ARKI TECHNO CONSULTANTS (INDIA) PVT LTD

N 3/91, IRC Village, Bhubaneswar

GRAIN SIZE ANALYSIS OF SOIL - HYDROMETER METHOD

Client : DFCC

Project Name : G.I For 3 Nos. Important Bridges

Type of Sample : SPT

Location : BH-3(Tangri River-Ambala)

Sampled by : T.K.Das

Depth : 12.0m

Date of Testing : 18.09.12

Tested by : D,Mohanty

(I)	Percentage of 75 micron passing (from sieve analysis)		94.83
(II)	Mass of dry soil passing 2mm sieve taken (gm)		50
(III)	Mass of dry soil retained on 75micron sieve (gm)		2.6
(IV)	Mass of dry soil passing 75 micron Wh (gm)		47.4
(V)	Specific gravity of soil grains, Gs		2.65
(VI)	Top Meniscus reading on hydrometer stem		2.0
(VII)	Bottom meniscus reading on hydrometer stem		2.5
(VIII)	Meniscuss correction, Cm = + [(VII) - (VI)]		0.5
a	Hydrometer No	1	
	Volume of Hydrometer V (cm3)	50	
	Height of bulb (h) in cm	16.5	
b	Sedimentation Jar No	1	
	Cross sectional area of jar (A) in cm2	35.714	

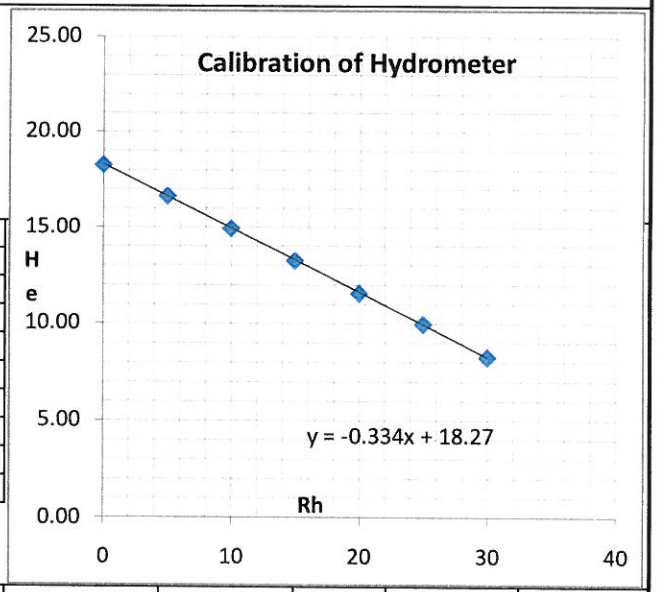
CALIBRATION OF HYDROMETER

(Rh)	H (cm)	He (cm)
30	0.7	8.25
25	2.4	9.95
20	4.0	11.55
15	5.7	13.25
10	7.4	14.95
5	9.1	16.65
0	10.7	18.25
-5	12.4	19.95

Rh = hydrometer Reading

H = height corresponding to Rh

He = Effective height = H + 0.5*(h -V/A)



Time	Elapsed Time (min)	Hydrometer Reading (Rh)	Temperature (o C)	Composite Correction +/- C	Effective depth h (cm)	Rc1 = Rh + Cm	Sqrt (h/t)	Viscosity (gm/cm2)	Factor M	Particle 'C' (cm) (8) x (10)	Rc2 = Rh + C (3) + (5)	Factor N	% Finner w.r.t Wd F (12) x (13)	% Finner w.r.t total mass (14) x (I)/100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
10.30	0.5	27.39	29	-2.0	9.12	27.89	0.551	0.000008341	0.012314796	0.00679056	25.39	3.387	86.00	81.56
	1	27.00	29	-2.0	9.25	27.50	0.393	0.000008341	0.012314796	0.00483581	25.00	3.387	84.68	80.30
	2	26.50	29	-2.0	9.42	27.00	0.280	0.000008341	0.012314796	0.00345016	24.50	3.387	82.99	78.70
	4	26.00	29	-2.0	9.59	26.50	0.200	0.000008341	0.012314796	0.00246116	24.00	3.387	81.29	77.09
	8	25.50	29	-2.0	9.75	26.00	0.143	0.000008341	0.012314796	0.00175540	23.50	3.387	79.60	75.48
	15	25.00	29	-2.0	9.92	25.50	0.105	0.000008341	0.012314796	0.00129289	23.00	3.387	77.91	73.88
	30	25.00	29	-2.0	9.92	25.50	0.074	0.000008341	0.012314796	0.00091421	23.00	3.387	77.91	73.88
	60	24.50	29	-2.0	10.09	25.00	0.053	0.000008341	0.012314796	0.00065186	22.50	3.387	76.21	72.27
	120	24.00	29	-2.0	10.25	24.50	0.038	0.000008341	0.012314796	0.00046474	22.00	3.387	74.52	70.67
	240	23.50	29	-2.0	10.42	24.00	0.027	0.000008341	0.012314796	0.00033128	21.50	3.387	72.83	69.06
	480	23.00	32	-2.0	10.59	23.50	0.019	0.000007821	0.011924722	0.00022864	21.00	3.387	71.13	67.45
	1440	22.58	32	-2.0	10.73	23.08	0.011	0.000007821	0.011924722	0.000132870	20.58	3.387	69.72	66.12

Lab Manager

Checked By

ARKI TECHNO CONSULTANTS (INDIA) PVT LTD

ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

GRAIN SIZE ANALYSIS OF SOIL - HYDROMETER METHOD

Client : DFCC

Project Name : G.I For 3 Nos. Important Bridges

Depth : 13.0m

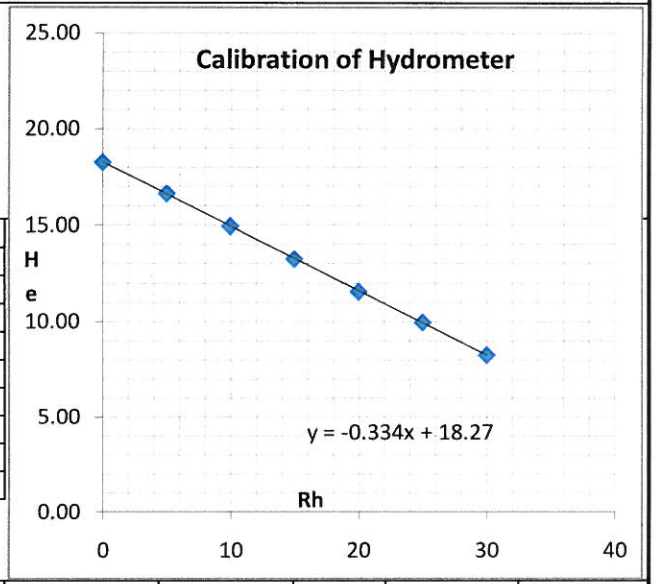
Type of Sample : UDS

Date of Testing : 18.09.12

Location : BH-3(Tangri River-Ambala)

Tested by : D,Mohanty

Sampled by : T.K.Das



(I)	Percentage of 75 micron passing (from sieve analysis)		93.99
(II)	Mass of dry soil passing 2mm sieve taken (gm)		50
(III)	Mass of dry soil retained on 75micron sieve (gm)		3.0
(IV)	Mass of dry soil passing 75 micron Wh (gm)		47.0
(V)	Specific gravity of soil grains, Gs		2.65
(VI)	Top Meniscus reading on hydrometer stem		2.0
(VII)	Bottom meniscus reading on hydrometer stem		2.5
(VIII)	Meniscuss correction, Cm = + [(VII) - (VI)]		0.5
a	Hydrometer No	1	
	Volume of Hydrometer V (cm3)	50	
	Height of bulb (h) in cm	16.5	
b	Sedimentation Jar No	1	
	Cross sectional area of jar (A) in cm2	35.714	

CALIBRATION OF HYDROMETER		
(Rh)	H (cm)	He (cm)
30	0.7	8.25
25	2.4	9.95
20	4.0	11.55
15	5.7	13.25
10	7.4	14.95
5	9.1	16.65
0	10.7	18.25
-5	12.4	19.95

Rh = hydrometer Reading

H = height corresponding to Rh

He = Effective height = H + 0.5*(h -V/A)

Time	Elapsed Time (min)	Hydrometer Reading (Rh)	Temperature (o C)	Composite Correction +/- C	Effective depth h (cm)	Rc1 = Rh + Cm	Sqrt (h/t)	Viscosity (gm/cm2)	Factor M	Particle 'C' (cm) (8) x (10)	Rc2 = Rh + C (3) + (5)	Factor N	% Finner w.r.t Wd F (12) x (13)	% Finner w.r.t total mass (14) x (I)/100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
10.30	0.5	27.36	29	-2.0	9.13	27.86	0.552	0.000008341	0.012314796	0.00679429	25.36	3.418	86.67	81.46
	1	27.00	29	-2.0	9.25	27.50	0.393	0.000008341	0.012314796	0.00483581	25.00	3.418	85.44	80.30
	2	26.50	29	-2.0	9.42	27.00	0.280	0.000008341	0.012314796	0.00345016	24.50	3.418	83.73	78.70
	4	26.00	29	-2.0	9.59	26.50	0.200	0.000008341	0.012314796	0.00246116	24.00	3.418	82.02	77.09
	8	25.50	29	-2.0	9.75	26.00	0.143	0.000008341	0.012314796	0.00175540	23.50	3.418	80.31	75.48
	15	25.50	29	-2.0	9.75	26.00	0.104	0.000008341	0.012314796	0.00128196	23.50	3.418	80.31	75.48
	30	25.00	29	-2.0	9.92	25.50	0.074	0.000008341	0.012314796	0.00091421	23.00	3.418	78.60	73.88
	60	25.00	29	-2.0	9.92	25.50	0.052	0.000008341	0.012314796	0.00064645	23.00	3.418	78.60	73.88
	120	24.50	29	-2.0	10.09	25.00	0.037	0.000008341	0.012314796	0.00046094	22.50	3.418	76.89	72.27
	240	24.00	29	-2.0	10.25	24.50	0.027	0.000008341	0.012314796	0.00032862	22.00	3.418	75.19	70.67
	480	23.50	32	-2.0	10.42	24.00	0.019	0.000007821	0.011924722	0.00022683	21.50	3.418	73.48	69.06
	1440	23.00	32	-2.0	10.59	23.50	0.011	0.000007821	0.011924722	0.000131997	21.00	3.418	71.78	67.47

Lab Manager

Checked By

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ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

GRAIN SIZE ANALYSIS OF SOIL - HYDROMETER METHOD

Client : DFCC

Project Name : G.I For 3 Nos. Important Bridges

Type of Sample : SPT

Location : BH-3(Tangri River-Ambala)

Sampled by : T.K.Das

Depth : 18.0m

Date of Testing : 18.09.12

Tested by : D,Mohanty

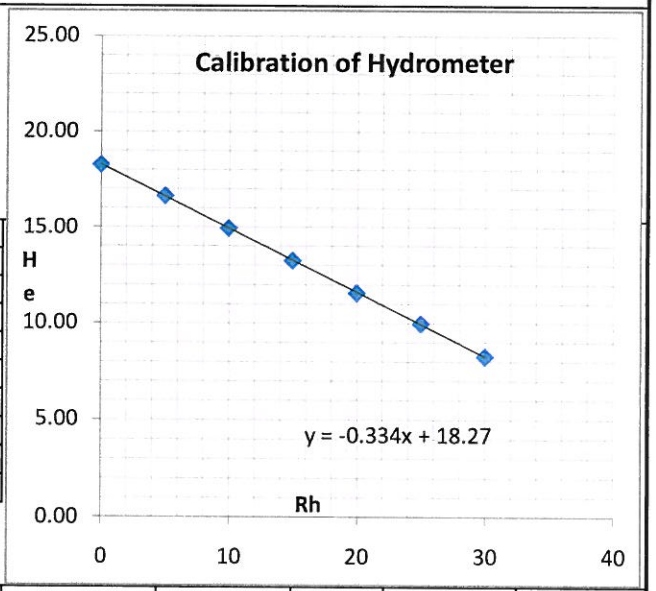
(I)	Percentage of 75 micron passing (from sieve analysis)		95.24
(II)	Mass of dry soil passing 2mm sieve taken (gm)		50
(III)	Mass of dry soil retained on 75micron sieve (gm)		2.4
(IV)	Mass of dry soil passing 75 micron Wh (gm)		47.6
(V)	Specific gravity of soil grains, Gs		2.65
(VI)	Top Meniscus reading on hydrometer stem		2.0
(VII)	Bottom meniscus reading on hydrometer stem		2.5
(VIII)	Meniscuss correction, Cm = + [(VII) - (VI)]		0.5
a	Hydrometer No	1	
	Volume of Hydrometer V (cm3)	50	
	Height of bulb (h) in cm	16.5	
b	Sedimentation Jar No	1	
	Cross sectional area of jar (A) in cm2	35.714	

CALIBRATION OF HYDROMETER		
(Rh)	H (cm)	He (cm)
30	0.7	8.25
25	2.4	9.95
20	4.0	11.55
15	5.7	13.25
10	7.4	14.95
5	9.1	16.65
0	10.7	18.25
-5	12.4	19.95

Rh = hydrometer Reading

H = height corresponding to Rh

He = Effective height = H + 0.5*(h -V/A)



Time	Elapsed Time (min)	Hydrometer Reading (Rh)	Temperature (o C)	Composite Correction +/- C	Effective depth h (cm)	Rc1 = Rh + Cm	Sqrt (h/t)	Viscosity (gm/cm2)	Factor M	Particle 'C' (cm) (8) x (10)	Rc2 = Rh + C (3) + (5)	Factor N	% Finner w.r.t Wd F (12) x (13)	% Finner w.r.t total mass (14) x (I)/100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
10.30	0.5	28.24	29	-2.0	8.84	28.74	0.543	0.000008341	0.012314796	0.00668405	26.24	3.373	88.50	84.29
	1	28.00	29	-2.0	8.92	28.50	0.386	0.000008341	0.012314796	0.00474772	26.00	3.373	87.69	83.52
	2	27.50	29	-2.0	9.09	28.00	0.275	0.000008341	0.012314796	0.00338843	25.50	3.373	86.00	81.91
	4	27.00	29	-2.0	9.25	27.50	0.196	0.000008341	0.012314796	0.00241791	25.00	3.373	84.32	80.30
	8	26.50	29	-2.0	9.42	27.00	0.140	0.000008341	0.012314796	0.00172508	24.50	3.373	82.63	78.70
	15	26.00	29	-2.0	9.59	26.50	0.103	0.000008341	0.012314796	0.00127094	24.00	3.373	80.94	77.09
	30	25.50	29	-2.0	9.75	26.00	0.074	0.000008341	0.012314796	0.00090648	23.50	3.373	79.26	75.48
	60	25.00	29	-2.0	9.92	25.50	0.052	0.000008341	0.012314796	0.00064645	23.00	3.373	77.57	73.88
	120	24.50	29	-2.0	10.09	25.00	0.037	0.000008341	0.012314796	0.00046094	22.50	3.373	75.88	72.27
	240	24.00	29	-2.0	10.25	24.50	0.027	0.000008341	0.012314796	0.00032862	22.00	3.373	74.20	70.67
	480	23.50	32	-2.0	10.42	24.00	0.019	0.000007821	0.011924722	0.00022683	21.50	3.373	72.51	69.06
	1440	23.13	32	-2.0	10.55	23.63	0.011	0.000007821	0.011924722	0.000131744	21.13	3.373	71.25	67.86

Lab Manager

Checked By

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ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

GRAIN SIZE ANALYSIS OF SOIL - HYDROMETER METHOD

Client : DFCC

Project Name : G.I For 3 Nos. Important Bridges

Type of Sample : UDS

Location : BH-3(Tangri River-Ambala)

Sampled by : T.K.Das

Depth : 19.0m

Date of Testing : 18.09.12

Tested by : D,Mohanty

(I)	Percentage of 75 micron passing (from sieve analysis)		94.76
(II)	Mass of dry soil passing 2mm sieve taken (gm)		50
(III)	Mass of dry soil retained on 75micron sieve (gm)		2.6
(IV)	Mass of dry soil passing 75 micron Wh (gm)		47.4
(V)	Specific gravity of soil grains, Gs		2.65
(VI)	Top Meniscus reading on hydrometer stem		2.0
(VII)	Bottom meniscus reading on hydrometer stem		2.5
(VIII)	Meniscuss correction, Cm = + [(VII) - (VI)]		0.5
a	Hydrometer No	1	
	Volume of Hydrometer V (cm3)	50	
	Height of bulb (h) in cm	16.5	
b	Sedimentation Jar No	1	
	Cross sectional area of jar (A) in cm2	35.714	

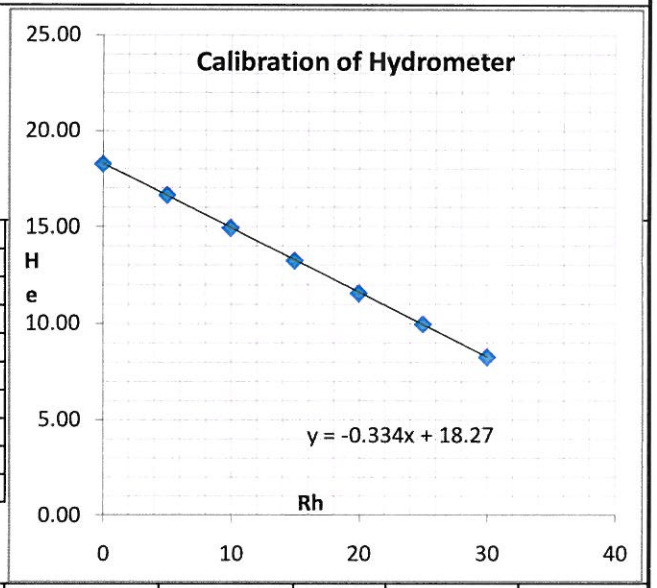
Rh = hydrometer Reading

H = height corresponding to Rh

He = Effective height = H + 0.5*(h -V/A)

CALIBRATION OF HYDROMETER

(Rh)	H (cm)	He (cm)
30	0.7	8.25
25	2.4	9.95
20	4.0	11.55
15	5.7	13.25
10	7.4	14.95
5	9.1	16.65
0	10.7	18.25
-5	12.4	19.95



Time	Elapsed Time (min)	Hydrometer Reading (Rh)	Temperature (o C)	Composite Correction +/- C	Effective depth h (cm)	Rc1 = Rh + Cm	Sqrt (h/t)	Viscosity (gm/cm2)	Factor M	Particle 'C' (cm) (8) x (10)	Rc2 = Rh + C (3) + (5)	Factor N	% Finner w.r.t Wd F (12) x (13)	% Finner w.r.t total mass (14) x (I)/100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
10.30	0.5	27.91	29	-2.0	8.95	28.41	0.546	0.000008341	0.012314796	0.00672560	25.91	3.390	87.83	83.23
	1	27.50	29	-2.0	9.09	28.00	0.389	0.000008341	0.012314796	0.00479197	25.50	3.390	86.44	81.91
	2	27.00	29	-2.0	9.25	27.50	0.278	0.000008341	0.012314796	0.00341944	25.00	3.390	84.74	80.30
	4	26.50	29	-2.0	9.42	27.00	0.198	0.000008341	0.012314796	0.00243963	24.50	3.390	83.05	78.70
	8	26.00	29	-2.0	9.59	26.50	0.141	0.000008341	0.012314796	0.00174030	24.00	3.390	81.35	77.09
	15	26.00	29	-2.0	9.59	26.50	0.103	0.000008341	0.012314796	0.00127094	24.00	3.390	81.35	77.09
	30	25.50	29	-2.0	9.75	26.00	0.074	0.000008341	0.012314796	0.00090648	23.50	3.390	79.66	75.48
	60	25.00	29	-2.0	9.92	25.50	0.052	0.000008341	0.012314796	0.00064645	23.00	3.390	77.96	73.88
	120	24.50	29	-2.0	10.09	25.00	0.037	0.000008341	0.012314796	0.00046094	22.50	3.390	76.27	72.27
	240	24.00	29	-2.0	10.25	24.50	0.027	0.000008341	0.012314796	0.00032862	22.00	3.390	74.57	70.67
	480	23.50	32	-2.0	10.42	24.00	0.019	0.000007821	0.011924722	0.00022683	21.50	3.390	72.88	69.06
	1440	23.27	32	-2.0	10.50	23.77	0.011	0.000007821	0.011924722	0.000131452	21.27	3.390	72.09	68.31

Lab Manager

Checked By

ARKI TECHNO CONSULTANTS (INDIA) PVT LTD

N 3/91, IRC Village, Bhubaneswar

GRAIN SIZE ANALYSIS OF SOIL - HYDROMETER METHOD

Client : DFCC

Project Name : G.I For 3 Nos. Important Bridges

Type of Sample : SPT

Location : BH-3(Tangri River-Ambala)

