

**M/S VSAIPPL-SMC JV, Ghazipur (U.P)**  
**Actual Strata Chart of MARDHA REORGANISATION WATER SUPPLY SCHEME, BLOCK-MARDH, ZONE 2, GRAM PANCAHYAT- NONORA TW-1**  
 Under Jal Jeevan Mission, District- Ghazipur(U.P.)

PHYSICAL STRATA			
S.No.	BGL in meter		Formation
	From	to	
1	0	5	Clay
2	5	22	Kankad Clay
3	22	34	Kankad
4	34	44	Very Fine Sand With Kankad
5	44	56	Kankad Clay
6	56	70	Very Fine Sand With Kankad
7	70	78	Clay
8	78	108	Kankad Clay
9	108	134	Fine Sand With Kankad
10	134	176	Kankad Clay
11	176	199	Kankad with very Fine Sand

Drilling and assembly		MS Ring Collar length	BGL including MS Ring Collar
300 MM	600MM		
AGL 0.50		0	
6.020	P.P.	0.000	5.520
6.020	P.P.	0.000	11.540
6.020	P.P.	0.000	17.560
6.030	P.P.	0.000	23.590
6.030	P.P.	0.000	29.620
5.630	P.P.	0.000	35.250
4.000	S.P.	0.000	39.250
2.500	S.P.	0.000	41.750
6.000	P.P.	0.000	47.750
6.000	P.P.	0.000	53.750
4.500	P.P.	0.000	58.250
6.000	S.P.	0.000	64.250
3.500	S.P.	0.000	67.750
2.000	P.P.	0.000	69.750
			77.000

**Logging**

Date-10.10.2023

S.N.	Depth Range		Thickn ess	Remark
	From	to		
1	24	31	7	Good
2	35	42	7	Good
3	58	68	10	Good

**Note-**

1. Fine band of kankar are intermixed with almost all the zone.
2. Quality of ground water is deteriorating marginal to saline below 78.0 mbgl to till depth logged.
3. Please ensure pre-monsoon water level before lower the well assembly

DETAILS		AS PER DPR		ACTUAL	
1	Proposed Discharge	400.000	LPM		
2	Cear Depth of bore 600mm	0	Mbgl	77.000	Mbgl
3	Cear Depth of bore 500mm	65	Mbgl	0.000	Mbgl
4	Clear Depth of bore 450mm	135	Mbgl	199.000	Mbgl
5	Plane pipe 300MM	0	m	54.250	m
6	Plane pipe 200MM	60	m	0.000	m
7	Plane pipe 150MM	102	m	0.000	m
8	Slotted pipe 300MM	0	m	16.000	m
9	Slotted pipe 200MM	0	m	0.000	m
10	Slotted pipe 150MM	18	m	0.000	m
11	Date of lowering			30-10-2023	

(.....)  
**Company Repre.**  
 M/S VSAIPPL-SMC  
 JV, Ghazipur (U.P)

(.....)  
**TPJA**  
 Medhaj Techno Concept Pvt.  
 Ltd., Ghazipur

(A. Srivastava)  
 Junior Engineer  
 Division Office (E/M), U.P. Jal Nigam (Rural), Varanasi

(Nitish Kumar)  
 Assistant Engineer

(Adarsh Verma)  
 Exe. Engineer





# GEO INSTRUMENTS & TECHNIC'S

(A Division of Geophysical Exploration and Instrumentation)

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Mob. : + 91 - 9415141232, 9554034123  
E-mail : geo.instrument@outlook.com

Sales & Service Dealer : Upron Borehole logging system, UPTRON INDIA LTD., LUCKNOW

Ref:GIT:UP: PJM:23-24:LS:K- 319  
Dated: 11-10-2023

## GEOPHYSICAL BOREHOLE LOGGING REPORT

Site: Nonara Zone - 2  
Block: Mardah  
District: Ghazipur  
State: Uttar Pradesh  
Date of Logging: 10-10-2023  
Drilling Depth: 200.0 m bgl  
Logging Depth: 199.0 m bgl  
Rm - 11.0  $\Omega$ m Rw - 12.0  $\Omega$ m

*Mardah WS*

Borehole Drilled by: M/s VSAIPPL SMC JV, Ghazipur, Uttar Pradesh.

