

SURAT



*Aqua's Submerged pumps WORK Robustly.....
where "German Design" pumps FAIL Repeatedly*

Surat, located on the banks of the river Tapti is the **2nd** largest city in Gujarat & the **8th** largest urban agglomeration in India.

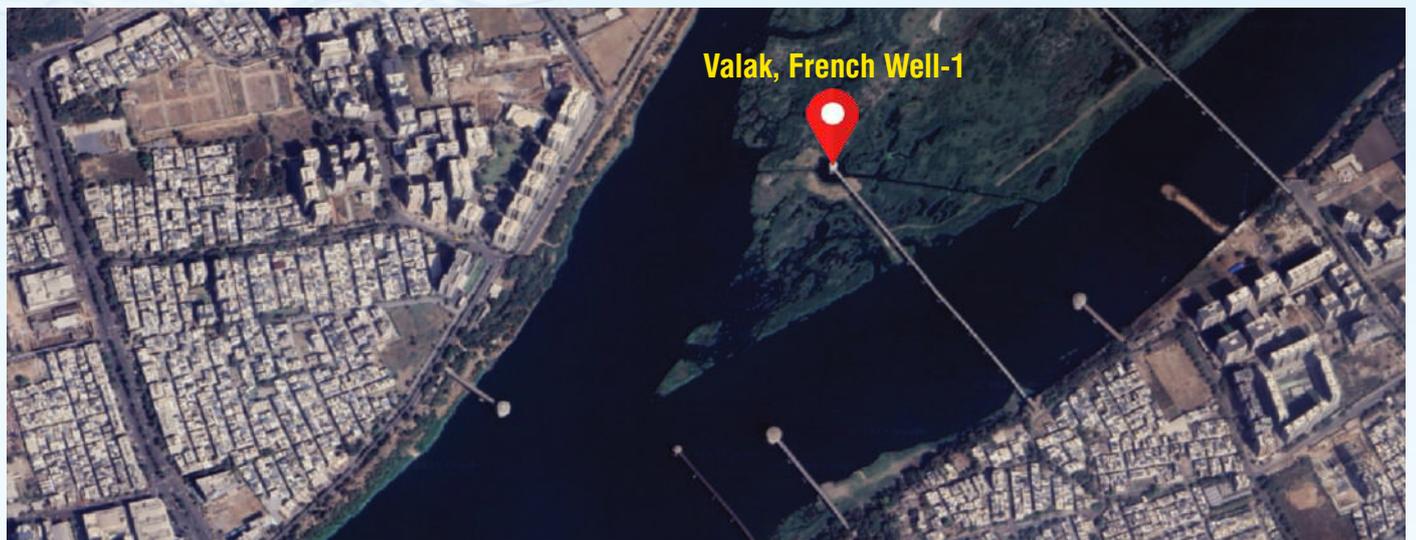
It has well-established **diamond & textile industry** & is a major supply centre for **apparels & accessories**. With an annualized GDP growth rate of **11.5%** (between 2001 & 2008); Surat is (& will be) the **World's Fastest Growing City** (from 2019 to 2035 - according to a study conducted by *Economic Times*).



The city was awarded "**Best City**" by the Annual Survey of India's City-Systems (ASICS) in 2013 & became **Gujarat's 1st** City to receive **Swachh Bharat Mission (Urban) Water+ Certificate** in 2021.

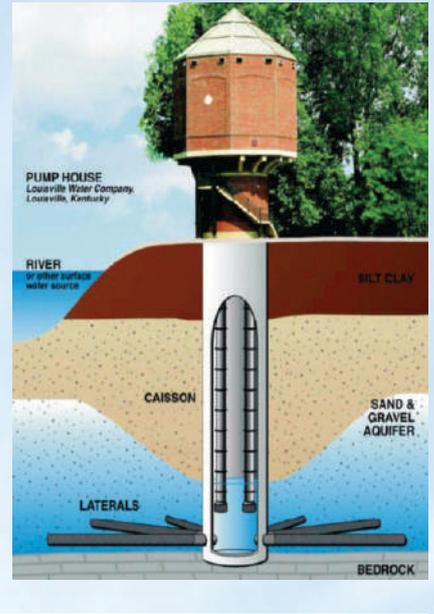


SURAT MUNICIPAL CORPORATION



about French Wells:

A French well, also known as a **Radial Collector Well** or “**Ranney Well**”; is a type of water collection system used to extract **very high quality clear groundwater** - even though it looks like an Intake Well; it is differentiated by water inlet by Trickling through **Horizontal Perforated Pipes** extending **radially** outwards.



about Valak French Well & Original Pumps:

Valak French Well is Rated for **55 MLD** of Clear Water (which is supplied directly to **Sarhana & Varachha** Water Distribution Pumping Stations).