Sampled by : T.K.Das

Depth : 21.0m

Date of Testing : 18.09.12

Tested by : D,Mohanty

(I)	Percentage of 75 micron passing (from sieve analysis)		97.13
(II)	Mass of dry soil passing 2mm sieve taken (gm)		50
(III)	Mass of dry soil retained on 75micron sieve (gm)		1.4
(IV)	Mass of dry soil passing 75 micron Wh (gm)		48.6
(V)	Specific gravity of soil grains, Gs		2.69
(VI)	Top Meniscus reading on hydrometer stem		2.0
(VII)	Bottom meniscus reading on hydrometer stem		2.5
(VIII)	Meniscuss correction, Cm = + [(VII) - (VI)]		0.5
a	Hydrometer No	1	
	Volume of Hydrometer V (cm3)	50	
	Height of bulb (h) in cm	16.5	
b	Sedimentation Jar No	1	
	Cross sectional area of jar (A) in cm2	35.714	

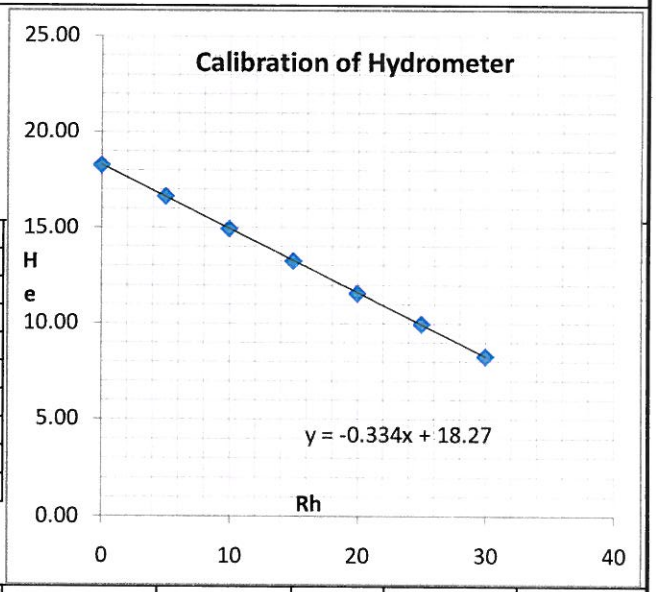
CALIBRATION OF HYDROMETER

(Rh)	H (cm)	He (cm)
30	0.7	8.25
25	2.4	9.95
20	4.0	11.55
15	5.7	13.25
10	7.4	14.95
5	9.1	16.65
0	10.7	18.25
-5	12.4	19.95

Rh = hydrometer Reading

H = height corresponding to Rh

He = Effective height = H + 0.5*(h -V/A)



Time	Elapsed Time (min)	Hydrometer Reading (Rh)	Temperature (o C)	Composite Correction +/- C	Effective depth h (cm)	Rc1 = Rh + Cm	Sqrt (h/t)	Viscosity (gm/cm2)	Factor M	Particle 'C' (cm) (8) x (10)	Rc2 = Rh + C (3) + (5)	Factor N	% Finner w.r.t Wd F (12) x (13)	% Finner w.r.t total mass (14) x (I)/100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
10.30	0.5	29.05	29	-2.0	8.57	29.55	0.534	0.000008341	0.012168186	0.00650260	27.05	3.277	88.66	86.11
	1	28.50	29	-2.0	8.75	29.00	0.382	0.000008341	0.012168186	0.00464707	26.50	3.277	86.85	84.36
	2	28.50	29	-2.0	8.75	29.00	0.270	0.000008341	0.012168186	0.00328597	26.50	3.277	86.85	84.36
	4	28.00	29	-2.0	8.92	28.50	0.193	0.000008341	0.012168186	0.00234560	26.00	3.277	85.21	82.77
	8	28.00	29	-2.0	8.92	28.50	0.136	0.000008341	0.012168186	0.00165859	26.00	3.277	85.21	82.77
	15	28.00	29	-2.0	8.92	28.50	0.100	0.000008341	0.012168186	0.00121126	26.00	3.277	85.21	82.77
	30	27.50	29	-2.0	9.09	28.00	0.071	0.000008341	0.012168186	0.00086447	25.50	3.277	83.58	81.18
	60	27.50	29	-2.0	9.09	28.00	0.050	0.000008341	0.012168186	0.00061128	25.50	3.277	83.58	81.18
	120	27.50	29	-2.0	9.09	28.00	0.036	0.000008341	0.012168186	0.00043224	25.50	3.277	83.58	81.18
	240	27.00	29	-2.0	9.25	27.50	0.025	0.000008341	0.012168186	0.00030843	25.00	3.277	81.94	79.59
	480	27.00	32	-2.0	9.25	27.50	0.018	0.000007821	0.011782756	0.00021119	25.00	3.277	81.94	79.59
	1440	26.76	32	-2.0	9.33	27.26	0.010	0.000007821	0.011782756	0.000122464	24.76	3.277	81.14	78.81

Lab Manager

Checked By

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ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

GRAIN SIZE ANALYSIS OF SOIL - HYDROMETER METHOD

Client : DFCC

Project Name : G.I For 3 Nos. Important Bridges

Type of Sample : UDS

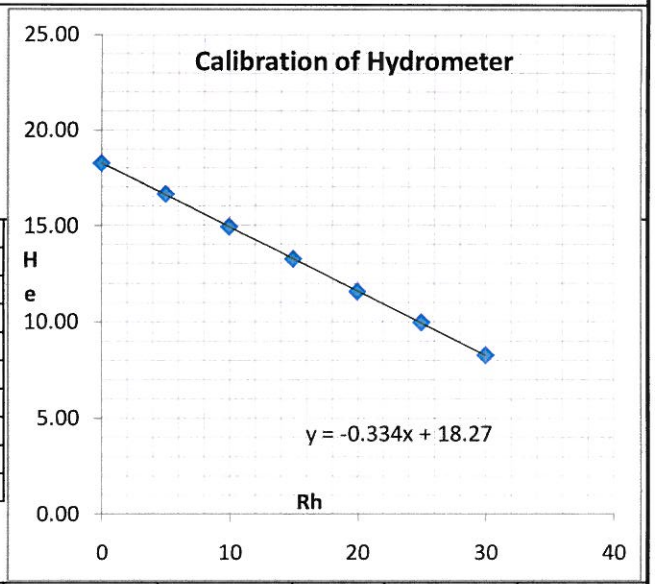
Location : BH-3(Tangri River-Ambala)

Sampled by : T.K.Das

Depth : 22.0m

Date of Testing : 18.09.12

Tested by : D,Mohanty



(I)	Percentage of 75 micron passing (from sieve analysis)		99.07
(II)	Mass of dry soil passing 2mm sieve taken (gm)		50
(III)	Mass of dry soil retained on 75micron sieve (gm)		0.5
(IV)	Mass of dry soil passing 75 micron Wh (gm)		49.5
(V)	Specific gravity of soil grains, Gs		2.69
(VI)	Top Meniscus reading on hydrometer stem		2.0
(VII)	Bottom meniscus reading on hydrometer stem		2.5
(VIII)	Meniscuss correction, Cm = + [(VII) - (VI)]		0.5
a	Hydrometer No	1	
	Volume of Hydrometer V (cm3)	50	
	Height of bulb (h) in cm	16.5	
b	Sedimentation Jar No	1	
	Cross sectional area of jar (A) in cm2	35.714	

CALIBRATION OF HYDROMETER

(Rh)	H (cm)	He (cm)
30	0.7	8.25
25	2.4	9.95
20	4.0	11.55
15	5.7	13.25
10	7.4	14.95
5	9.1	16.65
0	10.7	18.25
-5	12.4	19.95

Rh = hydrometer Reading

H = height corresponding to Rh

He = Effective height = H + 0.5*(h -V/A)

Time	Elapsed Time (min)	Hydrometer Reading (Rh)	Temperature (o C)	Composite Correction +/- C	Effective depth h (cm)	Rc1 = Rh + Cm	Sqrt (h/t)	Viscosity (gm/cm2)	Factor M	Particle 'C' (cm) (8) x (10)	Rc2 = Rh + C (3) + (5)	Factor N	% Finner w.r.t Wd F (12) x (13)	% Finner w.r.t total mass (14) x (I)/100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
10.30	0.5	29.88	29	-2.0	8.29	30.38	0.526	0.000008341	0.012168186	0.00639653	27.88	3.213	89.59	88.75
	1	29.50	29	-2.0	8.42	30.00	0.375	0.000008341	0.012168186	0.00455752	27.50	3.213	88.37	87.54
	2	29.00	29	-2.0	8.58	29.50	0.267	0.000008341	0.012168186	0.00325447	27.00	3.213	86.76	85.95
	4	28.50	29	-2.0	8.75	29.00	0.191	0.000008341	0.012168186	0.00232353	26.50	3.213	85.15	84.36
	8	28.00	29	-2.0	8.92	28.50	0.136	0.000008341	0.012168186	0.00165859	26.00	3.213	83.55	82.77
	15	27.00	29	-2.0	9.25	27.50	0.101	0.000008341	0.012168186	0.00123374	25.00	3.213	80.33	79.59
	30	26.00	29	-2.0	9.59	26.50	0.073	0.000008341	0.012168186	0.00088799	24.00	3.213	77.12	76.40
	60	25.50	29	-2.0	9.75	26.00	0.052	0.000008341	0.012168186	0.00063335	23.50	3.213	75.51	74.81
	120	25.00	29	-2.0	9.92	25.50	0.037	0.000008341	0.012168186	0.00045166	23.00	3.213	73.91	73.22
	240	24.50	29	-2.0	10.09	25.00	0.026	0.000008341	0.012168186	0.00032205	22.50	3.213	72.30	71.63
	480	24.00	32	-2.0	10.25	24.50	0.019	0.000007821	0.011782756	0.00022233	22.00	3.213	70.69	70.04
	1440	23.25	32	-2.0	10.50	23.75	0.011	0.000007821	0.011782756	0.000129919	21.25	3.213	68.29	67.65

Lab Manager

Checked By

ARKI TECHNO CONSULTANTS (INDIA) PVT LTD

N 3/91, IRC Village, Bhubaneswar

GRAIN SIZE ANALYSIS OF SOIL - HYDROMETER METHOD

Client : DFCC

Project Name : G.I For 3 Nos. Important Bridges

Type of Sample : UDS

Location : BH-3(Tangri River-Ambala)

Sampled by : T.K.Das

Depth : 25.0m

Date of Testing : 18.09.12

Tested by : D,Mohanty

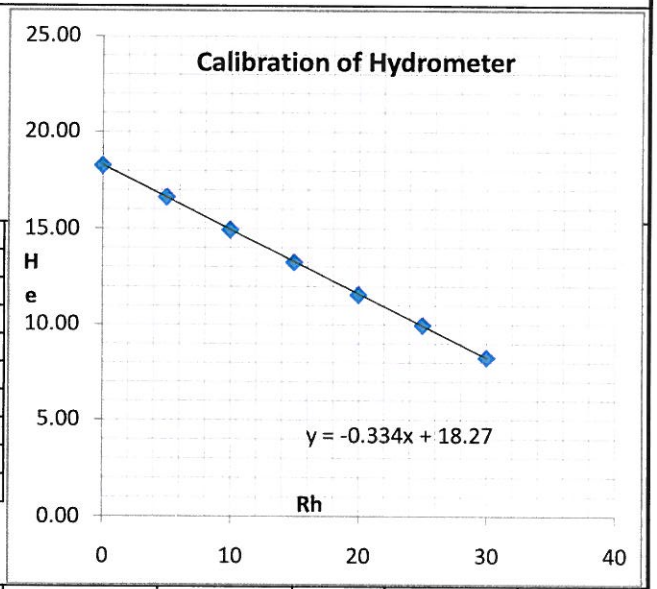
(I)	Percentage of 75 micron passing (from sieve analysis)		99.24
(II)	Mass of dry soil passing 2mm sieve taken (gm)		50
(III)	Mass of dry soil retained on 75micron sieve (gm)		0.4
(IV)	Mass of dry soil passing 75 micron Wh (gm)		49.6
(V)	Specific gravity of soil grains, Gs		2.68
(VI)	Top Meniscus reading on hydrometer stem		2.0
(VII)	Bottom meniscus reading on hydrometer stem		2.5
(VIII)	Meniscuss correction, Cm = + [(VII) - (VI)]		0.5
a	Hydrometer No	1	
	Volume of Hydrometer V (cm3)	50	
	Height of bulb (h) in cm	16.5	
b	Sedimentation Jar No	1	
	Cross sectional area of jar (A) in cm2	35.714	

CALIBRATION OF HYDROMETER		
(Rh)	H (cm)	He (cm)
30	0.7	8.25
25	2.4	9.95
20	4.0	11.55
15	5.7	13.25
10	7.4	14.95
5	9.1	16.65
0	10.7	18.25
-5	12.4	19.95

Rh = hydrometer Reading

H = height corresponding to Rh

He = Effective height = H + 0.5*(h -V/A)



Time	Elapsed Time (min)	Hydrometer Reading (Rh)	Temperature (o C)	Composite Correction +/- C	Effective depth h (cm)	Rc1 = Rh + Cm	Sqrt (h/t)	Viscosity (gm/cm2)	Factor M	Particle 'C' (cm) (8) x (10)	Rc2 = Rh + C (3) + (5)	Factor N	% Finner w.r.t Wd F (12) x (13)	% Finner w.r.t total mass (14) x (I)/100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
10.30	0.5	29.94	29	-2.0	8.27	30.44	0.525	0.000008341	0.012204347	0.00640778	27.94	3.215	89.82	89.14
	1	29.50	29	-2.0	8.42	30.00	0.375	0.000008341	0.012204347	0.00457107	27.50	3.215	88.41	87.74
	2	29.00	29	-2.0	8.58	29.50	0.267	0.000008341	0.012204347	0.00326414	27.00	3.215	86.80	86.14
	4	28.50	29	-2.0	8.75	29.00	0.191	0.000008341	0.012204347	0.00233044	26.50	3.215	85.20	84.55
	8	28.00	29	-2.0	8.92	28.50	0.136	0.000008341	0.012204347	0.00166352	26.00	3.215	83.59	82.95
	15	27.00	29	-2.0	9.25	27.50	0.101	0.000008341	0.012204347	0.00123740	25.00	3.215	80.37	79.76
	30	26.00	29	-2.0	9.59	26.50	0.073	0.000008341	0.012204347	0.00089063	24.00	3.215	77.16	76.57
	60	25.50	29	-2.0	9.75	26.00	0.052	0.000008341	0.012204347	0.00063523	23.50	3.215	75.55	74.98
	120	25.00	29	-2.0	9.92	25.50	0.037	0.000008341	0.012204347	0.00045301	23.00	3.215	73.94	73.38
	240	24.50	29	-2.0	10.09	25.00	0.026	0.000008341	0.012204347	0.00032301	22.50	3.215	72.34	71.79
	480	24.00	32	-2.0	10.25	24.50	0.019	0.000007821	0.011817771	0.00022299	22.00	3.215	70.73	70.19
	1440	23.81	32	-2.0	10.32	24.31	0.011	0.000007821	0.011817771	0.000129138	21.81	3.215	70.12	69.59

Lab Manager

Checked By

ARKI TECHNO CONSULTANTS (INDIA) PVT LTD

ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

GRAIN SIZE ANALYSIS OF SOIL - HYDROMETER METHOD

Client : DFCC

Project Name : G.I For 3 Nos. Important Bridges

Type of Sample : UDS

Location : BH-3(Tangri River-Ambala)

Sampled by : T.K.Das

Depth : 28.0m

Date of Testing : 18.09.12

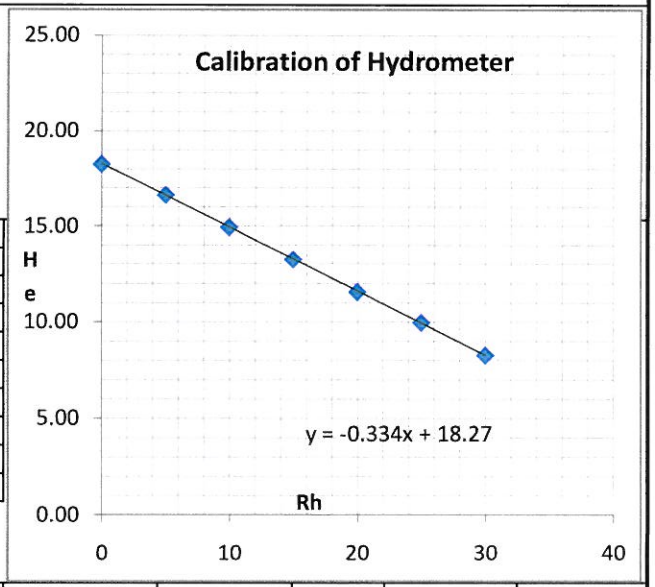
Tested by : D,Mohanty

(I)	Percentage of 75 micron passing (from sieve analysis)		99.03
(II)	Mass of dry soil passing 2mm sieve taken (gm)		50
(III)	Mass of dry soil retained on 75micron sieve (gm)		0.5
(IV)	Mass of dry soil passing 75 micron Wh (gm)		49.5
(V)	Specific gravity of soil grains, Gs		2.68
(VI)	Top Meniscus reading on hydrometer stem		2.0
(VII)	Bottom meniscus reading on hydrometer stem		2.5
(VIII)	Meniscuss correction, Cm = + [(VII) - (VI)]		0.5
a	Hydrometer No	1	
	Volume of Hydrometer V (cm3)	50	
	Height of bulb (h) in cm	16.5	
b	Sedimentation Jar No	1	
	Cross sectional area of jar (A) in cm2	35.714	

Rh = hydrometer Reading
H = height corresponding to Rh
He = Effective height = H + 0.5*(h -V/A)

CALIBRATION OF HYDROMETER

(Rh)	H (cm)	He (cm)
30	0.7	8.25
25	2.4	9.95
20	4.0	11.55
15	5.7	13.25
10	7.4	14.95
5	9.1	16.65
0	10.7	18.25
-5	12.4	19.95



Time	Elapsed Time (min)	Hydrometer Reading (Rh)	Temperature (o C)	Composite Correction +/- C	Effective depth h (cm)	Rc1 = Rh + Cm	Sqrt (h/t)	Viscosity (gm/cm2)	Factor M	Particle 'C' (cm) (8) x (10)	Rc2 = Rh + C (3) + (5)	Factor N	% Finner w.r.t Wd F (12) x (13)	% Finner w.r.t total mass (14) x (I)/100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
10.30	0.5	29.51	29	-2.0	8.41	30.01	0.530	0.000008341	0.012204347	0.00646318	27.51	3.222	88.63	87.77
	1	29.00	29	-2.0	8.58	29.50	0.378	0.000008341	0.012204347	0.00461619	27.00	3.222	86.99	86.14
	2	28.50	29	-2.0	8.75	29.00	0.270	0.000008341	0.012204347	0.00329574	26.50	3.222	85.38	84.55
	4	28.00	29	-2.0	8.92	28.50	0.193	0.000008341	0.012204347	0.00235257	26.00	3.222	83.76	82.95
	8	27.50	29	-2.0	9.09	28.00	0.138	0.000008341	0.012204347	0.00167902	25.50	3.222	82.15	81.36
	15	26.50	29	-2.0	9.42	27.00	0.102	0.000008341	0.012204347	0.00124852	24.50	3.222	78.93	78.17
	30	25.50	29	-2.0	9.75	26.00	0.074	0.000008341	0.012204347	0.00089835	23.50	3.222	75.71	74.98
	60	24.50	29	-2.0	10.09	25.00	0.053	0.000008341	0.012204347	0.00064602	22.50	3.222	72.49	71.79
	120	24.00	29	-2.0	10.25	24.50	0.038	0.000008341	0.012204347	0.00046057	22.00	3.222	70.88	70.19
	240	23.50	29	-2.0	10.42	24.00	0.027	0.000008341	0.012204347	0.00032831	21.50	3.222	69.27	68.60
	480	23.00	32	-2.0	10.59	23.50	0.019	0.000007821	0.011817771	0.00022659	21.00	3.222	67.66	67.00
	1440	22.78	32	-2.0	10.66	23.28	0.011	0.000007821	0.011817771	0.000131275	20.78	3.222	66.95	66.30

Lab Manager

Checked By

ARKI TECHNO CONSULTANTS (INDIA) PVT LTD

ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

GRAIN SIZE ANALYSIS OF SOIL - HYDROMETER METHOD

Client : DFCC

Project Name : G.I For 3 Nos. Important Bridges

Type of Sample : SPT

Location : BH-3(Tangri River-Ambala)