Based on the interpretation of Self Potential (SP), Short Normal (N-16"), Long Normal (N-64") and Lateral 6' Geophysical Logs, following informations/granular zones have been deciphered with respect to Salinity only:

Sl. No.	Depth Range (m bgl)	Thickness (meter)	Remark (Quality of Aquifer Water)
1.	24 - 31	07	Good
2.	35 - 42	07 - 6.5	Good
3.	58 - 68	10 - 9.5	Good

*300x300*

- Note: 1. Fine bands of kankar are intermixed with almost all the zones.  
2. Quality of ground water is deteriorating marginal to saline below 78.0 m bgl to till depth logged.  
3. Please ensure pre-monsoon water level before lower the well assembly.

*BR = 2m*

*Comment Seal  $\Rightarrow$  77m*

For Geo Instruments & Technic's

*S. Shukla*  
(S. Shukla)

*Q = 400  
60 + 102 + 18  
200x150*



अधीक्षण अभियन्ता,  
महोदय.

जल जीवन मिशन कार्यक्रम अन्तर्गत पेयजल योजना **ब्लॉक-मरदह, जोन 2, ग्राम पंचायत- नोनोरा**

**TW -1.** जनपद गाजीपुर में 200x150 एम0एम0 व्यास साइज के 200/180 मीटर गहरे नलकूप का निर्माण किया जाना है एवं उक्त नलकूप से 400 ली०प्र०मि० श्राव लिया जाना प्रस्तावित है।

अनुबन्ध सं०- 478/ED/PHASE 2/2022-23/X दिनांक 27.02.2023 के माध्यम से M/s VSAIPPL-SMC IV, District-Ghazipur द्वारा नलकूप निर्माण कार्य सम्पादित कराया जा रहा है। दिनांक 10.10.2023 को नलकूप के बोर की इलेक्ट्रिक लार्गिंग करायी गयी, जिसका विवरण निम्नानुसार है :-


Logging					PHYSICAL STRATA			
Date-10.10.2023					S.No.	BGL in meter		Formation
S.N.	Depth Range		Thickness	Remark		From	to	
							1	0
1	24	31	7	Good	2	5	22	Kankad Clay
2	35	42	7	Good	3	22	34	Kankad
3	58	68	10	Good	4	34	44	Very Fine Sand With Kankad
<b>Note-</b> 1. Fine band of kankar are intermixed with almost all the zone. 2. Quality of ground water is deteriorating marginal to saline below 78.0 mbgl to till depth logged. 3. Please ensure pre-monsoon water level before lower the well assembly					5	44	56	Kankad Clay
					6	56	70	Very Fine Sand With Kankad
					7	70	78	Clay
					8	78	108	Kankad Clay
					9	108	134	Fine Sand With Kankad
					10	134	176	Kankad Clay
					11	176	199	Kankad with very Fine Sand

अनुबन्ध में उपरोक्त नलकूप से 400 ली०प्र०मि० श्राव प्राप्त करने हेतु Enterance Velocity 0.015m/sec पर 18 मीटर स्लाटेड पाइप का प्राविधान किया गया है। इलेक्ट्रिक लार्गिंग के उपरान्त प्राप्त स्ट्रेटा के अनुसार अधिकतम 16 मीटर ही स्लाटेड पाइप डाली जा सकती है।