સુરત મહાનગરપાલિકા
હાઈડ્રોલિક વિભાગ
વાલક ફ્રેન્ચ વેલ - ૧

મિડેનીકલ મશીનરી ની વિગત

અ.નં.	મશીનરીની વિગત	મેઈક	કેપેસિટી / સાઈઝ	સંખ્યા
૧	પંચ સેટ (સબમર્સીબલ)	KSB	1150 M ³ /Hr, 36 M Head, 1483 RPM	4
૨	સ્વૂગ વાલ્વ (ડીલીવરી)	IVC	350 MM Dia.	4
૩	નોન રીટર્ન વાલ્વ	Normex	350 MM Dia. (Ball Type)	4
૪	એચ.ઓ.ટી.ફૂલ (ઇલે. ટોઈસ્ટ)	Shree Enterprise	7.5 T, 9.3/12.5 KW/HP	1
૫	એચ.ઓ.ટી.ફૂલ (ઇલે. ટોઈસ્ટ)	Shree Enterprise	3 T, 2.2/3 KW/HP	1
૬	આઈટીઓઈંગ લાઈન સાઈઝ		૬૦૦ એમ.એમ.૬૩૫૫	1

ઇલેક્ટ્રીકલ ઇકવીપમેન્ટની વિગત

અ.નં.	ઇકવીપમેન્ટની વિગત	મેઈક/ટાઈપ	કેપેસિટી / સાઈઝ	સંખ્યા
૧	ટ્રાન્સફોર્મર	Voltamp	630 KVA, 22/0.433 KV	1
૨	એચ.ટી. કેબલ	Siemens	200 Amp., 22 KV	1
૩	લોડબ્રેક સ્વીચ	National Power Ind.	630 Amp., 24 KV	1
૪	એલ.ટી. પેલલ	ABB	1250 Amp. Emax (2 I/C + 1 B/C)	1
૫	ઓ.પી.એફ.સી. પેલલ	ABB	350 KVAR	1
૬	ઇલે. મોટર	KSB	165/220 KW/HP, 285 A., 1483 RPM	4
૭	સોફ્ટ સ્ટાર્ટર પેલલ	ABB	480 A	4
૮	એચ.ટી. કેબલ	Gloster	3 C X 240 MM ² (HT Panel to Load Break Switch)	1
૯	એચ.ટી. કેબલ	Gloster	3 C X 240 MM ² (Load Break Switch to X'Mer)	1
૧૦	એલ.ટી. કેબલ	Bharat Cab	3.5 C X 400 MM ² (X'Mer to LT Panel)	3
૧૧	એલ.ટી. કેબલ	Bharat Cab	3 C X 400 MM ² (Stator to Terminal Box)	8
૧૨	એલ.ટી. કેબલ (કોપર)	Uniflex	4C X 50 MM ² (Terminal Box to Motor)	8
૧૩	કી.જી. સેટ	Asok Lay land	15 KVA/12 KW/20.9 A/1500 RPM	1
૧૪	એકસ્ચુએટર	Auma	1.1 KW, 2.9 A.	4

પાવર સપ્લાય ની વિગત

૧	પાવર સપ્લાય યુ	DGVCL
૨	કોન્ટ્રાક્ટ કિમીનલ	1830 KVA
૩	કલક્યુમર નંબર	62806
૪	પાવર સપ્લાય ચાલુ કર્યા ની તારીખ	2016
૫	પાવર સપ્લાય યુ કંપલેઈશન નંબર	8980803846

Lured by Low Capital Cost & Misled by “German”; the **Sub Contractor** bought “XYZ” make of “**German Design**, **Vertical Single Stage Submersible pumps**” (1150 m³/hr x 36m, 165kW each).

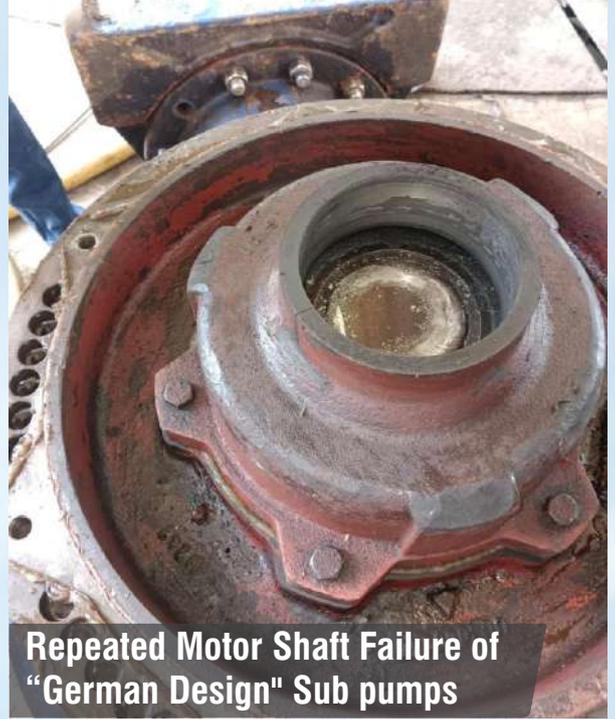


The Problem:

Within **Months** of commissioning, **All** the “German Design” pumps **Failed Miserably** - from **Bearing Failures** to **Motor Burn Outs** to **Shaft Shears** - they **KEPT ON Failing REPEATEDLY . . . !**

The Principal Contractor, the shocked End Client & End Client's Consultant were puzzled & frantically contacted the Pump's Dealer & the Principal Pump Manufacturer for Technical Root Cause Analysis & Long Term Solution against recurrent failures...!





Repeated Motor Shaft Failure of "German Design" Sub pumps

The "German" Pump manufacturer expressed his "Technical Observation" regarding Poor O&M Practices & "suggested" that due to Higher Water Column Depth (of 30m - which was a known fact before offering his pump for the 1st time), there is a Heavy Thrust (Water Hammer) which lead to serious damage to Shaft & Bearings. He also recommended to additionally install a Under Water Non Return Valve immediately on the mouth of Pump's Enlarger..!

Aqua's Solution:

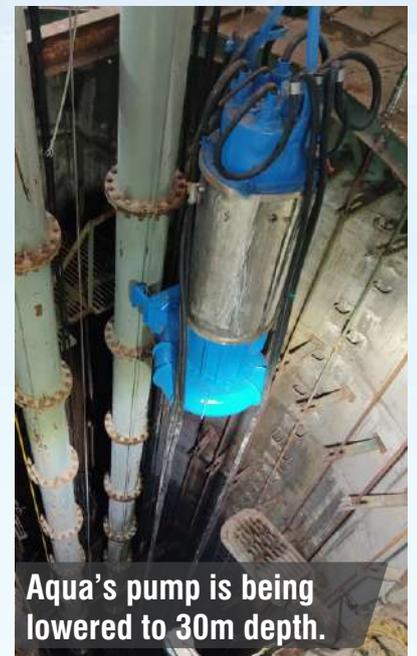
Due to **Cold Response & Impractical Corrective Action Plan** of the "German Design" Pump Manufacturer, fed up by **Frequent & Repeated Failures**; all the 3 Stake Holders **Solicited the help** of m/s Aqua Machineries Pvt. Ltd. to analyse the Problem & **devise** a Solution to sustain water supply.

Due to Aqua's **Long Standing Experience in Indian Operating Conditions & Strong R&D**; the Joint Root Cause Diagnosis narrowed down onto the "German Design" pump's being that of "**Low Inherent Factor of Safety + Least Material Cost + Designed for European Conditions**" design.

Since, the Original "German Design" pump manufacturer was not ready to upgrade his design & fed up by **repeated disruptions** to water supply - the 3 stake holders decided to **Replace** "German Design" pump with Aqua make pumps - but within the **Same Auto Coupling & Piping** as was designed for "German Design" pumps...! This was an additional hassle for Aqua as it had to match Dimensions & Hardware of Other Make for this case,

Since Jan 2021, Aqua's Submerged pump is working Non Stop at the Same Site, Same Depth, with Same Auto Coupling & Piping & Same O&M Practices; **without a Single Maintenance Call till date...!**

This is a **hugely better comparative performance**, despite Aqua's pump working on **auto coupling for which it is not designed for..!**



Aqua's pump is being lowered to 30m depth.

Aqua's Benefits:



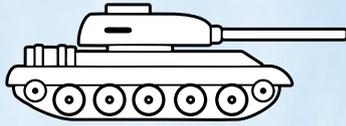
Low Life Cycle Costs (LCC)*



Saves (upto 75%) Spare Parts & Consumables*



Saves (upto 66%) O&M Staff*



Robust Tank like Build



Robust & Oversized Shaft designed without Any Sleeves greatly reducing maintenance

Conclusion:

“Aqua's strong R&D coupled with Courteous Customer Care; enables us to Engineer Solutions which have a Much Better Field Performance when compared to Every Competing Global & Indian Make.”

- S R Tidke

Sr Regional Manager m/s AMPL

Aqua is the Proud recipient of the Prestigious

Best Quality Pump Vendor

by



**Rugged Pumps
Robust Solutions
Reliable People**

Aqua has successful (Field) Vertical Intake Installations :

- upto **2055**hp Motor Rating,
- upto **190**m Head,
- upto **12,240**m³/hr Flow &
- upto **34**m Depth

Aqua Machineries Private Limited

www.aquapumps.com

Registered Office & Manufacturing Plant

Survey No. 504/1-2, 442/2, Near Haridarshan Estate, Near Express Highway, Ramol, Ahmedabad-382 445. Gujarat, India.

marketing@aquapumps.com