Sampled by : T.K.Das

Depth : 30.0m

Date of Testing : 18.09.12

Tested by : D,Mohanty

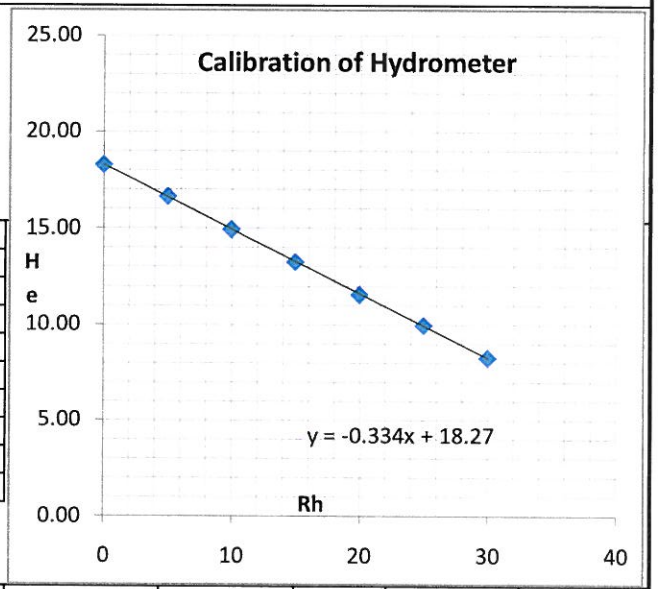
(I)	Percentage of 75 micron passing (from sieve analysis)		94.60
(II)	Mass of dry soil passing 2mm sieve taken (gm)		50
(III)	Mass of dry soil retained on 75micron sieve (gm)		2.7
(IV)	Mass of dry soil passing 75 micron Wh (gm)		47.3
(V)	Specific gravity of soil grains, Gs		2.68
(VI)	Top Meniscus reading on hydrometer stem		2.0
(VII)	Bottom meniscus reading on hydrometer stem		2.5
(VIII)	Meniscuss correction, Cm = + [(VII) - (VI)]		0.5
a	Hydrometer No	1	
	Volume of Hydrometer V (cm3)	50	
	Height of bulb (h) in cm	16.5	
b	Sedimentation Jar No	1	
	Cross sectional area of jar (A) in cm2	35.714	

CALIBRATION OF HYDROMETER		
(Rh)	H (cm)	He (cm)
30	0.7	8.25
25	2.4	9.95
20	4.0	11.55
15	5.7	13.25
10	7.4	14.95
5	9.1	16.65
0	10.7	18.25
-5	12.4	19.95

Rh = hydrometer Reading

H = height corresponding to Rh

He = Effective height = H + 0.5*(h -V/A)



Time	Elapsed Time (min)	Hydrometer Reading (Rh)	Temperature (o C)	Composite Correction +/- C	Effective depth h (cm)	Rc1 = Rh + Cm	Sqrt (h/t)	Viscosity (gm/cm2)	Factor M	Particle 'C' (cm) (8) x (10)	Rc2 = Rh + C (3) + (5)	Factor N	% Finner w.r.t Wd F (12) x (13)	% Finner w.r.t total mass (14) x (I)/100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
10.30	0.5	28.91	29	-2.0	8.61	29.41	0.536	0.000008341	0.012204347	0.00653970	26.91	3.373	90.76	85.86
	1	28.50	29	-2.0	8.75	29.00	0.382	0.000008341	0.012204347	0.00466088	26.50	3.373	89.37	84.55
	2	28.00	29	-2.0	8.92	28.50	0.273	0.000008341	0.012204347	0.00332704	26.00	3.373	87.69	82.95
	4	28.00	29	-2.0	8.92	28.50	0.193	0.000008341	0.012204347	0.00235257	26.00	3.373	87.69	82.95
	8	27.50	29	-2.0	9.09	28.00	0.138	0.000008341	0.012204347	0.00167902	25.50	3.373	86.00	81.36
	15	27.50	29	-2.0	9.09	28.00	0.100	0.000008341	0.012204347	0.00122618	25.50	3.373	86.00	81.36
	30	27.00	29	-2.0	9.25	27.50	0.072	0.000008341	0.012204347	0.00087498	25.00	3.373	84.31	79.76
	60	27.00	29	-2.0	9.25	27.50	0.051	0.000008341	0.012204347	0.00061870	25.00	3.373	84.31	79.76
	120	26.50	29	-2.0	9.42	27.00	0.036	0.000008341	0.012204347	0.00044142	24.50	3.373	82.63	78.17
	240	26.50	29	-2.0	9.42	27.00	0.026	0.000008341	0.012204347	0.00031213	24.50	3.373	82.63	78.17
	480	26.00	32	-2.0	9.59	26.50	0.018	0.000007821	0.011817771	0.00021560	24.00	3.373	80.94	76.57
	1440	25.88	32	-2.0	9.63	26.38	0.011	0.000007821	0.011817771	0.000124738	23.88	3.373	80.54	76.19

Lab Manager

Checked By

ARKI TECHNO CONSULTANTS (INDIA) PVT LTD

N 3/91, IRC Village, Bhubaneswar

GRAIN SIZE ANALYSIS OF SOIL - HYDROMETER METHOD

Client : DFCC

Project Name : G.I For 3 Nos. Important Bridges

Type of Sample : UDS

Location : BH-3(Tangri River-Ambala)

Sampled by : T.K.Das

Depth : 31.0m

Date of Testing : 18.09.12

Tested by : D,Mohanty

(I)	Percentage of 75 micron passing (from sieve analysis)		98.93
(II)	Mass of dry soil passing 2mm sieve taken (gm)		50
(III)	Mass of dry soil retained on 75micron sieve (gm)		0.5
(IV)	Mass of dry soil passing 75 micron Wh (gm)		49.5
(V)	Specific gravity of soil grains, Gs		2.69
(VI)	Top Meniscus reading on hydrometer stem		2.0
(VII)	Bottom meniscus reading on hydrometer stem		2.5
(VIII)	Meniscuss correction, Cm = + [(VII) - (VI)]		0.5
a	Hydrometer No	1	
	Volume of Hydrometer V (cm3)	50	
	Height of bulb (h) in cm	16.5	
b	Sedimentation Jar No	1	
	Cross sectional area of jar (A) in cm2	35.714	

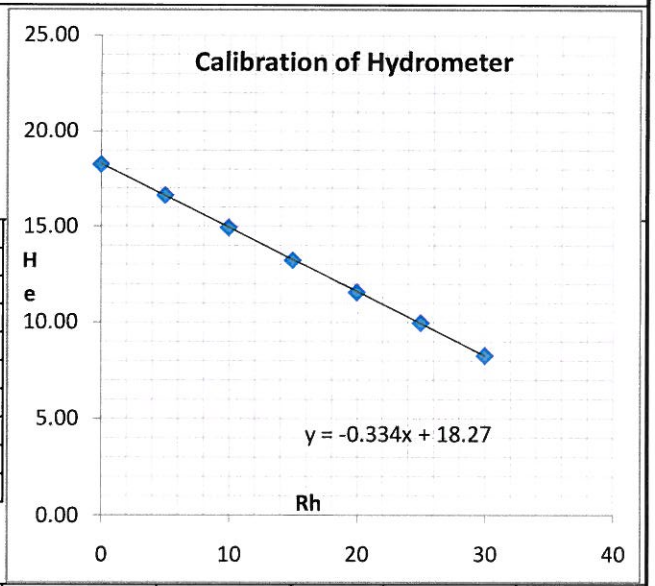
CALIBRATION OF HYDROMETER

(Rh)	H (cm)	He (cm)
30	0.7	8.25
25	2.4	9.95
20	4.0	11.55
15	5.7	13.25
10	7.4	14.95
5	9.1	16.65
0	10.7	18.25
-5	12.4	19.95

Rh = hydrometer Reading

H = height corresponding to Rh

He = Effective height = H + 0.5*(h -V/A)



Time	Elapsed Time (min)	Hydrometer Reading (Rh)	Temperature (o C)	Composite Correction +/- C	Effective depth h (cm)	Rc1 = Rh + Cm	Sqrt (h/t)	Viscosity (gm/cm2)	Factor M	Particle 'C' (cm) (8) x (10)	Rc2 = Rh + C (3) + (5)	Factor N	% Finner w.r.t Wd F (12) x (13)	% Finner w.r.t total mass (14) x (I)/100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
10.30	0.5	28.32	29	-2.0	8.81	28.82	0.542	0.000008341	0.012168186	0.00659448	26.32	3.218	84.69	83.79
	1	28.00	29	-2.0	8.92	28.50	0.386	0.000008341	0.012168186	0.00469120	26.00	3.218	83.66	82.77
	2	27.50	29	-2.0	9.09	28.00	0.275	0.000008341	0.012168186	0.00334809	25.50	3.218	82.06	81.18
	4	27.00	29	-2.0	9.25	27.50	0.196	0.000008341	0.012168186	0.00238912	25.00	3.218	80.45	79.59
	8	26.50	29	-2.0	9.42	27.00	0.140	0.000008341	0.012168186	0.00170454	24.50	3.218	78.84	77.99
	15	26.00	29	-2.0	9.59	26.50	0.103	0.000008341	0.012168186	0.00125581	24.00	3.218	77.23	76.40
	30	25.00	29	-2.0	9.92	25.50	0.074	0.000008341	0.012168186	0.00090333	23.00	3.218	74.01	73.22
	60	24.50	29	-2.0	10.09	25.00	0.053	0.000008341	0.012168186	0.00064410	22.50	3.218	72.40	71.63
	120	24.00	29	-2.0	10.25	24.50	0.038	0.000008341	0.012168186	0.00045920	22.00	3.218	70.79	70.04
	240	23.50	29	-2.0	10.42	24.00	0.027	0.000008341	0.012168186	0.00032734	21.50	3.218	69.18	68.44
	480	23.00	32	-2.0	10.59	23.50	0.019	0.000007821	0.011782756	0.00022592	21.00	3.218	67.58	66.85
	1440	22.23	32	-2.0	10.84	22.73	0.011	0.000007821	0.011782756	0.000132005	20.23	3.218	65.11	64.41

Lab Manager

Checked By

ARKI TECHNO CONSULTANTS (INDIA) PVT LTD

N 3/91, IRC Village, Bhubaneswar

GRAIN SIZE ANALYSIS OF SOIL - HYDROMETER METHOD

Client : DFCC

Project Name : G.I For 3 Nos. Important Bridges

Type of Sample : SPT

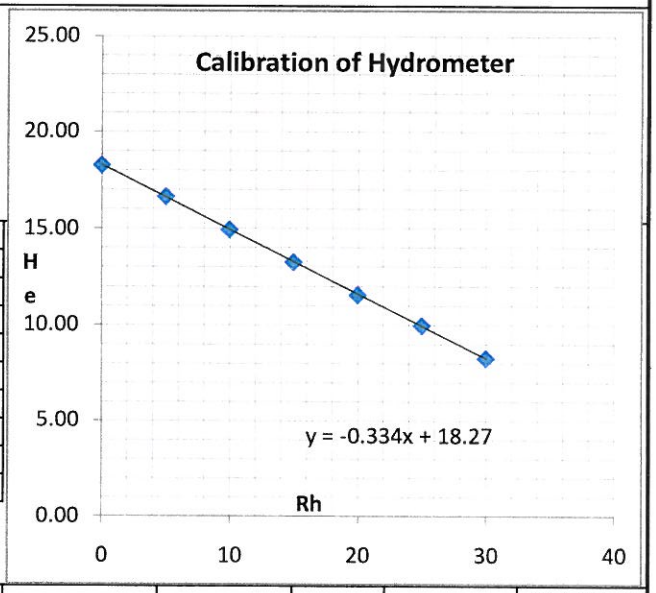
Location : BH-3(Tangri River-Ambala)

Sampled by : T.K.Das

Depth : 39.0m

Date of Testing : 18.09.12

Tested by : D,Mohanty



(I)	Percentage of 75 micron passing (from sieve analysis)		99.81
(II)	Mass of dry soil passing 2mm sieve taken (gm)		50
(III)	Mass of dry soil retained on 75micron sieve (gm)		0.1
(IV)	Mass of dry soil passing 75 micron Wh (gm)		49.9
(V)	Specific gravity of soil grains, Gs		2.69
(VI)	Top Meniscus reading on hydrometer stem		2.0
(VII)	Bottom meniscus reading on hydrometer stem		2.5
(VIII)	Meniscuss correction, Cm = + [(VII) - (VI)]		0.5
a	Hydrometer No	1	
	Volume of Hydrometer V (cm3)	50	
	Height of bulb (h) in cm	16.5	
b	Sedimentation Jar No	1	
	Cross sectional area of jar (A) in cm2	35.714	

CALIBRATION OF HYDROMETER

(Rh)	H (cm)	He (cm)
30	0.7	8.25
25	2.4	9.95
20	4.0	11.55
15	5.7	13.25
10	7.4	14.95
5	9.1	16.65
0	10.7	18.25
-5	12.4	19.95

Rh = hydrometer Reading
H = height corresponding to Rh
He = Effective height = H + 0.5*(h -V/A)

Time	Elapsed Time (min)	Hydrometer Reading (Rh)	Temperature (o C)	Composite Correction +/- C	Effective depth h (cm)	Rc1 = Rh + Cm	Sqrt (h/t)	Viscosity (gm/cm2)	Factor M	Particle 'C' (cm) (8) x (10)	Rc2 = Rh + C (3) + (5)	Factor N	% Finner w.r.t Wd F (12) x (13)	% Finner w.r.t total mass (14) x (I)/100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
10:30	0.5	29.98	29	-2.0	8.26	30.48	0.525	0.000008341	0.012168186	0.00638363	27.98	3.189	89.24	89.07
	1	29.50	29	-2.0	8.42	30.00	0.375	0.000008341	0.012168186	0.00455752	27.50	3.189	87.71	87.54
	2	29.00	29	-2.0	8.58	29.50	0.267	0.000008341	0.012168186	0.00325447	27.00	3.189	86.12	85.95
	4	28.50	29	-2.0	8.75	29.00	0.191	0.000008341	0.012168186	0.00232353	26.50	3.189	84.52	84.36
	8	28.50	29	-2.0	8.75	29.00	0.135	0.000008341	0.012168186	0.00164299	26.50	3.189	84.52	84.36
	15	28.00	29	-2.0	8.92	28.50	0.100	0.000008341	0.012168186	0.00121126	26.00	3.189	82.93	82.77
	30	28.00	29	-2.0	8.92	28.50	0.070	0.000008341	0.012168186	0.00085649	26.00	3.189	82.93	82.77
	60	28.00	29	-2.0	8.92	28.50	0.050	0.000008341	0.012168186	0.00060563	26.00	3.189	82.93	82.77
	120	27.50	29	-2.0	9.09	28.00	0.036	0.000008341	0.012168186	0.00043224	25.50	3.189	81.33	81.18
	240	27.50	29	-2.0	9.09	28.00	0.025	0.000008341	0.012168186	0.00030564	25.50	3.189	81.33	81.18
	480	27.00	32	-2.0	9.25	27.50	0.018	0.000007821	0.011782756	0.00021119	25.00	3.189	79.74	79.59
	1440	26.70	32	-2.0	9.35	27.20	0.010	0.000007821	0.011782756	0.000122581	24.70	3.189	78.79	78.64

Lab Manager

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ARKI TECHNO CONSULTANTS (INDIA) PVT LTD

ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

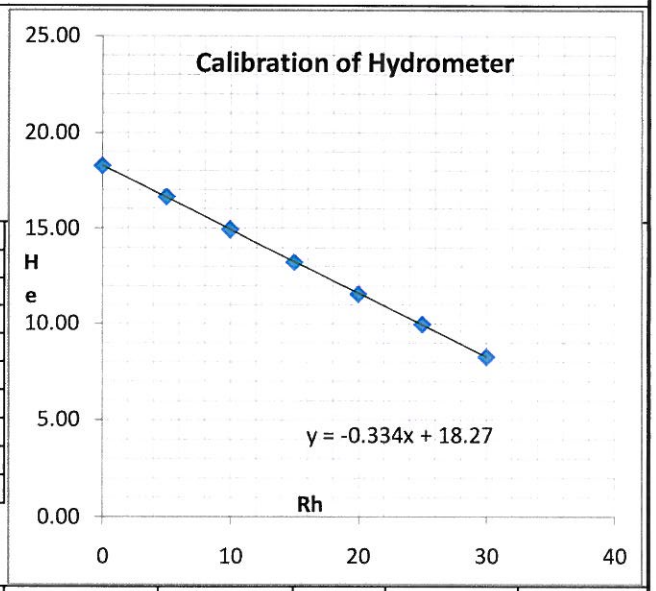
GRAIN SIZE ANALYSIS OF SOIL - HYDROMETER METHOD

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges	Depth	:	50.0m
Type of Sample	:	SPT	Date of Testing	:	18.09.12
Location	:	BH-3(Tangri River-Ambala)	Tested by	:	D,Mohanty
Sampled by	:	T.K.Das			

(I)	Percentage of 75 micron passing (from sieve analysis)		99.66
(II)	Mass of dry soil passing 2mm sieve taken (gm)		50
(III)	Mass of dry soil retained on 75micron sieve (gm)		0.2
(IV)	Mass of dry soil passing 75 micron Wh (gm)		49.8
(V)	Specific gravity of soil grains, Gs		2.68
(VI)	Top Meniscus reading on hydrometer stem		2.0
(VII)	Bottom meniscus reading on hydrometer stem		2.5
(VIII)	Meniscuss correction, Cm = + [(VII) - (VI)]		0.5
a	Hydrometer No	1	
	Volume of Hydrometer V (cm3)	50	
	Height of bulb (h) in cm	16.5	
b	Sedimentation Jar No	1	
	Cross sectional area of jar (A) in cm2	35.714	

CALIBRATION OF HYDROMETER		
(Rh)	H (cm)	He (cm)
30	0.7	8.25
25	2.4	9.95
20	4.0	11.55
15	5.7	13.25
10	7.4	14.95
5	9.1	16.65
0	10.7	18.25
-5	12.4	19.95

Rh = hydrometer Reading
H = height corresponding to Rh
He = Effective height = H + 0.5*(h -V/A)



Time	Elapsed Time (min)	Hydrometer Reading (Rh)	Temperature (o C)	Composite Correction +/- C	Effective depth h (cm)	Rc1 = Rh + Cm	Sqrt (h/t)	Viscosity (gm/cm2)	Factor M	Particle 'C' (cm) (8) x (10)	Rc2 = Rh + C (3) + (5)	Factor N	% Finner w.r.t Wd F (12) x (13)	% Finner w.r.t total mass (14) x (I)/100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
10.30	0.5	29.73	29	-2.0	8.34	30.23	0.527	0.000008341	0.012204347	0.00643490	27.73	3.201	88.77	88.47
	1	29.50	29	-2.0	8.42	30.00	0.375	0.000008341	0.012204347	0.00457107	27.50	3.201	88.04	87.74
	2	29.00	29	-2.0	8.58	29.50	0.267	0.000008341	0.012204347	0.00326414	27.00	3.201	86.44	86.14
	4	28.50	29	-2.0	8.75	29.00	0.191	0.000008341	0.012204347	0.00233044	26.50	3.201	84.84	84.55
	8	28.00	29	-2.0	8.92	28.50	0.136	0.000008341	0.012204347	0.00166352	26.00	3.201	83.24	82.95
	15	27.00	29	-2.0	9.25	27.50	0.101	0.000008341	0.012204347	0.00123740	25.00	3.201	80.03	79.76
	30	26.00	29	-2.0	9.59	26.50	0.073	0.000008341	0.012204347	0.00089063	24.00	3.201	76.83	76.57
	60	25.50	29	-2.0	9.75	26.00	0.052	0.000008341	0.012204347	0.00063523	23.50	3.201	75.23	74.98
	120	25.00	29	-2.0	9.92	25.50	0.037	0.000008341	0.012204347	0.00045301	23.00	3.201	73.63	73.38
	240	24.50	29	-2.0	10.09	25.00	0.026	0.000008341	0.012204347	0.00032301	22.50	3.201	72.03	71.79
	480	24.00	32	-2.0	10.25	24.50	0.019	0.000007821	0.011817771	0.00022299	22.00	3.201	70.43	70.19
	1440	23.32	32	-2.0	10.48	23.82	0.011	0.000007821	0.011817771	0.000130156	21.32	3.201	68.26	68.03

Lab Manager

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ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF LIQUID LIMIT AND PLASTIC LIMIT