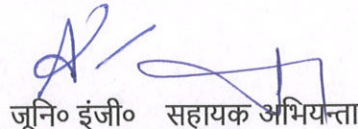
Physically encountered Strata एवं लार्गिंग रिपोर्ट का निरीक्षण करने पर पाया गया कि उक्त के अन्तर्गत Aquifer Very Fine sand with Kankad का है एवं लार्गिंग रिपोर्ट के अनुसार केवल 16 मीटर स्लाटेड पाइप ही लोवर की जा सकती है, जिससे 400 ली०प्र०मि० श्राव प्राप्त किया जाना सम्भव नहीं है। ऐसी स्थिति में 150 मि०मी० स्लाटेड पाइप के स्थान पर 300 मि०मी० व्यास साइज की स्लाटेड पाइप का उपयोग किया जाय तो 16 मीटर की लम्बाई में Enterance area को बढ़ाकर आवश्यक वांछित श्राव प्राप्त करने का प्रयास किया जा सकता है। उल्लेखनीय है यदि 16 मीटर लम्बाई में 150 मि०मी० के स्थान पर 300 मि०मी० व्यास साइज की स्लाटेड पाइप का उपयोग किया जाय तो Opening entrance area 150 मि०मी० व्यास साइज के 32.00 मीटर पाइप के बराबर आयेगी, जो Aquifer structure के दृष्टिगत उचित होगा एवं वास्तविक श्राव यील्ड टेस्ट के उपरान्त डिप्रेशन की मानकों के गणना के दृष्टिगत स्पष्ट हो पायेगा। अनुबन्ध में निहित प्राविधान के अनुसार श्राव की प्रतिपूर्ति फर्म की स्वयं का उत्तर दायित्व में है, अतएव श्राव प्रतिपूर्ति न होने पर फर्म द्वारा द्वितीय नलकूप निर्माण कराते हुए पूरा किया जायेगा एवं भुगतान के संबंध में राज्य पेयजल स्वच्छता मिशन (एसडब्लूएसएम) द्वारा सक्षम स्तर से स्वीकृति उपरान्त नियमानुसार किया जायेगा।

अतः प्राप्त एक्यूफर के दृष्टिगत 300x300 मि०मी० व्यास साइज के 70.00 मीटर गहरे नलकूप जिसमें 16 मीटर स्लाटेड पाइप का उपयोग किया जायेगा, आपको तकनीकी स्वीकृति हेतु संलग्न कर प्रेषित है। कृपया अनुमोदन करना चाहें।

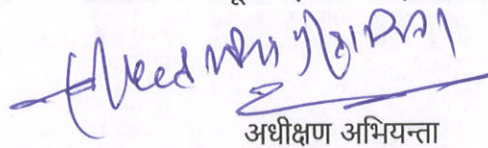
संलग्नक- लार्गिंग रिपोर्ट की छायाप्रति

  
M/s VSAIPPL-SMC JV  
District - Ghazipur

  
संगणक

  
जूनी इंजी० सहायक अभियन्ता

  
अधिशारी अभियन्ता

  
अधीक्षण अभियन्ता



For Construction of 69.75/199 mts. deep 300 X 300 mm. dia assembly size T.W. inspite of 180/200 mts. deep 200 X 150 mm. dia assembly size T.W. by D.C. Rig Machine at MARDAH REORGANISATION WATER SUPPLY SCHEME,BLOCK-MARDAH,ZONE 2,GRAM PANCAHYAT- NONORA TW-1

