✓			6:00 PM	620	29.00						
WELL NO.			680	28.23							
PREPARED BY:			8:00 PM	740	27.72						
			8:00	26.97							
ATTESTED BY:			10:00 PM	860	26.48						
			3-26-1988	11:00 PM	920	26.10					
DRILLING INSPECTOR/ENGINEER			3-27-1988	7:00 AM	1400	22.77 M					

PUMPING TEST DATA SHEET

TIME AFTER
START/STOP
OF PUMP
(min)

WATER
LEVEL
(ft., m)

TIME
(sec)

HEIGHT

X/Y in.; cm

GPM

LPS

m3hr

SHEET

5

OF

5

CLIENT

DATE

HOUR

REMARKS

3-27-1988 8:00 AM 1460 22.66 M

1520 22.57

1580 22.51

1640 22.46

PROJECT

12:00 NN 1700 22.40

1:00 PM 1760 22.36

1820 22.31

1880 22.27

1940 22.21

2000 22.17

LOCATION

2060 22.11

3-27-1988 7:00 PM 2120 22.09

3-28-1988 7:00 AM 2840 22.09

2900 22.09

2960 22.09

DURATION

3020 22.09

3080 22.09

FROM _____ TO _____

3140 22.09

3200 22.09

DISCHARGE MEASUREMENTS

3-28-1988 2:00 PM 3260 22.09 M

END OF RECOVERY

ORIFICE METHOD Ø/P

TRAJECTORY METHOD PØ

VOLUMETRIC METHOD, VOL

WEIR BOX METHOD, DEGREE

STEP DRAWDOWN TEST

STEP NO. OF

CONSTANT DISCHARGE TEST

RECOVERY

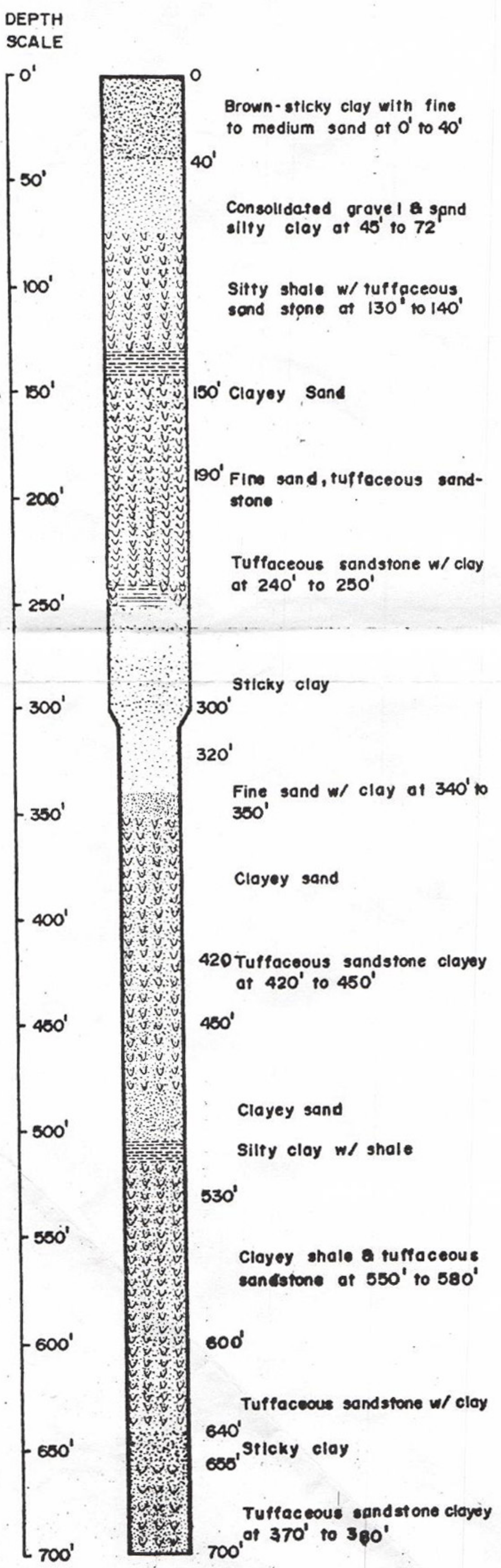
WELL NO.

PREPARED BY:

ATTESTED BY:

CLIENT: MANUELA CORPORATION	RIG NO :	TIME LOG :	DESIGNED BY
ADDRESS: REAL STREET LAS PIÑAS M. MLA	WELL NO	DATE LOG :	APPROVED BY
CONTRACTOR: HYDRO WELL INC.	PROJECT:	LOGGED BY	
WELL LOCATION: MANUELA PHASE 1A	DEEP WELL		ROCK CORRELATED BY:
PAMPLONA, LAS PIÑAS, M. MLA			

LITHOLOGY



WELL DESIGN