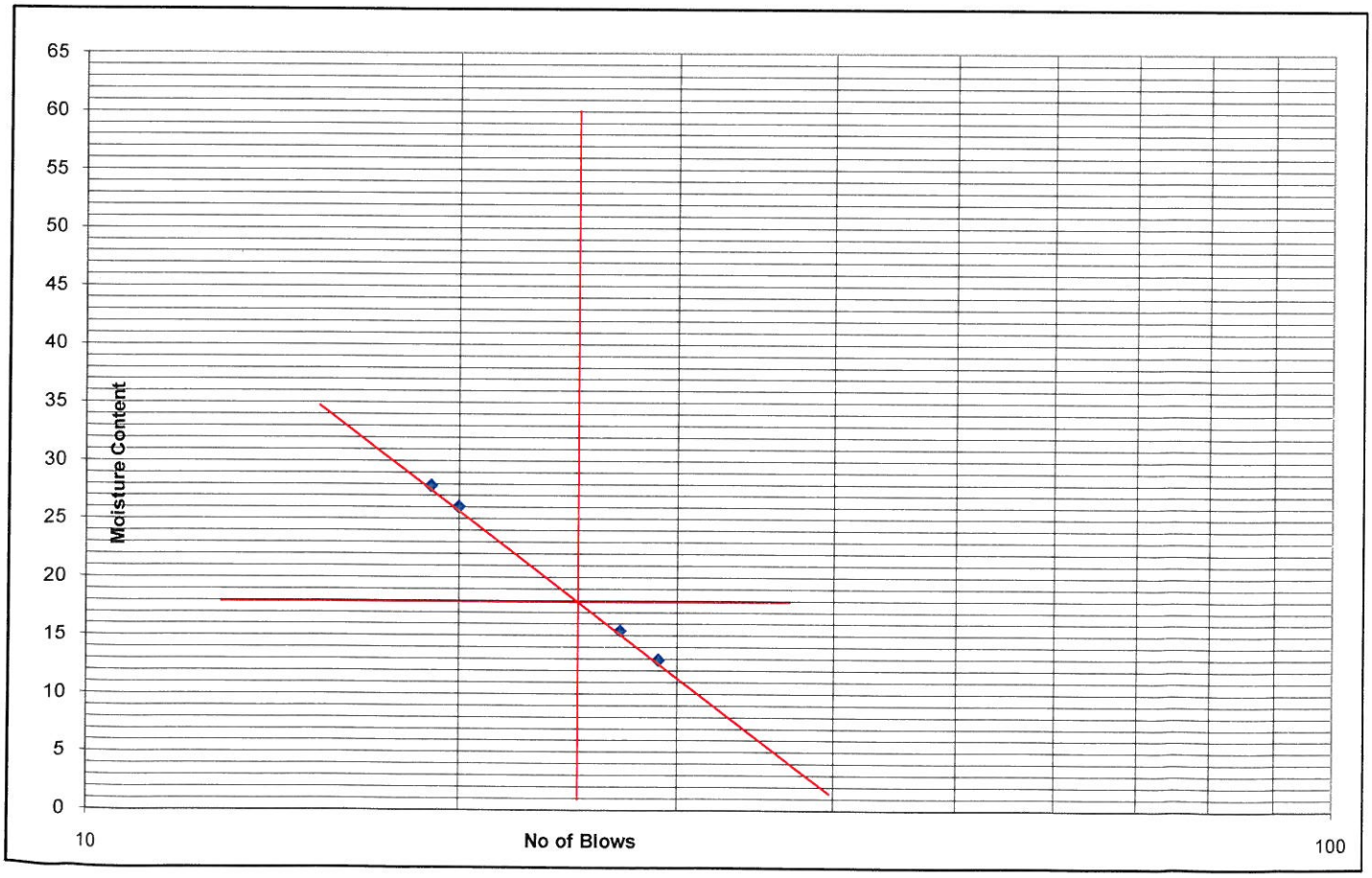
IS : 2720 (Part -5)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	SPT	Date Of Testing	:	18.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	1.5m	Tested by	:	D.Mohanty

Number of Blows	29	27	20	19	Plastic Limit	
Container No.	C19	C20	C21	C22	NP	
Container Weight (gm) (W1)	30.48	35.24	37.88	34.61		
Container + Wt. of wet soil (gm) (W2)	84.11	96.61	98.57	101.64		
Wt of Container + Wt. of oven dry soil (gm) (W3)	77.96	88.40	86.03	87.05		
Wt. Of water (gm) (W2-W1)-(W3-W1)	6.14	8.21	12.54	14.60		
Wt. of oven dry soil (gm) (W3-W1)	47.48	53.16	48.15	52.44		
Moisture Content (%)= [(W2-W1)-(W3-W1)]/(W3-W1) X 100	**12.94**	**15.44**	**26.05**	**27.84**		

Result Summary

Liquid Limit (WL)	18	%
Plastic Limit (Wp)	_	%
Plasticity Index (Ip)	_	%



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ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF LIQUID LIMIT AND PLASTIC LIMIT

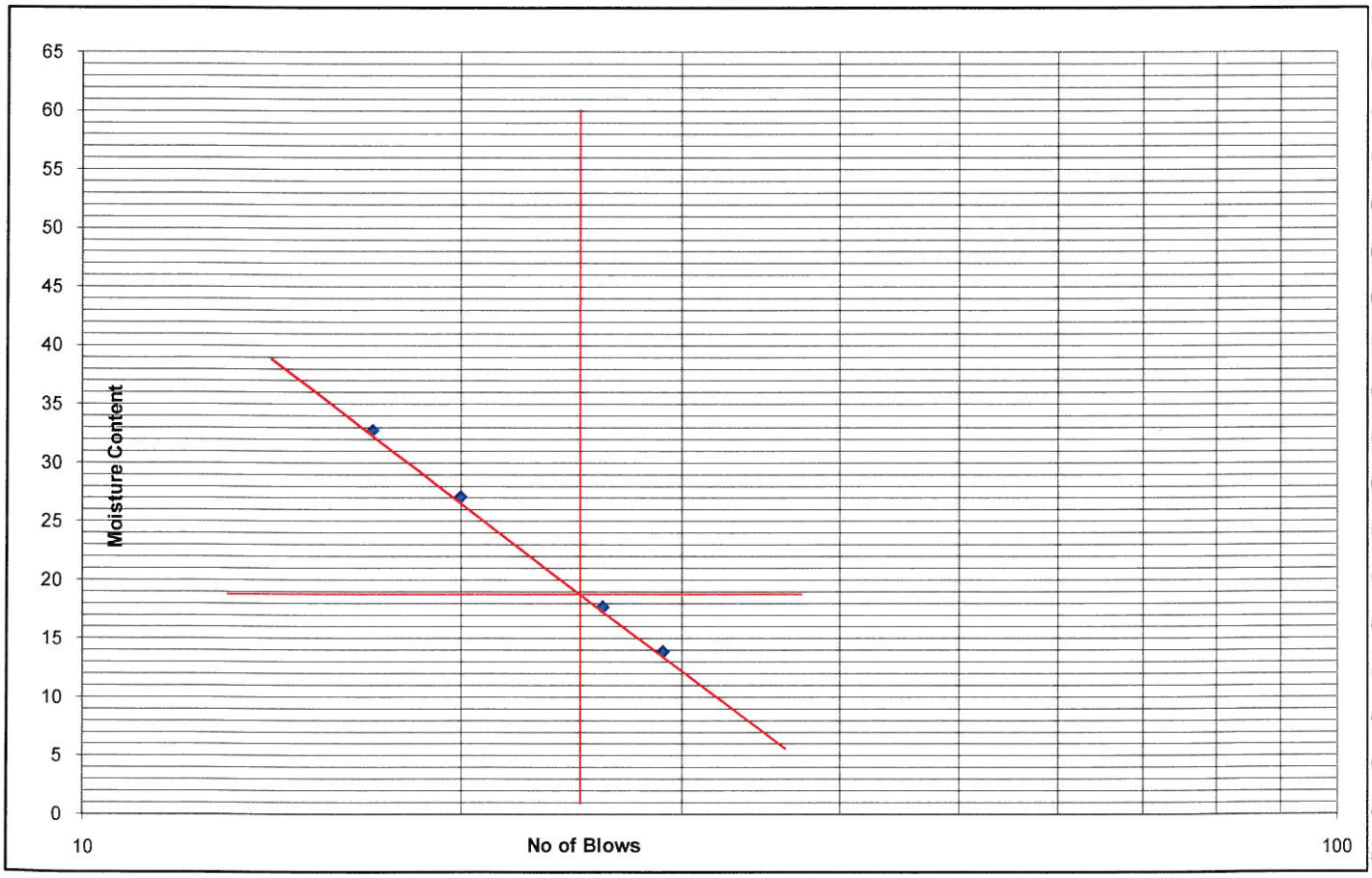
IS : 2720 (Part -5)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	SPT	Date Of Testing	:	18.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	3.0m	Tested by	:	D.Mohanty

Number of Blows	29	26	20	17	Plastic Limit	
Container No.	C7	C8	C9	C10	NP	
Container Weight (gm) (W1)	32.58	37.21	33.14	35.42		
Container + Wt. of wet soil (gm) (W2)	84.11	97.95	100.13	104.30		
Wt of Container + Wt. of oven dry soil (gm) (W3)	77.83	88.83	85.84	87.29		
Wt. Of water (gm) (W2-W1)-(W3-W1)	6.28	9.13	14.29	17.01		
Wt. of oven dry soil (gm) (W3-W1)	45.25	51.62	52.70	51.87		
Moisture Content (%)= [(W2-W1)-(W3-W1)]/(W3-W1) X 100	**13.88**	**17.68**	**27.11**	**32.79**		

Result Summary

Liquid Limit (WL)	19	%
Plastic Limit (Wp)	_	%
Plasticity Index (Ip)	_	%



4500

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ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF LIQUID LIMIT AND PLASTIC LIMIT

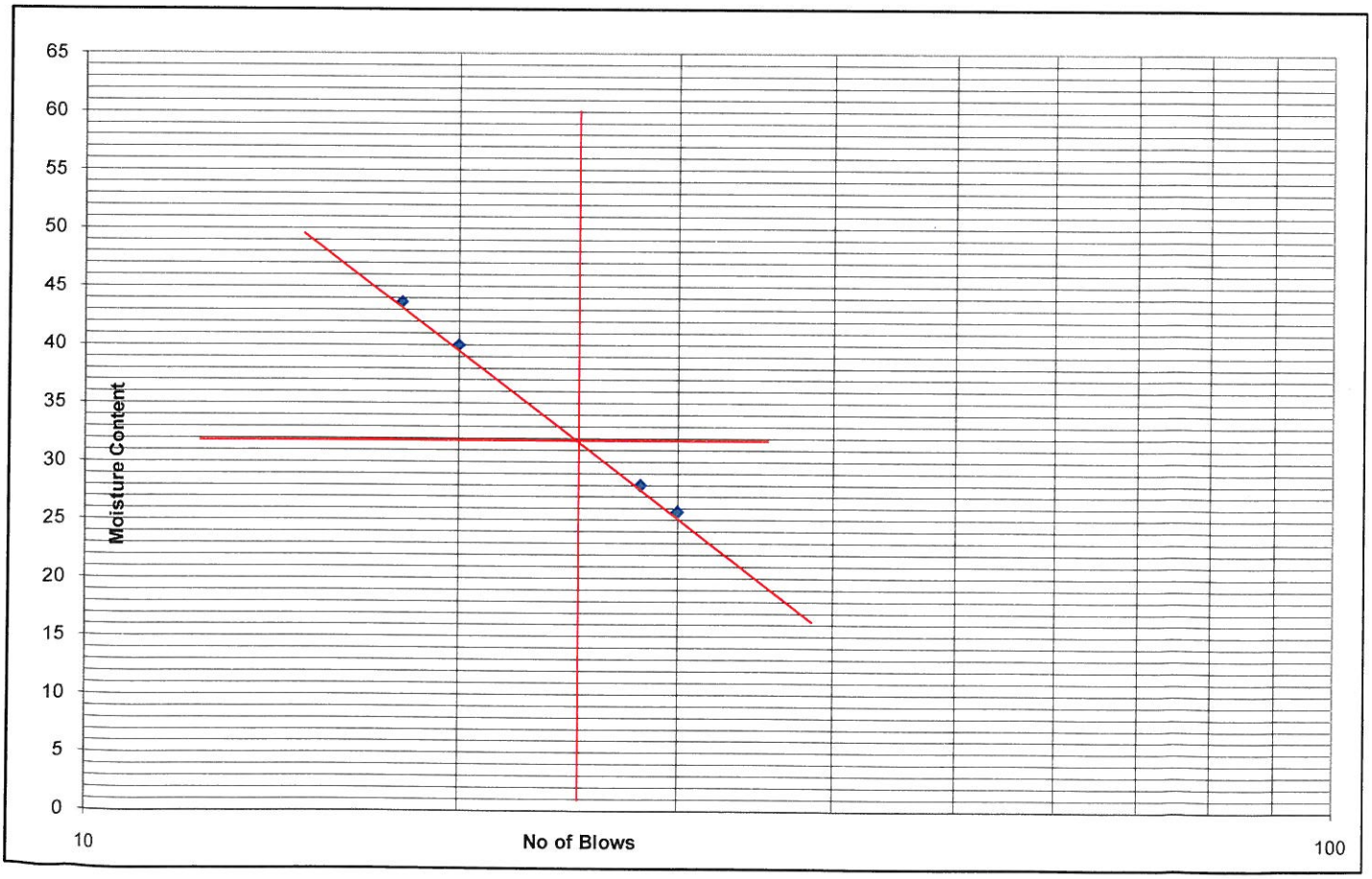
IS : 2720 (Part -5)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	SPT	Date Of Testing	:	18.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	6.0m	Tested by	:	D.Mohanty

Number of Blows	30	28	20	18	Plastic Limit	
Container No.	C13	C14	C9	C16	C17	C18
Container Weight (gm) (W1)	39.64	36.34	33.14	32.28	30.76	32.24
Container + Wt. of wet soil (gm) (W2)	87.98	103.83	106.51	111.38	91.11	89.35
Wt of Container + Wt. of oven dry soil (gm) (W3)	78.09	89.06	85.56	87.34	82.08	81.06
Wt. Of water (gm) (W2-W1)-(W3-W1)	9.89	14.77	20.95	24.04	9.03	8.29
Wt. of oven dry soil (gm) (W3-W1)	38.45	52.72	52.42	55.06	51.32	48.82
Moisture Content (%)= (W2-W1)-(W3-W1)]/(W3-W1) X 100	**25.73**	**28.01**	**39.97**	**43.67**	**17.59**	**16.97**

Result Summary

Liquid Limit (WL)	32	%
Plastic Limit (Wp)	17	%
Plasticity Index (Ip)	15	%



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ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF LIQUID LIMIT AND PLASTIC LIMIT

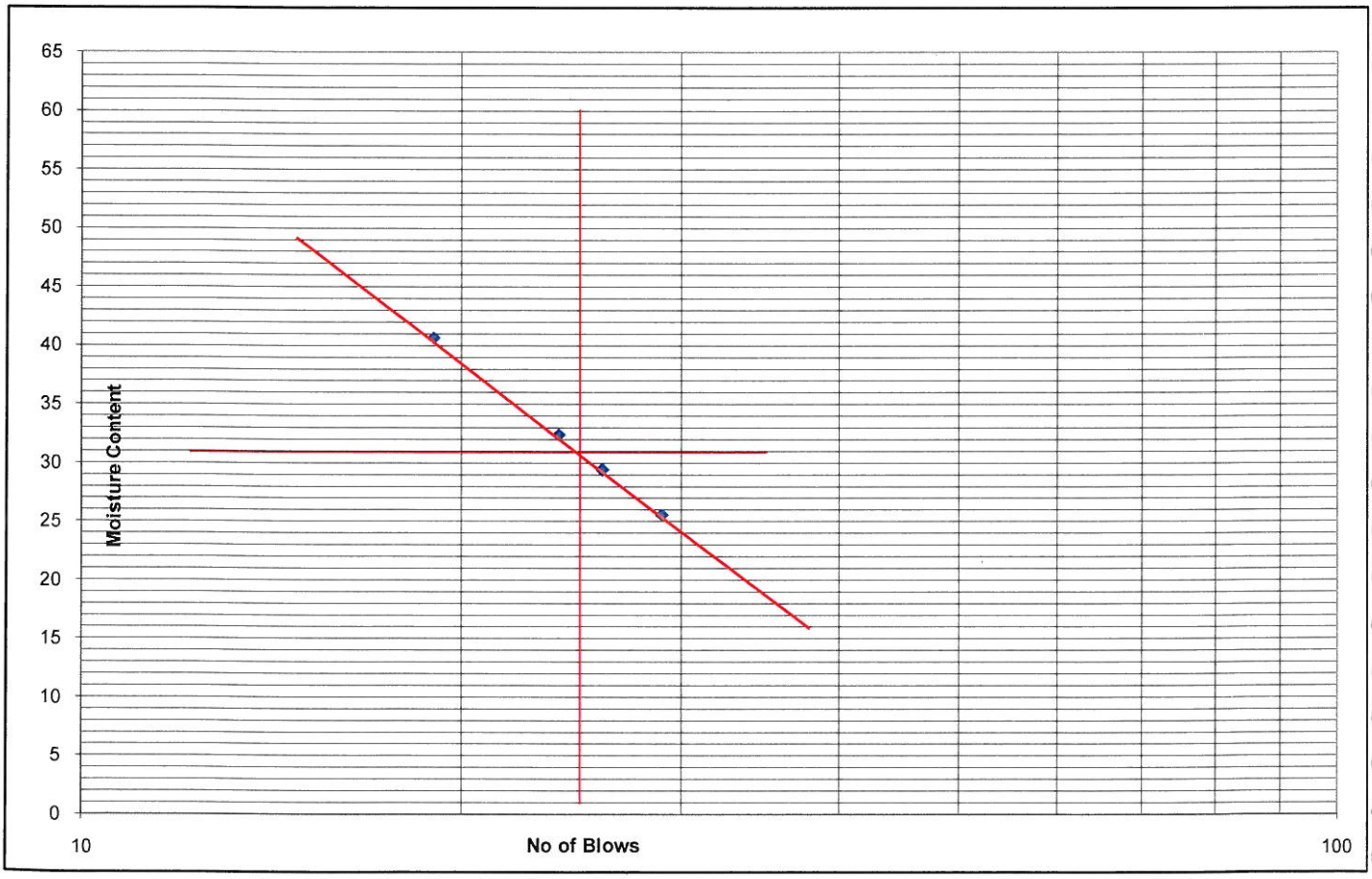
IS : 2720 (Part -5)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	UDS	Date Of Testing	:	18.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	7.0m	Tested by	:	D.Mohanty

Number of Blows	29	26	24	19	Plastic Limit	
Container No.	C37	C38	C39	C40	C41	C42
Container Weight (gm) (W1)	38.52	37.22	39.43	30.5	37.6	35.55
Container + Wt. of wet soil (gm) (W2)	87.39	103.62	100.32	109.84	89.89	88.93
Wt of Container + Wt. of oven dry soil (gm) (W3)	77.43	88.52	85.42	86.90	82.13	81.27
Wt. Of water (gm) (W2-W1)-(W3-W1)	9.96	15.10	14.90	22.93	7.76	7.66
Wt. of oven dry soil (gm) (W3-W1)	38.91	51.30	45.99	56.40	44.53	45.72
Moisture Content (%)= [(W2-W1)-(W3-W1)]/(W3-W1) X 100	**25.59**	**29.44**	**32.41**	**40.66**	**17.43**	**16.76**

Result Summary

Liquid Limit (WL)	31	%
Plastic Limit (Wp)	17	%
Plasticity Index (Ip)	14	%



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ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF LIQUID LIMIT AND PLASTIC LIMIT

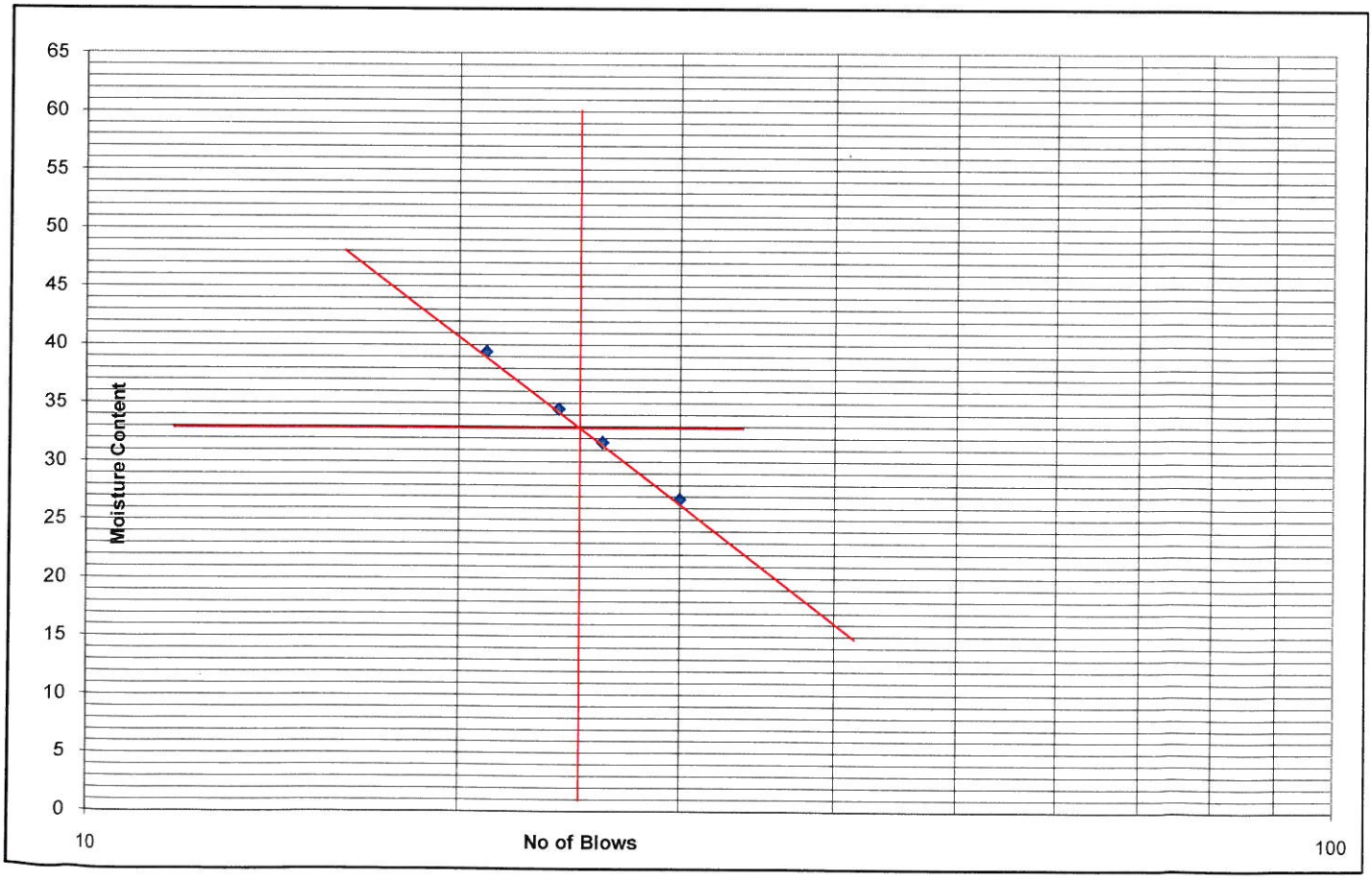
IS : 2720 (Part -5)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	SPT	Date Of Testing	:	18.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	9.0m	Tested by	:	D.Mohanty