Sl. No	Item of work	Unit	Rate	Cost As Per Cover Aggrement (180/200 mts. deep 200 X 150 mm. dia assembly size)		Expenditure as per Actual Work Executed at Site due to adverse Geophysical Condition (69.75/199 mts. deep 300 X 300 mm. dia assembly size)	
				Qty	Amount (Rs)	Qty	Amount (Rs)
1	2	3	4	5	6	7	8
2.00	Drilling of borehole for tubewell construction by DC/RC/DTH/Rig Machine including transporation, erection, dismantling, of Rig and associated T&P complete in all respect including required all material labor etc.						
2.01	Transporation, installation, Dismantling of Rig machine and logging of bore hole		156159.07	1	1,56,159.07	1	1,56,159.07
2.02	Tube well construction				-		-
2.03	DC/RC Drilling up to 100Mtr.				-		-
2.04	400 MMØ	Rmt	2192.71		-		-
2.05	450 MMØ	Rmt	2454.95	35	85,923.19	23	56,463.81
2.06	500 MMØ	Rmt	2717.19	65	1,76,617.39		-
2.07	600 MMØ		3241.68		-	77	2,49,609.00
2.08	DC/RC Drilling from 101 MT. To 200 Mtr.Deep				-		-
2.09	450 MMØ	Rmt	2774.63	100	2,77,463.01	99	2,74,688.38
2.10	500 MMØ	Rmt	3033.75		-		-
2.11	600 MMØ	Rmt	3551.98		-		-
2.12	DC/RC Drilling from 201 Mtr. To 300 Mtr.Deep				-		-
2.13	450 MMØ	Rmt	3158.99		-		-
2.14	500 MMØ	Rmt	3363.28		-		-
2.15	600 MMØ	Rmt	3771.87		-		-
2.16	DC/RC Drilling from 301 Mtr. To 400 Mtr.Deep & above				-		-
2.17	450 MMØ	Rmt	3703.10		-		-
2.18	500 MMØ	Rmt	3907.39		-		-
2.19	600 MMØ	Rmt	4315.99		-		-
2.20	DTH Drilling upto 200.0 Mtr.Deep				-		-
2.21	200/165 MMØ (in over burden/Hard Rock)		1248.25		-		-
2.22	Development / Flushing of tubewell		2895.94		-		-
3.00	Tubewell Assembly:				-		-
3.01	MSERW Pipe plain pipe as per IS 4270				-		-
3.02	100 MMØ	Rmt	926.20		-		-
3.03	150 MMØ	Rmt	1897.34	102	1,93,528.68		-
3.04	200 MMØ	Rmt	2546.43	60	1,52,785.80		-
3.05	300 MMØ		3794.68		-	54.25	2,05,861.39
3.06	MSERW Pipe slotted pipe as per IS 8110				-		-
3.07	100 MMØ	Rmt	1364.94		-		-
3.08	150 MMØ	Rmt	2796.08	18	50,329.44		-
3.09	200 MMØ	Rmt	3828.43		-		-
3.10	300 MMØ	Rmt	5181.33		-	16	82,901.22
3.11	MS fittings such as clamp, bail plug, reducer, well cap. Girder & support structure	Job	32249.79	1	32,249.79	1	32,249.79
3.12	MS fittings such as ring & centre guide		471.02	180	84,783.54	70.25	33,089.13
4.00	Lowering of above assembly with welding of parts complete in all respect with all required material , T&P , labour, etc				-		-
4.01	Lowering up to 100 Mtr. Deep				-		-
4.02	100 MMØ MSERW Plane/Slotted Pipe	Rmt	177.57		-		-
4.03	150 MMØ MSERW Plane/Slotted Pipe	Rmt	385.46	40	15,418.38		-
4.04	200 MMØ MSERW Plane/Slotted Pipe	Rmt	389.45	60	23,367.24		-
4.05	300 MMØ MSERW Plane/Slotted Pipe	Rmt	489.31		-	69.75	34,129.65
4.06	Lowering from 101 Mtr. To 200 Mtr. Deep				-		-
4.07	150 MMØ MSERW Plane/Slotted Pipe	Rmt	442.38	80	35,390.38		-
4.08	200 MMØ MSERW Plane/Slotted Pipe	Rmt	589.97		-		-
4.09	300 MMØ MSERW Plane/Slotted Pipe	Rmt	881.17		-		-
4.10	Lowering from 201 Mtr. To 300 Mtr. Deep				-		-
4.11	150 MMØ MSERW Plane/Slotted Pipe	Rmt	569.55		-		-
4.12	200 MMØ MSERW Plane/Slotted Pipe	Rmt	678.69		-		-
4.13	300 MMØ MSERW Plane/Slotted Pipe	Rmt	896.96		-		-
4.14	Lowering from 301 Mtr. To 400 Mtr. Deep & above				-		-
4.15	150 MMØ MSERW Plane/Slotted Pipe	Rmt	425.93		-		-
4.16	200 MMØ MSERW Plane/Slotted Pipe	Rmt	498.30		-		-
4.17	300 MMØ MSERW Plane/Slotted Pipe	Rmt	643.04		-		-
	<b>Total Amount</b>				12,84,015.91		11,25,151.43
	<b>Say</b>				12,84,016.00		11,25,151.00

Net Savings Amount Rs. 1,58,865.00  
Net Savings In Percentage 12.37%

SMC JV  
Generated

(Company Rep.)  
M/S VSAIPPL-SMC JV, Ghazipur

(TPA Rep.)  
Medhaj Techno Concept Pvt. Ltd., Ghazipur

(Junior Engineer)  
Office(E/M), U.P. Jal Nigam(Rural), Varanasi

(Assistant Engineer)  
(Exec. Engineer)  
Circle office (E/M), UPJN, Vns



**KASIMABAD REORGANISATION WATER SUPPLY SCHEME**  
**"UNDER JAL JEEVAN MISSION"**  
**TEHSIL - KHASIMABAD, BLOCK - KHASIMABAD**  
**DISTRICT - GHAZIPUR**