Number of Blows	30	26	24	21	Plastic Limit	
Container No.	C25	C26	C27	C28	C29	C30
Container Weight (gm) (W1)	35.83	33.36	31.2	39.42	34.86	30.76
Container + Wt. of wet soil (gm) (W2)	88.48	107.40	104.79	106.79	90.87	90.88
Wt of Container + Wt. of oven dry soil (gm) (W3)	77.35	89.60	85.91	87.76	82.40	81.90
Wt. Of water (gm) (W2-W1)-(W3-W1)	11.12	17.79	18.88	19.03	8.47	8.98
Wt. of oven dry soil (gm) (W3-W1)	41.52	56.24	54.71	48.34	47.54	51.14
Moisture Content (%)= (W2-W1)-(W3-W1)]/(W3-W1) X 100	**26.79**	**31.64**	**34.52**	**39.37**	**17.82**	**17.56**

Result Summary

Liquid Limit (WL)	33	%
Plastic Limit (Wp)	18	%
Plasticity Index (Ip)	15	%



4503

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ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF LIQUID LIMIT AND PLASTIC LIMIT

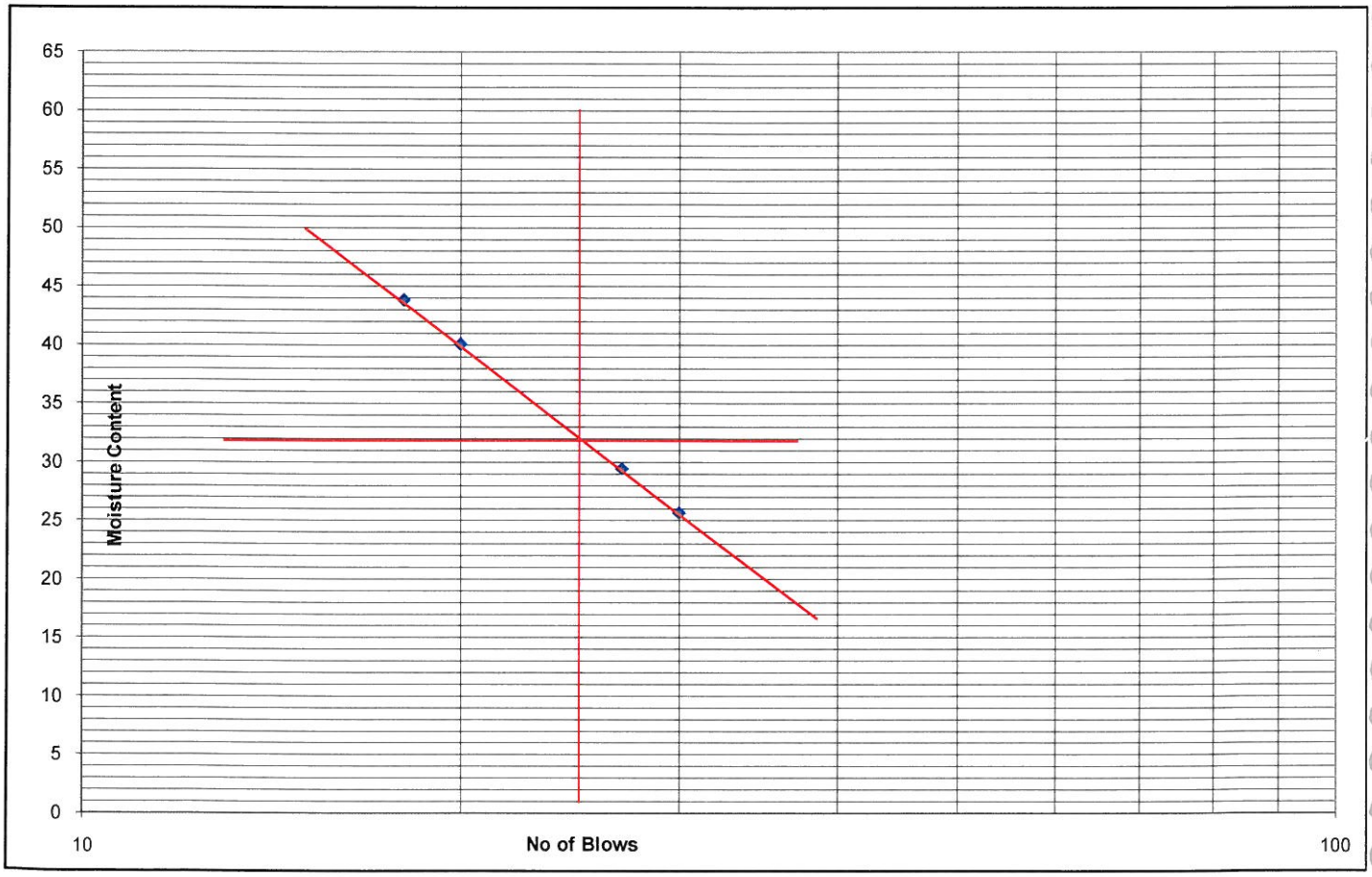
IS : 2720 (Part -5)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	UDS	Date Of Testing	:	18.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	10.0m	Tested by	:	D.Mohanty

Number of Blows	30	27	20	18	Plastic Limit	
Container No.	C1	C2	C3	C4	C5	C6
Container Weight (gm) (W1)	33.6	34.2	36.7	32.65	31.26	30.12
Container + Wt. of wet soil (gm) (W2)	89.30	105.58	105.60	111.59	92.48	91.19
Wt of Container + Wt. of oven dry soil (gm) (W3)	77.91	89.34	85.89	87.54	82.66	81.97
Wt. Of water (gm) (W2-W1)-(W3-W1)	11.39	16.24	19.70	24.05	9.82	9.22
Wt. of oven dry soil (gm) (W3-W1)	44.31	55.14	49.19	54.89	51.40	51.85
Moisture Content (%)= [(W2-W1)-(W3-W1)]/(W3-W1) X 100	**25.71**	**29.45**	**40.05**	**43.81**	**19.11**	**17.78**

Result Summary

Liquid Limit (WL)	32	%
Plastic Limit (Wp)	18	%
Plasticity Index (Ip)	14	%



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ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF LIQUID LIMIT AND PLASTIC LIMIT

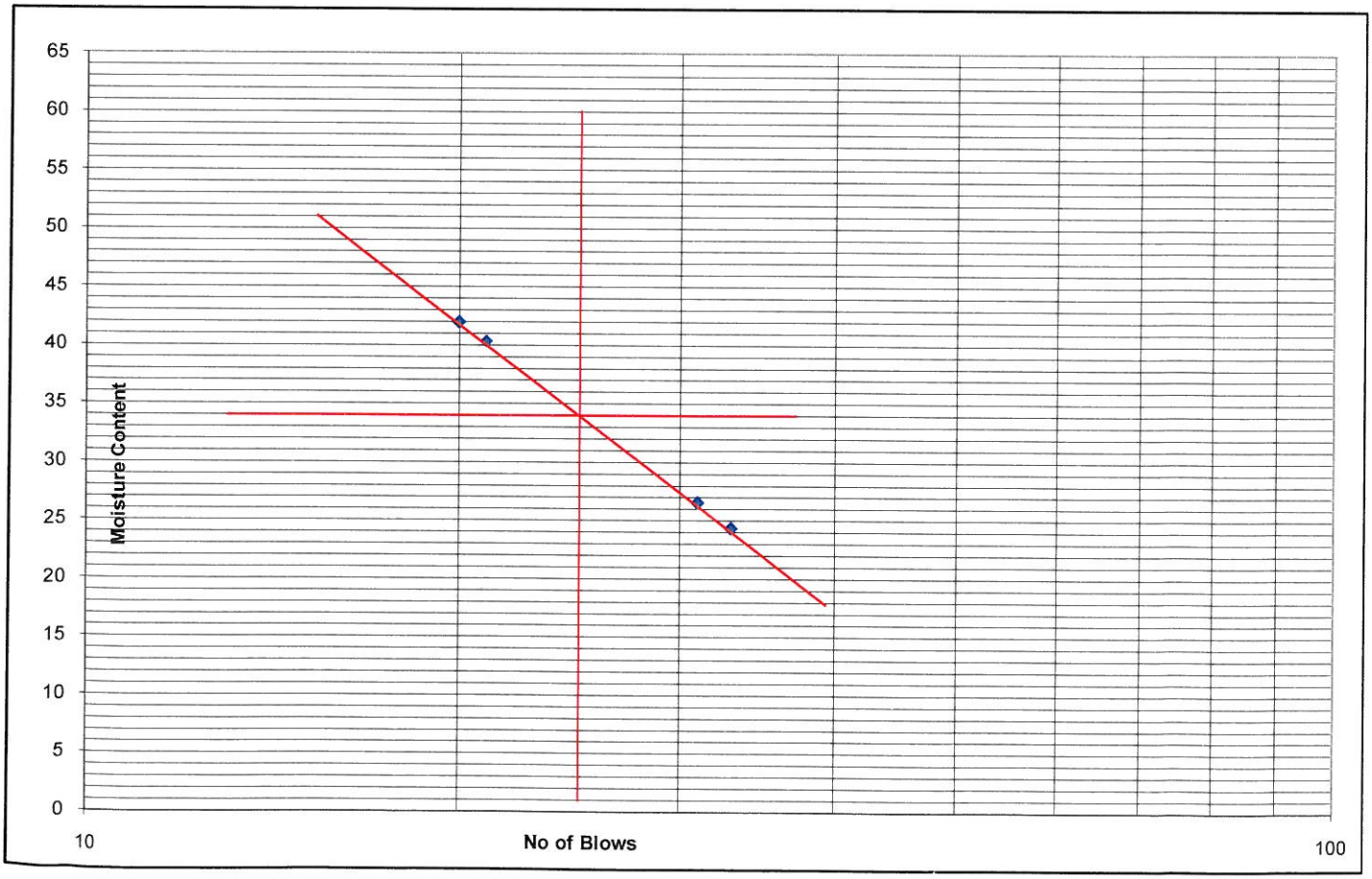
IS : 2720 (Part -5)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	SPT	Date Of Testing	:	18.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	12.0m	Tested by	:	D.Mohanty

Number of Blows	33	31	21	20	Plastic Limit	
Container No.	A13	A14	A15	A16	A17	A18
Container Weight (gm) (W1)	30.74	36.34	35.26	32.28	30.76	32.29
Container + Wt. of wet soil (gm) (W2)	88.77	103.28	106.50	110.57	93.14	91.02
Wt of Container + Wt. of oven dry soil (gm) (W3)	77.40	89.22	86.02	87.43	82.49	81.90
Wt. Of water (gm) (W2-W1)-(W3-W1)	11.37	14.06	20.49	23.14	10.65	9.13
Wt. of oven dry soil (gm) (W3-W1)	46.66	52.88	50.76	55.15	51.73	49.61
Moisture Content (%)= [(W2-W1)-(W3-W1)]/(W3-W1) X 100	**24.37**	**26.59**	**40.36**	**41.96**	**20.59**	**18.40**

Result Summary

Liquid Limit (WL)	34	%
Plastic Limit (Wp)	19	%
Plasticity Index (Ip)	15	%



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ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF LIQUID LIMIT AND PLASTIC LIMIT

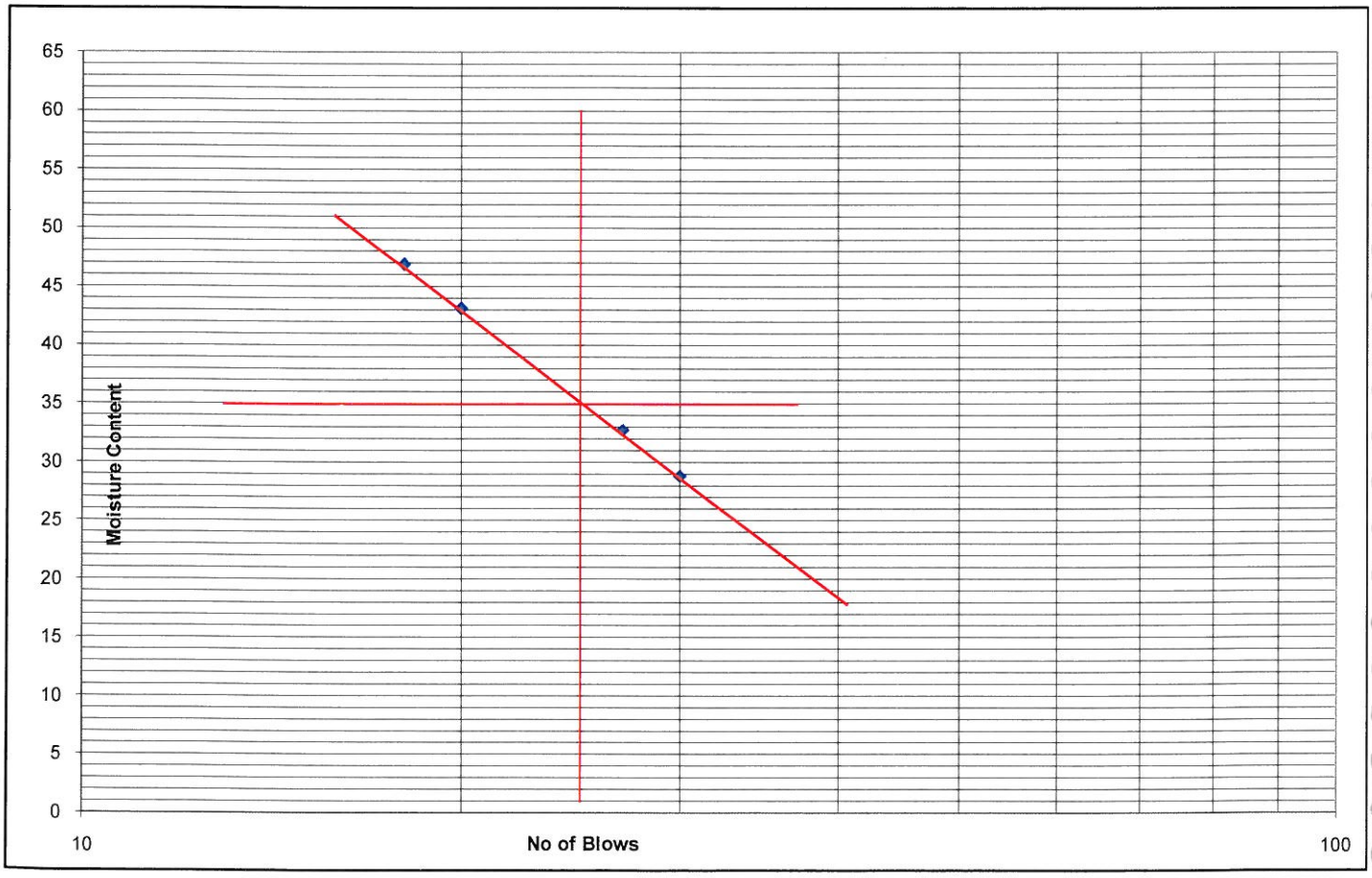
IS : 2720 (Part -5)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	UDS	Date Of Testing	:	18.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	13.0m	Tested by	:	D.Mohanty

Number of Blows	30	27	20	18	Plastic Limit	
Container No.	A1	A2	A3	A4	A5	A6
Container Weight (gm) (W1)	30.58	33.64	36.7	32.65	34.87	31.29
Container + Wt. of wet soil (gm) (W2)	90.40	107.41	107.15	113.24	91.74	91.78
Wt of Container + Wt. of oven dry soil (gm) (W3)	77.02	89.22	85.93	87.52	82.72	82.26
Wt. Of water (gm) (W2-W1)-(W3-W1)	13.38	18.19	21.22	25.72	9.02	9.52
Wt. of oven dry soil (gm) (W3-W1)	46.44	55.58	49.23	54.87	47.85	50.97
Moisture Content (%)= [(W2-W1)-(W3-W1)]/(W3-W1) X 100	**28.82**	**32.73**	**43.11**	**46.88**	**18.84**	**18.68**

Result Summary

Liquid Limit (WL)	35	%
Plastic Limit (Wp)	19	%
Plasticity Index (Ip)	16	%



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ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF LIQUID LIMIT AND PLASTIC LIMIT

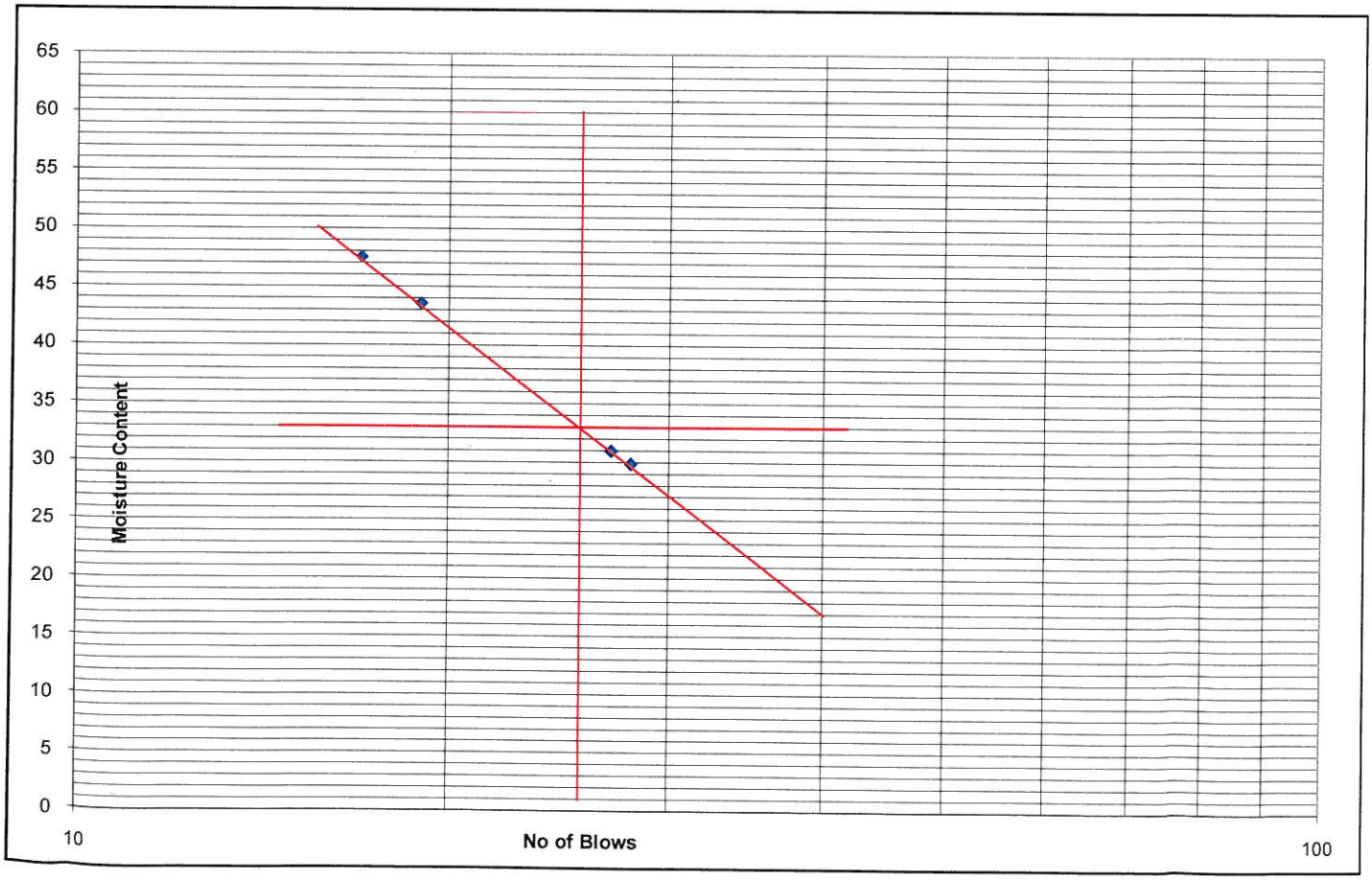
IS : 2720 (Part -5)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	UDS	Date Of Testing	:	18.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	16.0m	Tested by	:	D.Mohanty

Number of Blows	28	27	19	17	Plastic Limit	
Container No.	A19	A20	A21	A22	A23	A24
Container Weight (gm) (W1)	30.48	36.37	35.44	34.61	32.86	30.49
Container + Wt. of wet soil (gm) (W2)	91.06	104.65	107.64	113.20	85.77	99.16
Wt of Container + Wt. of oven dry soil (gm) (W3)	77.14	88.50	85.73	87.88	77.16	88.92
Wt. Of water (gm) (W2-W1)-(W3-W1)	13.92	16.15	21.91	25.32	8.61	10.24
Wt. of oven dry soil (gm) (W3-W1)	46.66	52.13	50.29	53.27	44.30	58.43
Moisture Content (%)= [(W2-W1)-(W3-W1)]/(W3-W1) X 100	**29.84**	**30.97**	**43.57**	**47.53**	**19.44**	**17.52**

Result Summary

Liquid Limit (WL)	33	%
Plastic Limit (Wp)	18	%
Plasticity Index (Ip)	15	%



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Arki Techno Consultants (India) Pvt.Ltd

ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF LIQUID LIMIT AND PLASTIC LIMIT

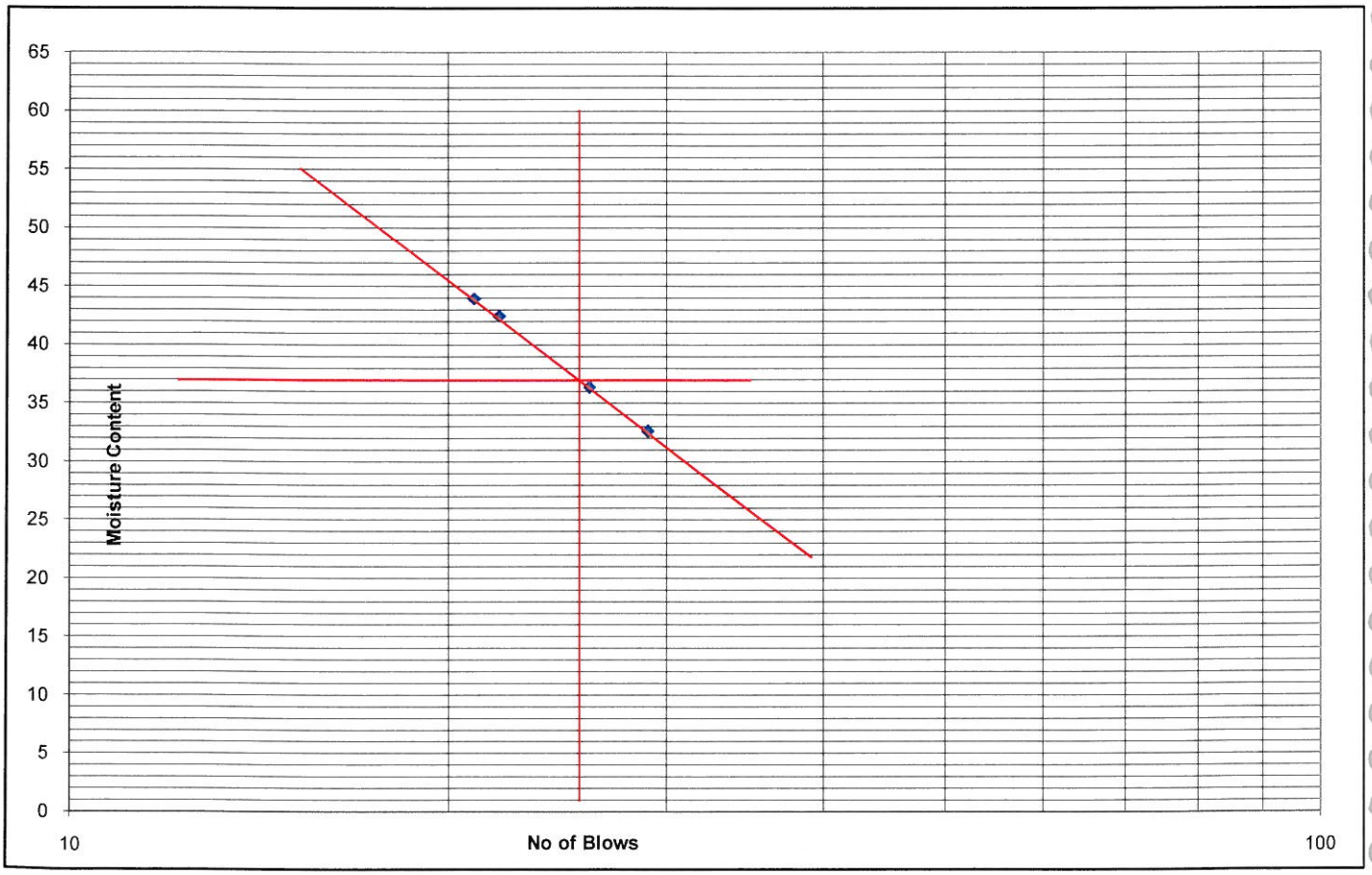
IS : 2720 (Part -5)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	SPT	Date Of Testing	:	18.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	18.0m	Tested by	:	D.Mohanty

Number of Blows	29	26	22	21	Plastic Limit	
Container No.	A7	A8	A9	A10	A11	A12
Container Weight (gm) (W1)	36.24	35.69	32.84	33.18	31.85	34.26
Container + Wt. of wet soil (gm) (W2)	90.93	108.30	108.34	111.17	97.95	96.84
Wt of Container + Wt. of oven dry soil (gm) (W3)	77.49	88.93	85.83	87.36	87.76	87.86
Wt. Of water (gm) (W2-W1)-(W3-W1)	13.44	19.36	22.50	23.81	10.18	8.98
Wt. of oven dry soil (gm) (W3-W1)	41.25	53.24	52.99	54.18	55.91	53.60
Moisture Content (%)= [(W2-W1)-(W3-W1)]/(W3-W1) X 100	**32.59**	**36.37**	**42.46**	**43.94**	**18.21**	**16.76**

Result Summary

Liquid Limit (WL)	32	%
Plastic Limit (Wp)	17	%
Plasticity Index (Ip)	15	%



4508

Arki Techno Consultants (India) Pvt.Ltd

ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF LIQUID LIMIT AND PLASTIC LIMIT

IS : 2720 (Part -5)

Client : DFCC

Project Name : G.I For 3 Nos. Important Bridges

Type of Sample : UDS

Location : BH-3(Tangri River-Ambala)

Depth : 19.0m

Date Of Testing : 18.09.12

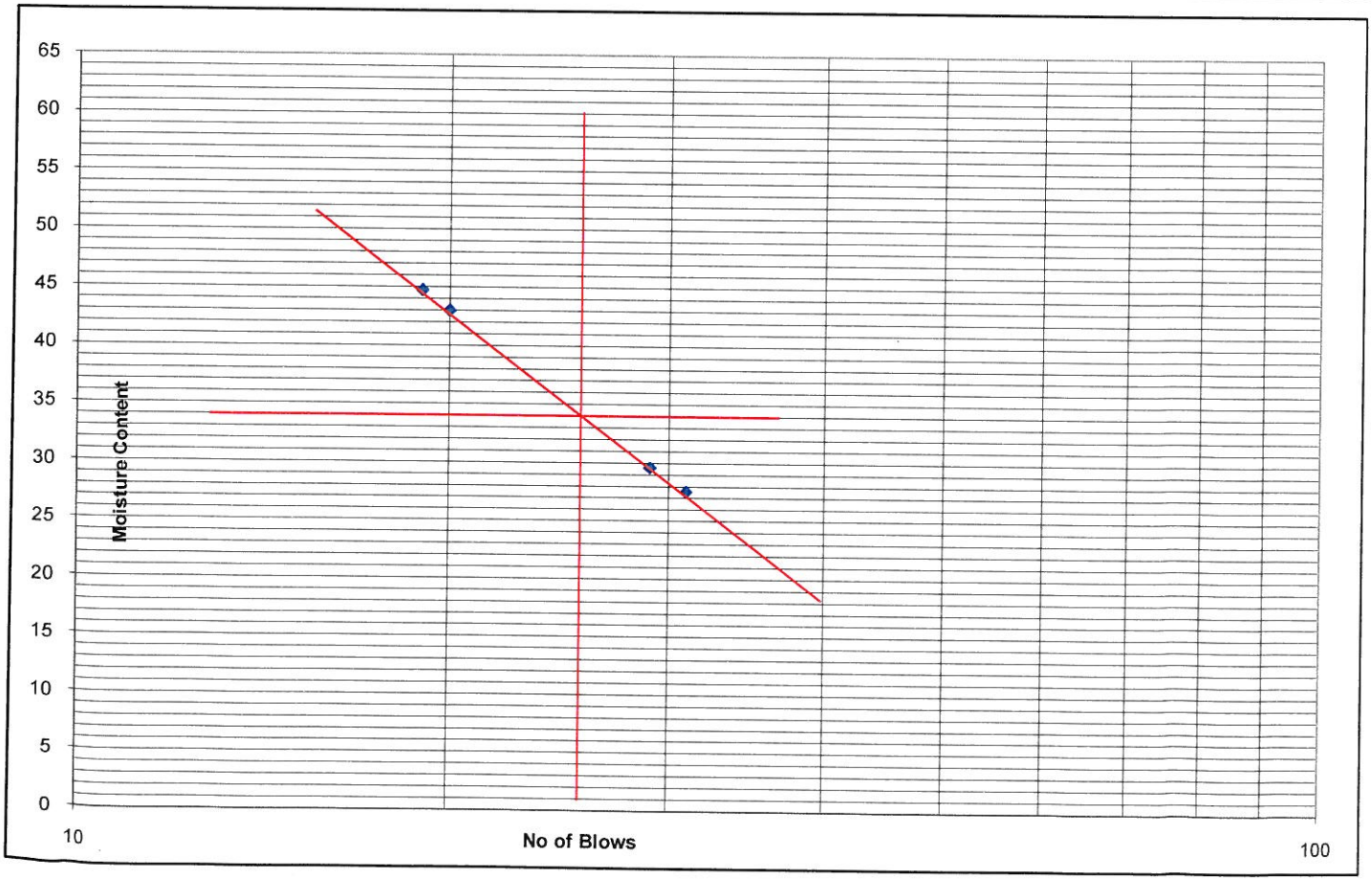
Sampled by : T.K.Das

Tested by : D.Mohanty

Number of Blows	31	29	20	19	Plastic Limit	
Container No.	A25	A26	A27	A28	A29	A30
Container Weight (gm) (W1)	35.83	33.36	31.2	39.42	34.86	30.76
Container + Wt. of wet soil (gm) (W2)	89.18	105.74	109.64	109.05	98.22	98.37
Wt of Container + Wt. of oven dry soil (gm) (W3)	77.66	89.20	86.06	87.54	87.95	88.23
Wt. Of water (gm) (W2-W1)-(W3-W1)	11.52	16.54	23.57	21.51	10.26	10.14
Wt. of oven dry soil (gm) (W3-W1)	41.83	55.84	54.86	48.12	53.09	57.47
Moisture Content (%)= [(W2-W1)-(W3-W1)]/(W3-W1) X 100	**27.54**	**29.62**	**42.97**	**44.70**	**19.33**	**17.65**

Result Summary

Liquid Limit (WL)	34	%
Plastic Limit (Wp)	18	%
Plasticity Index (Ip)	16	%



4509

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ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF LIQUID LIMIT AND PLASTIC LIMIT

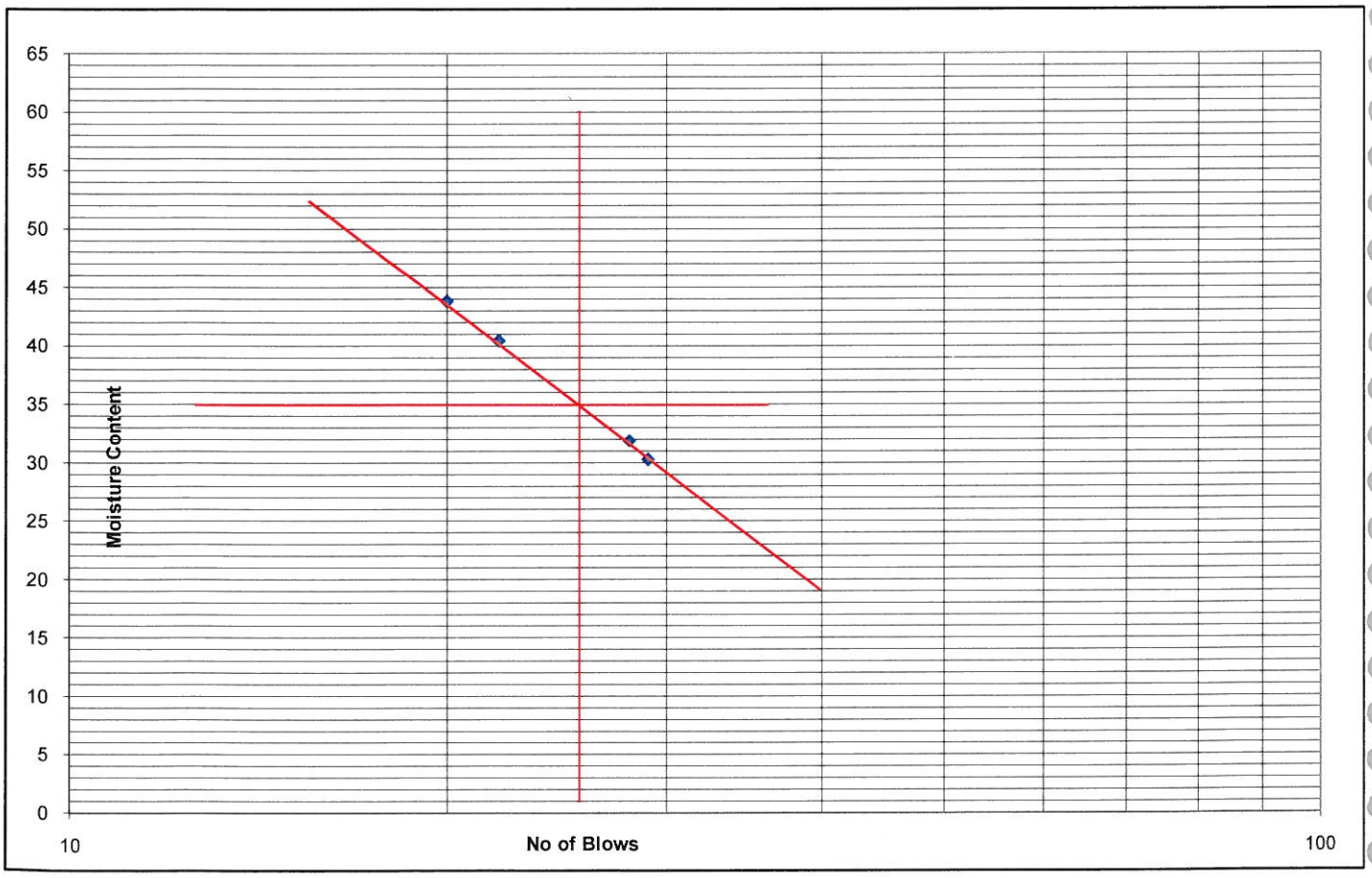
IS : 2720 (Part -5)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	SPT	Date Of Testing	:	18.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	21.0m	Tested by	:	D.Mohanty

Number of Blows	29	28	22	20	Plastic Limit	
Container No.	A37	A38	A39	A40	A41	A42
Container Weight (gm) (W1)	30.18	33.67	35.48	31.39	32.16	35.55
Container + Wt. of wet soil (gm) (W2)	92.22	106.96	106.32	111.95	98.21	97.34
Wt of Container + Wt. of oven dry soil (gm) (W3)	77.80	89.24	85.93	87.41	88.07	88.40
Wt. Of water (gm) (W2-W1)-(W3-W1)	14.42	17.73	20.40	24.55	10.14	8.94
Wt. of oven dry soil (gm) (W3-W1)	47.62	55.57	50.45	56.02	55.91	52.85
Moisture Content (%)= [(W2-W1)-(W3-W1)]/(W3-W1) X 100	**30.27**	**31.90**	**40.43**	**43.82**	**18.13**	**16.92**

Result Summary

Liquid Limit (WL)	35	%
Plastic Limit (Wp)	18	%
Plasticity Index (Ip)	17	%



4510

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ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF LIQUID LIMIT AND PLASTIC LIMIT

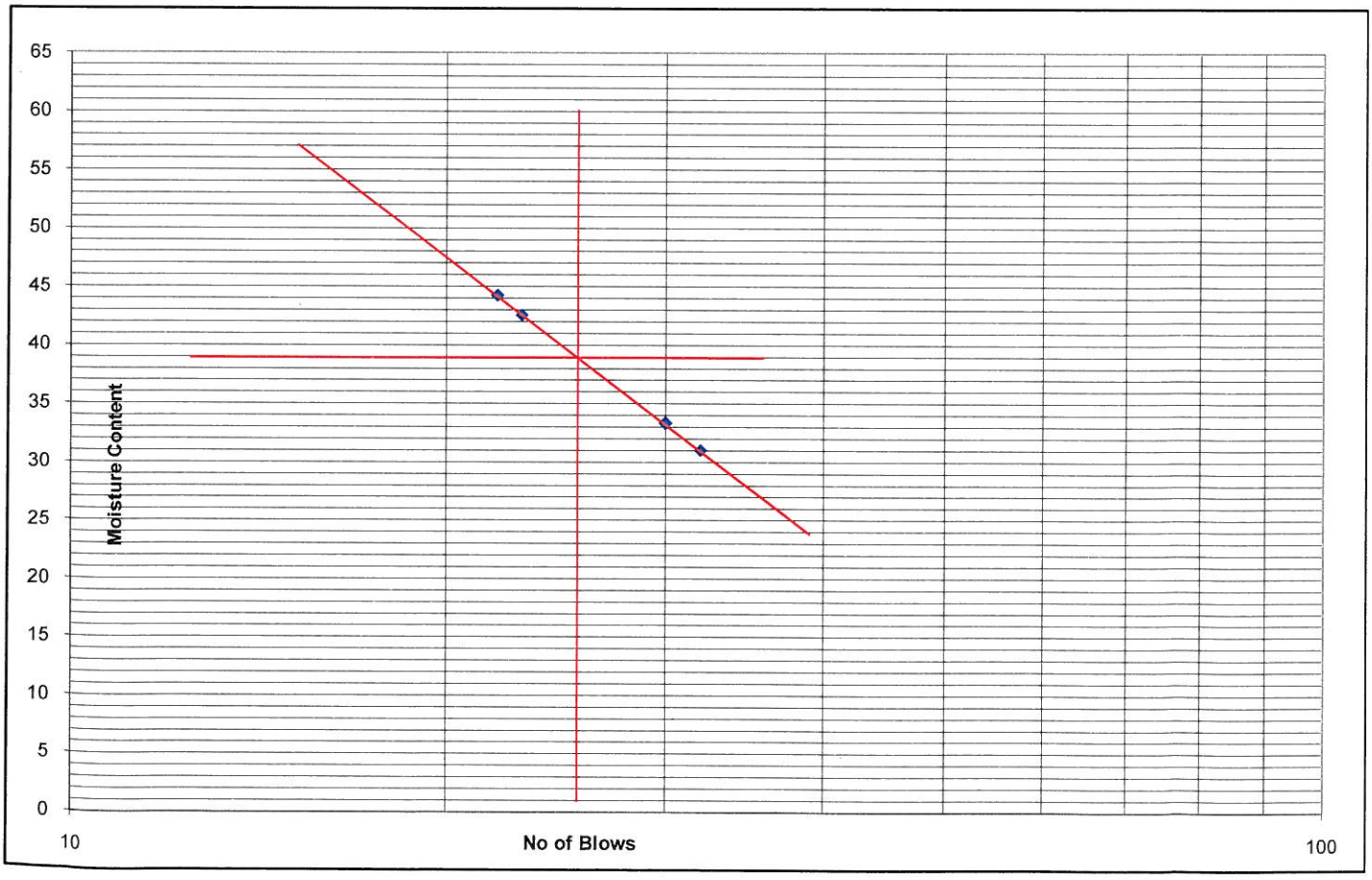
IS : 2720 (Part -5)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	UDS	Date Of Testing	:	18.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	22.0m	Tested by	:	D.Mohanty

Number of Blows	32	30	23	22	Plastic Limit	
Container No.	A31	A32	A33	A34	A35	A36
Container Weight (gm) (W1)	35.64	34.29	32.47	31.56	30.22	33.47
Container + Wt. of wet soil (gm) (W2)	90.99	108.04	108.47	112.17	100.03	99.20
Wt of Container + Wt. of oven dry soil (gm) (W3)	77.88	89.60	85.77	87.44	88.87	89.20
Wt. Of water (gm) (W2-W1)-(W3-W1)	13.11	18.44	22.70	24.73	11.17	10.00
Wt. of oven dry soil (gm) (W3-W1)	42.24	55.31	53.30	55.88	58.65	55.73
Moisture Content (%)= [(W2-W1)-(W3-W1)]/(W3-W1) X 100	**31.04**	**33.34**	**42.58**	**44.26**	**19.04**	**17.94**

Result Summary

Liquid Limit (WL)	39	%
Plastic Limit (Wp)	18	%
Plasticity Index (Ip)	21	%



4511

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ARKITECHNO CONSULTANTS (INDIA) PVT. LTD.