**Bill of Quantity - TUBEWELL CONSTRUCTION**

S.No.	SOR NO	Item of work	No.	L	B	H/D	Qty	Rate	Unit	Amount
1	As per RFP.	Drilling of Borehole for Tube well construction by DC/RC/DTH Rig Machine including transportation, erection, dismantling of Rig and associated T&P complete in all respect including required all material labor etc.								
1.1	2.01	Transportation, Installation Dismantling of Rig machine and logging of bore hole					1	156159.0708	Job	156,159.07
1.2		DC/RC Drilling up to 100Mtr.								
1.2.1	2.06	500 MMØ	1	65			65	2717.1906	Rmt	176,617.39
1.2.2	2.05	450 MMØ	1	35			35	2454.948254	Rmt	85,923.19
1.3		DC/RC Drilling from 101 MT. To 200 Mtr.Deep								
1.3.1	2.09	450 MMØ	1	100			100	2774.630072	Rmt	277,463.01
1.4		DC/RC Drilling from 201 MT. To 300 Mtr.Deep								
1.4.1	2.13	450 MMØ	1	0			0	3158.991212	Rmt	-
1.5		DC/RC Drilling from 301 MT. To 400 Mtr.Deep								
1.5.1	2.17	450 MMØ	1	0			0	3703.098394	Rmt	-
1.6	2.2	DTH Drilling upto 200.0 Mtr.Deep - 165/200 MMØ (in over burden/Hard Rock).	1	0			0	0	Rmt	-
1.7	2.22	Development / Flushing of tubewell	0				0	2895.94	Hrs	-
		Tube Well Assembly								
1.8	3.01	MSERW plane pipe						0		
1.8.1	3.04	200 MMØ	1	60			60	2546.43	Rmt	152,785.80
1.8.2	3.03	150 MMØ	1	102			102	1897.34	Rmt	193,528.68
1.9		MSERW Pipe slotted pipe as per IS 8110								
1.9.1	3.08	150 MMØ	1	18.00			18	2796.08	Rmt	50,329.44



State Water and Sanitation Mission (SWSM)

1.9.2	3.11	MS fittings such as clamp, bail plug, reducer, well cap, girder & support structure				1	32249.787	Job	32,249.79
1.9.3	3.12	MS fittings such as ring & centre guide	1	180		180	471.019648	Rmt	84,783.54
2.0	As per RFP.	Lowering of above assembly with welding of parts complete in all respect with all required material, T&P, labour, etc.							
2.1	4	Lowering up to 100 Mtr. Deep							
2.1.1	4.04	200 MMØ MSERW Plane/Slotted Pipe				60	389.454	Rmt	23,367.24
2.1.2	4.03	150 MMØ MSERW Plane/Slotted Pipe				40	385.4596	Rmt	15,418.38
2.2	4.06	Lowering from 100 Mtr. To 200 Mtr. Deep							
2.2.1	4.07	150 MMØ MSERW Plane/Slotted Pipe				80	442.3798	Rmt	35,390.38
2.3	4.1	Lowering from 200 Mtr. To 300 Mtr. Deep							
2.3.1	4.11	150 MMØ MSERW Plane/Slotted Pipe				0	569.55151	Rmt	-
2.4	4.14	Lowering from 300 Mtr. To 400 Mtr. Deep							
2.4.1	4.15	150 MMØ MSERW Plane/Slotted Pipe				0	425.932858	Rmt	-
2.5	5	Supplying and unconsolidated packing of gravel with suitable size				45.3	7489.5	Cum	339,589.04
3.0	6	Development of Tube well							
3.1	6.03	Tranportation, Installation Dismantling of 400 PSI Compressor				1	92022.9872	Job	92,022.99
3.2	6.05	Charges for Development by 400 PSI Compressor per hour				40	3267.26941	Hrs	130,690.78
3.3	6.09	Transportation, Installation Dismantling of 1 Cusec OP Unit and Yield test, water test				1	105089.6682	Job	105,089.67
3.4	6.10	Charges for Development of TW by 1 Cusec OP Unit				70	993.037798	Hr.	69,512.65
Total cost for each tubewell									2,020,921.0
Total cost for 3 tubewells									6,062,763.1
4	47	Earth filling of abandoned tubewell in Waterworks campus	0	34.23		0.00	106.8502	Cum	-
Total Cost of Tubewell									6,062,763.08
Total Cost (In Lacs)									60.63