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF LIQUID LIMIT AND PLASTIC LIMIT

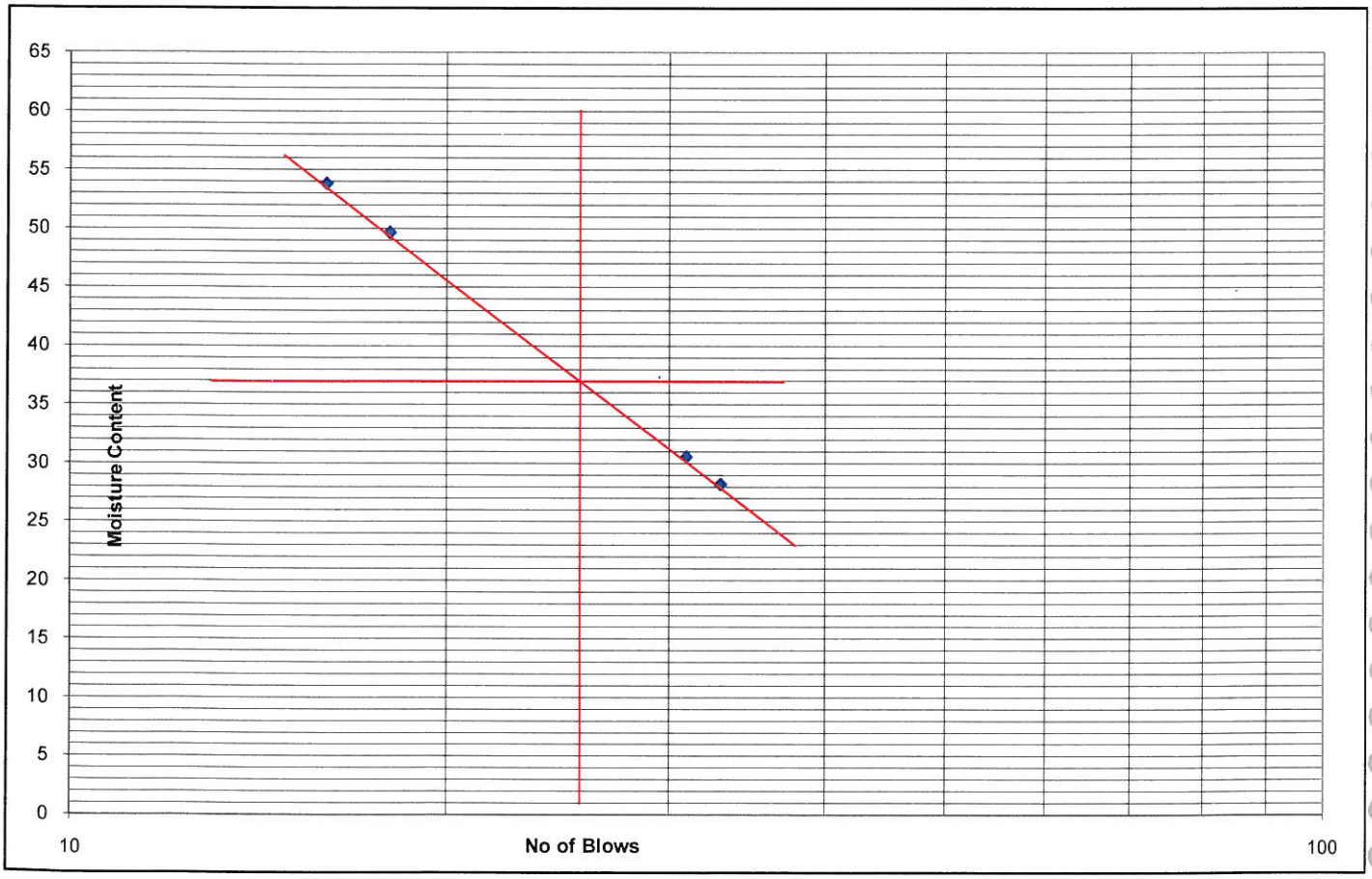
IS : 2720 (Part -5)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	UDS	Date Of Testing	:	18.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	25.0m	Tested by	:	D.Mohanty

Number of Blows	33	31	18	16	Plastic Limit	
Container No.	D19	D20	D21	D22	D23	D24
Container Weight (gm) (W1)	35.26	31.48	30.11	32.39	33.72	34.86
Container + Wt. of wet soil (gm) (W2)	90.20	107.70	114.35	117.39	89.72	89.02
Wt of Container + Wt. of oven dry soil (gm) (W3)	78.11	89.87	86.41	87.66	81.63	81.33
Wt. Of water (gm) (W2-W1)-(W3-W1)	12.09	17.84	27.94	29.73	8.09	7.69
Wt. of oven dry soil (gm) (W3-W1)	42.85	58.39	56.30	55.27	47.91	46.47
Moisture Content (%)= [(W2-W1)-(W3-W1)]/(W3-W1) X 100	**28.21**	**30.55**	**49.63**	**53.79**	**16.89**	**16.54**

Result Summary

Liquid Limit (WL)	37	%
Plastic Limit (Wp)	17	%
Plasticity Index (Ip)	20	%



4512

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ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF LIQUID LIMIT AND PLASTIC LIMIT

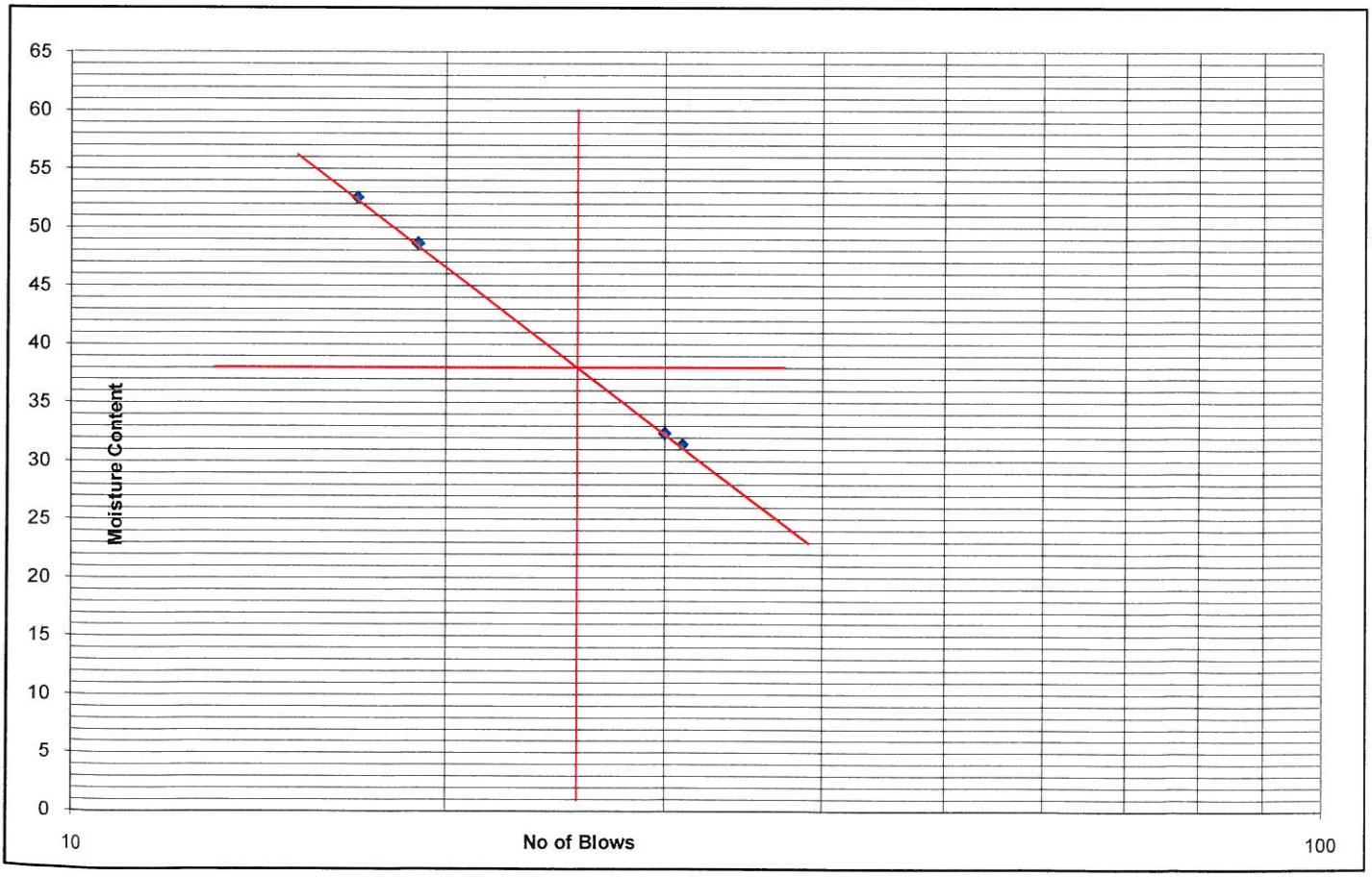
IS : 2720 (Part -5)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	SPT	Date Of Testing	:	18.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	27.0m	Tested by	:	D.Mohanty

Number of Blows	31	30	19	17	Plastic Limit	
Container No.	D1	D2	D3	D4	D5	D6
Container Weight (gm) (W1)	32.58	33.69	31.24	30.58	34.68	35.29
Container + Wt. of wet soil (gm) (W2)	92.61	107.83	113.64	117.56	90.47	89.13
Wt of Container + Wt. of oven dry soil (gm) (W3)	78.24	89.69	86.68	87.59	81.74	81.36
Wt. Of water (gm) (W2-W1)-(W3-W1)	14.37	18.14	26.96	29.97	8.73	7.77
Wt. of oven dry soil (gm) (W3-W1)	45.66	56.00	55.44	57.01	47.06	46.07
Moisture Content (%)= [(W2-W1)-(W3-W1)]/(W3-W1) X 100	**31.46**	**32.39**	**48.63**	**52.57**	**18.55**	**16.86**

Result Summary

Liquid Limit (WL)	38	%
Plastic Limit (Wp)	18	%
Plasticity Index (Ip)	20	%



4513

Arki Techno Consultants (India) Pvt.Ltd

ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF LIQUID LIMIT AND PLASTIC LIMIT

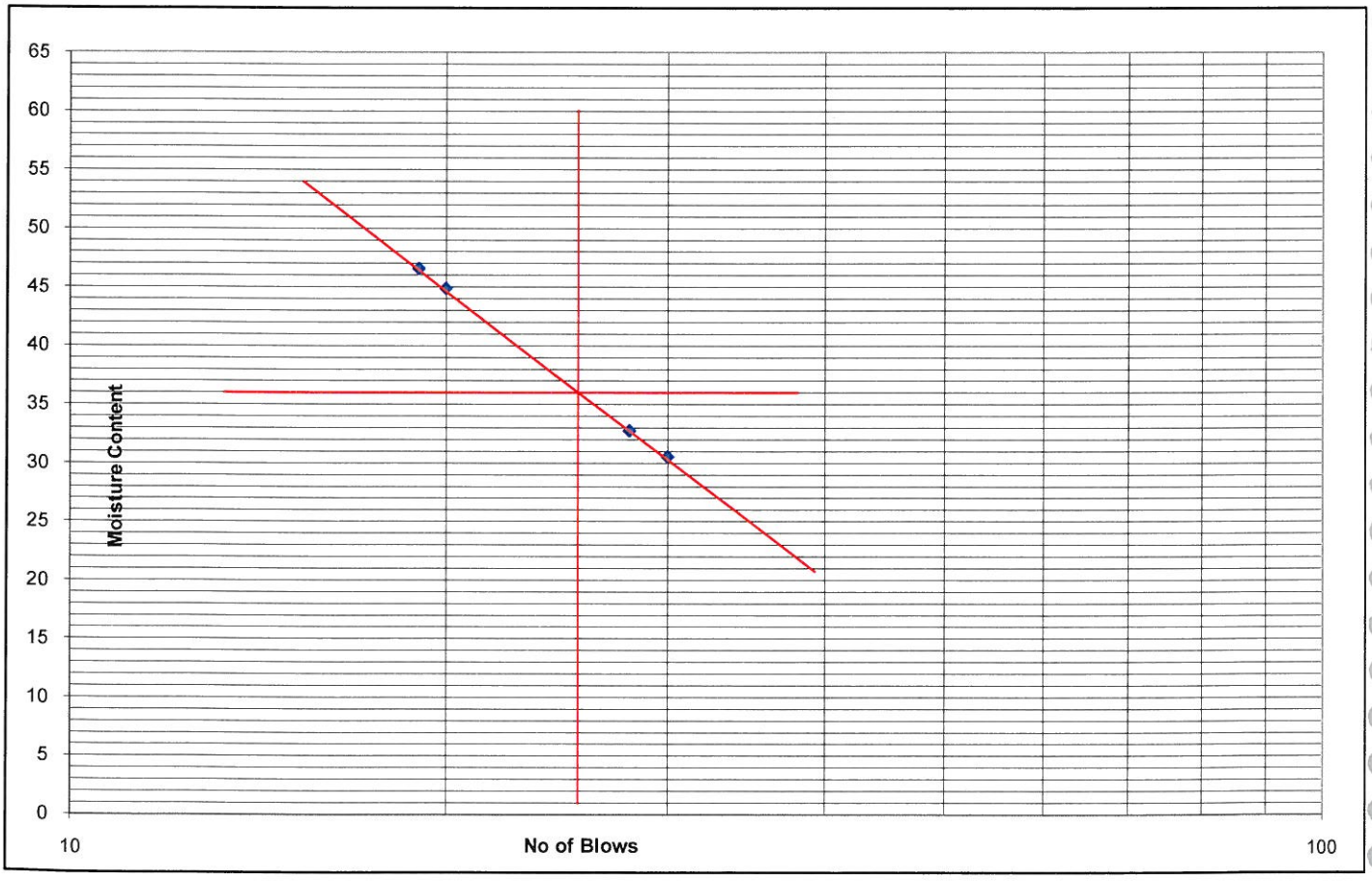
IS : 2720 (Part -5)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	UDS	Date Of Testing	:	18.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	28.0m	Tested by	:	D.Mohanty

Number of Blows	30	28	20	19	Plastic Limit	
Container No.	D13	D14	D15	D16	D17	D18
Container Weight (gm) (W1)	34.4	33.46	32.41	35.31	30.56	31.49
Container + Wt. of wet soil (gm) (W2)	91.74	108.13	111.19	112.20	90.64	89.63
Wt of Container + Wt. of oven dry soil (gm) (W3)	78.32	89.70	86.79	87.77	81.65	81.44
Wt. Of water (gm) (W2-W1)-(W3-W1)	13.41	18.42	24.41	24.43	8.98	8.19
Wt. of oven dry soil (gm) (W3-W1)	43.92	56.24	54.38	52.46	51.09	49.95
Moisture Content (%)= [(W2-W1)-(W3-W1)]/(W3-W1) X 100	**30.53**	**32.76**	**44.88**	**46.57**	**17.58**	**16.40**

Result Summary

Liquid Limit (WL)	36	%
Plastic Limit (Wp)	17	%
Plasticity Index (Ip)	19	%



4514

Arki Techno Consultants (India) Pvt.Ltd

ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF LIQUID LIMIT AND PLASTIC LIMIT

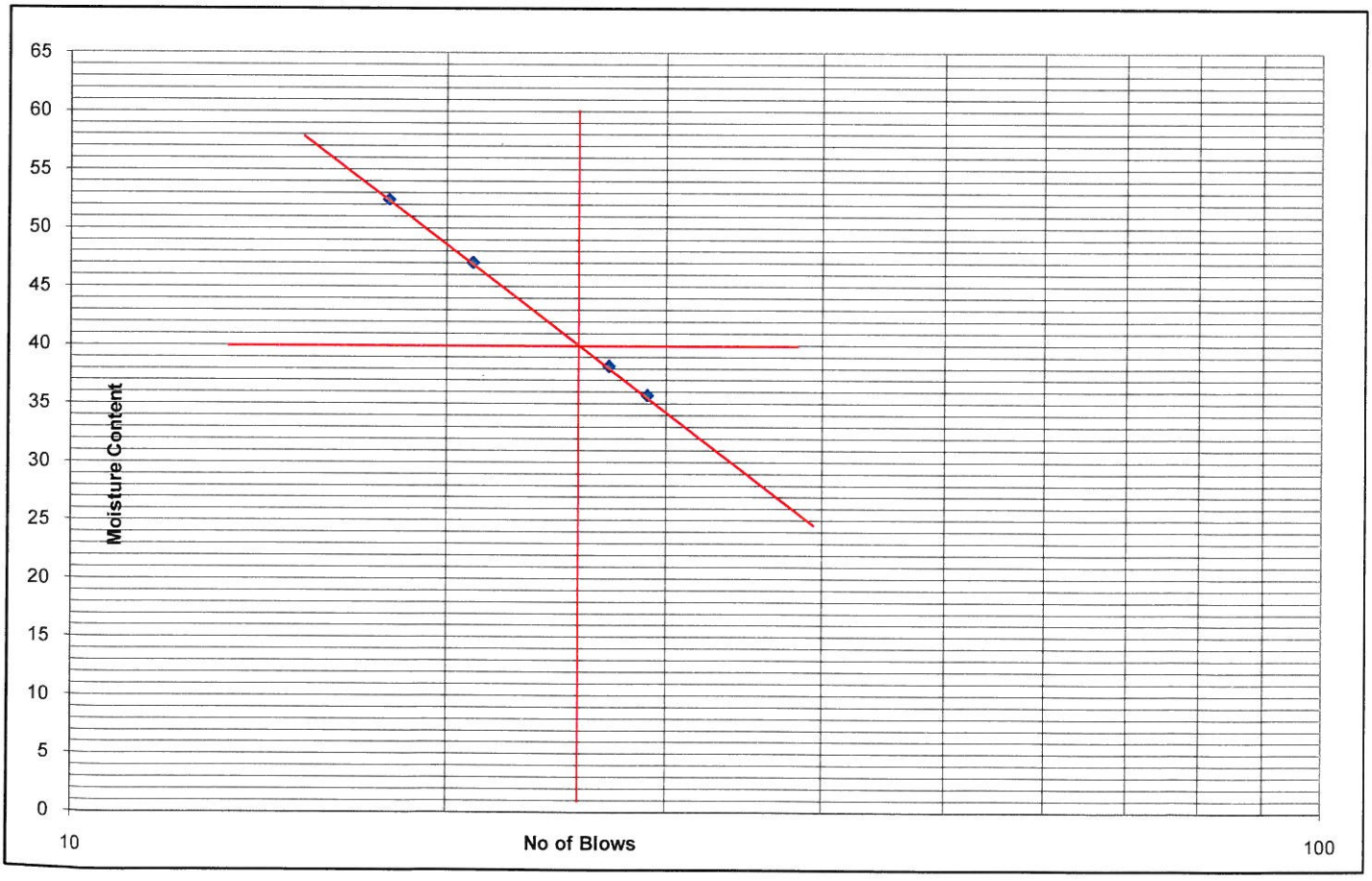
IS : 2720 (Part -5)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	SPT	Date Of Testing	:	18.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	30.0m	Tested by	:	D.Mohanty

Number of Blows	29	27	21	18	Plastic Limit	
Container No.	D37	D38	D39	D40	D41	D42
Container Weight (gm) (W1)	36.57	32.26	31.04	30.5	34.97	35.55
Container + Wt. of wet soil (gm) (W2)	93.16	112.00	112.30	117.76	91.10	90.27
Wt of Container + Wt. of oven dry soil (gm) (W3)	78.27	89.96	86.31	87.76	81.60	81.46
Wt. Of water (gm) (W2-W1)-(W3-W1)	14.90	22.04	26.00	30.00	9.50	8.81
Wt. of oven dry soil (gm) (W3-W1)	41.70	57.70	55.27	57.26	46.63	45.91
Moisture Content (%)= [(W2-W1)-(W3-W1)]/(W3-W1) X 100	**35.72**	**38.20**	**47.04**	**52.40**	**20.37**	**19.19**

Result Summary

Liquid Limit (WL)	40	%
Plastic Limit (Wp)	20	%
Plasticity Index (Ip)	20	%



4515

Arki Techno Consultants (India) Pvt.Ltd

ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF LIQUID LIMIT AND PLASTIC LIMIT

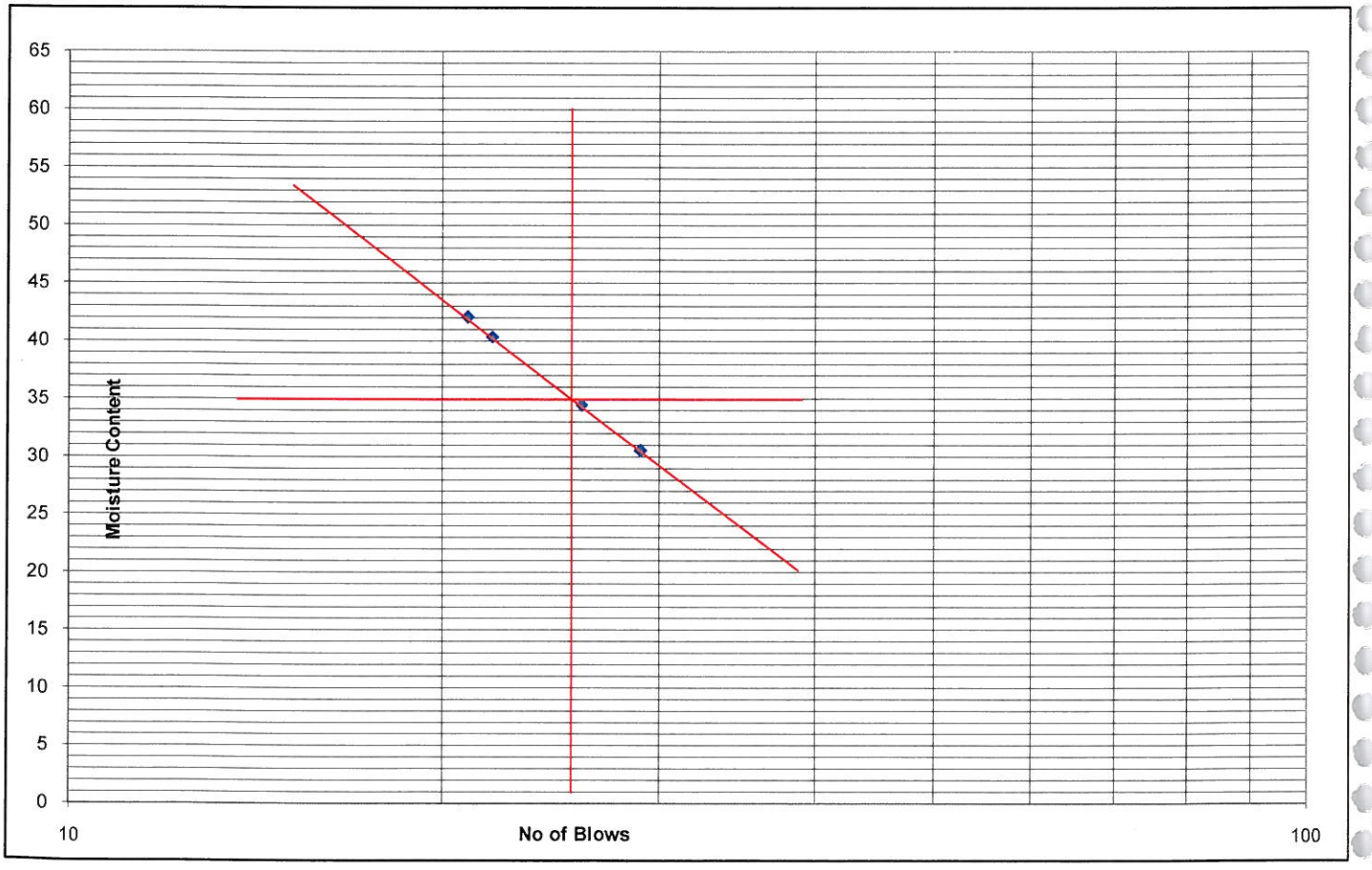
IS : 2720 (Part -5)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	UDS	Date Of Testing	:	18.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	31.0m	Tested by	:	D.Mohanty

Number of Blows	29	26	22	21	Plastic Limit	
Container No.	D7	D8	D9	D10	D11	D12
Container Weight (gm) (W1)	35.82	31.27	34.13	32.45	36.48	37.96
Container + Wt. of wet soil (gm) (W2)	90.68	108.08	106.33	111.20	89.54	88.08
Wt of Container + Wt. of oven dry soil (gm) (W3)	77.84	88.39	85.57	87.89	81.63	80.67
Wt. Of water (gm) (W2-W1)-(W3-W1)	12.84	19.68	20.76	23.32	7.91	7.41
Wt. of oven dry soil (gm) (W3-W1)	42.02	57.12	51.44	55.44	45.15	42.71
Moisture Content (%)= [(W2-W1)-(W3-W1)]/(W3-W1) X 100	**30.55**	**34.46**	**40.35**	**42.06**	**17.51**	**17.35**

Result Summary

Liquid Limit (WL)	35	%
Plastic Limit (Wp)	17	%
Plasticity Index (Ip)	18	%



4513

Arki Techno Consultants (India) Pvt.Ltd

ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF LIQUID LIMIT AND PLASTIC LIMIT

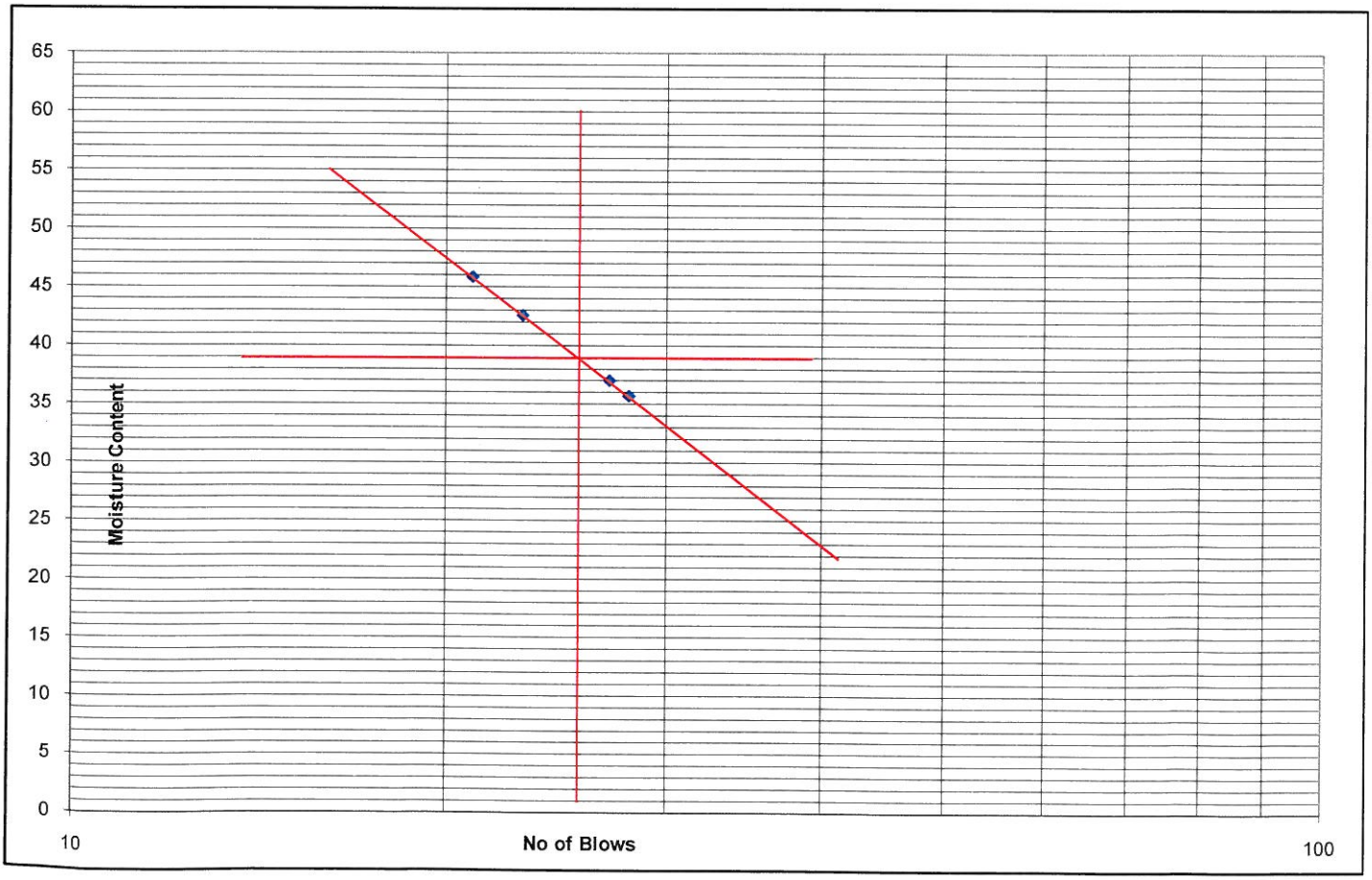
IS : 2720 (Part -5)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	SPT	Date Of Testing	:	18.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	36.0m	Tested by	:	D.Mohanty

Number of Blows	28	27	23	21	Plastic Limit	
Container No.	D25	D26	D27	D28	D29	D30
Container Weight (gm) (W1)	33.58	34.18	32.29	34.64	36.84	30.87
Container + Wt. of wet soil (gm) (W2)	93.58	108.43	108.52	112.16	91.48	89.90
Wt of Container + Wt. of oven dry soil (gm) (W3)	77.80	88.37	85.76	87.80	81.61	80.61
Wt. Of water (gm) (W2-W1)-(W3-W1)	15.78	20.06	22.76	24.37	9.87	9.29
Wt. of oven dry soil (gm) (W3-W1)	44.22	54.19	53.47	53.16	44.77	49.74
Moisture Content (%)= [(W2-W1)-(W3-W1)]/(W3-W1) X 100	**35.69**	**37.02**	**42.57**	**45.84**	**22.05**	**18.67**

Result Summary

Liquid Limit (WL)	39	%
Plastic Limit (Wp)	20	%
Plasticity Index (Ip)	19	%



4517

Arki Techno Consultants (India) Pvt.Ltd

ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF LIQUID LIMIT AND PLASTIC LIMIT

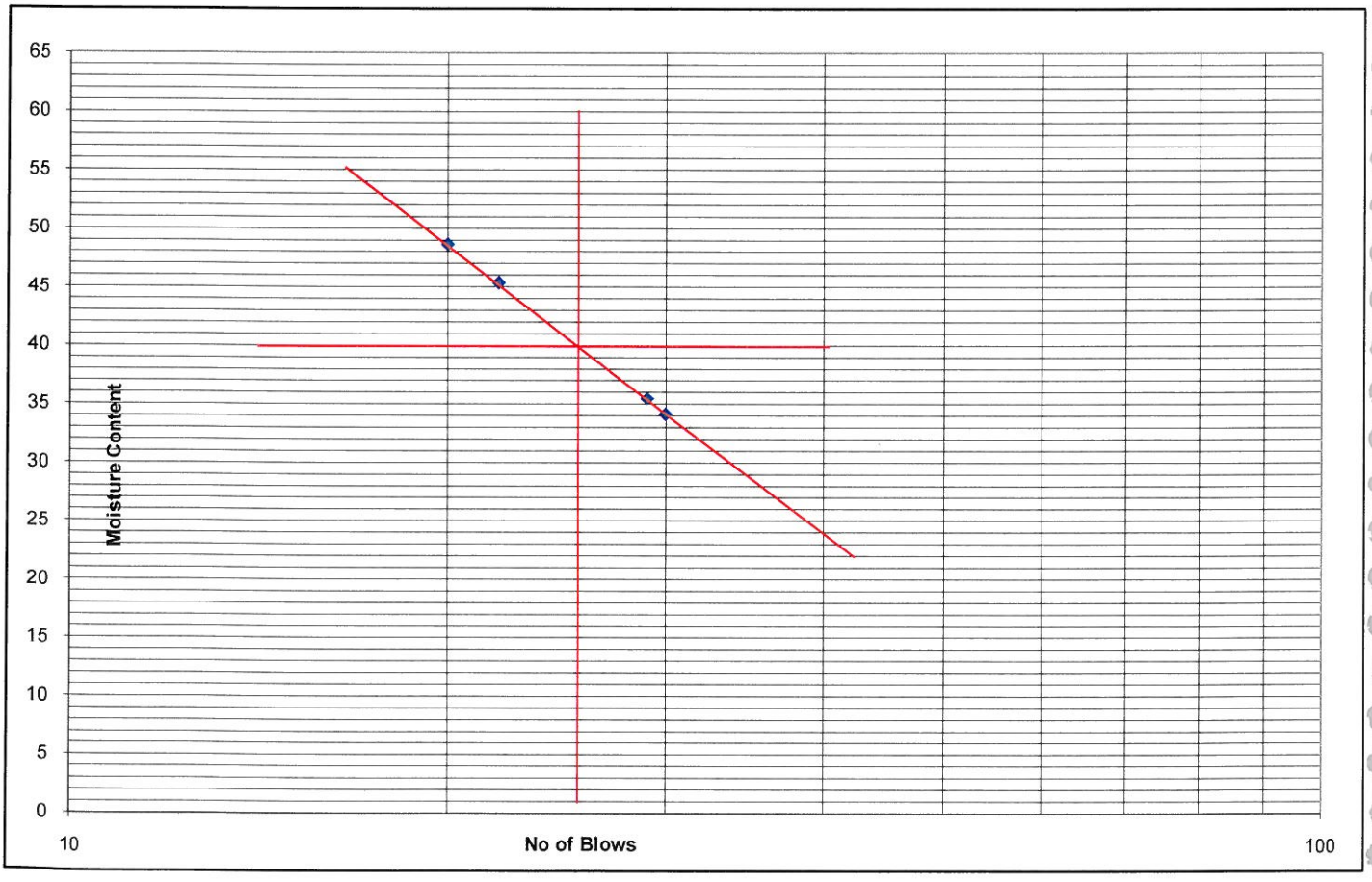
IS : 2720 (Part -5)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	SPT	Date Of Testing	:	18.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	39.0m	Tested by	:	D.Mohanty

Number of Blows	30	29	22	20	Plastic Limit	
Container No.	D31	D32	D33	D34	D35	D36
Container Weight (gm) (W1)	30.8	35.29	32.47	31.56	33.66	30.99
Container + Wt. of wet soil (gm) (W2)	94.05	107.32	109.58	115.25	90.97	89.97
Wt of Container + Wt. of oven dry soil (gm) (W3)	77.96	88.45	85.53	87.87	81.57	80.66
Wt. Of water (gm) (W2-W1)-(W3-W1)	16.10	18.87	24.06	27.38	9.40	9.32
Wt. of oven dry soil (gm) (W3-W1)	47.16	53.16	53.06	56.31	47.91	49.67
Moisture Content (%)= [(W2-W1)-(W3-W1)]/(W3-W1) X 100	**34.13**	**35.49**	**45.34**	**48.63**	**19.63**	**18.76**

Result Summary

Liquid Limit (WL)	40	%
Plastic Limit (Wp)	19	%
Plasticity Index (Ip)	21	%



4513

Arki Techno Consultants (India) Pvt.Ltd

ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF LIQUID LIMIT AND PLASTIC LIMIT

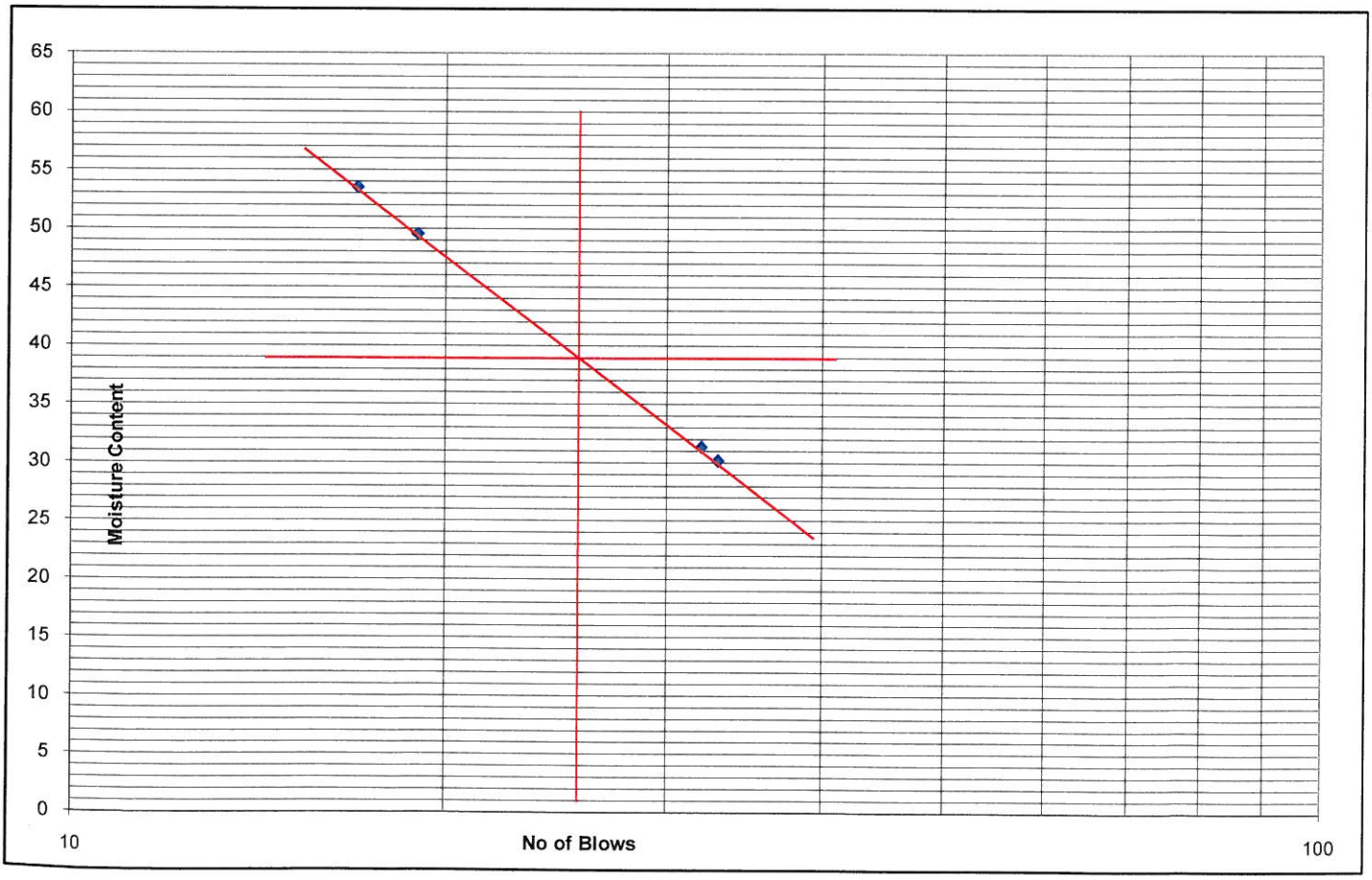
IS : 2720 (Part -5)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	SPT	Date Of Testing	:	18.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	45.0m	Tested by	:	D.Mohanty

Number of Blows	33	32	19	17	Plastic Limit	
Container No.	C31	C32	C33	C34	C35	C36
Container Weight (gm) (W1)	30.8	34.29	32.47	31.56	36.87	33.96
Container + Wt. of wet soil (gm) (W2)	92.22	105.70	109.58	117.97	90.87	89.80
Wt of Container + Wt. of oven dry soil (gm) (W3)	77.99	88.66	84.04	87.86	81.77	81.00
Wt. Of water (gm) (W2-W1)-(W3-W1)	14.23	17.04	25.55	30.11	9.10	8.80
Wt. of oven dry soil (gm) (W3-W1)	47.19	54.37	51.57	56.30	44.90	47.04
Moisture Content (%)= [(W2-W1)-(W3-W1)]/(W3-W1) X 100	**30.16**	**31.34**	**49.54**	**53.48**	**20.27**	**18.70**

Result Summary

Liquid Limit (WL)	39	%
Plastic Limit (Wp)	19	%
Plasticity Index (Ip)	20	%



4519

Arki Techno Consultants (India) Pvt.Ltd

ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF LIQUID LIMIT AND PLASTIC LIMIT

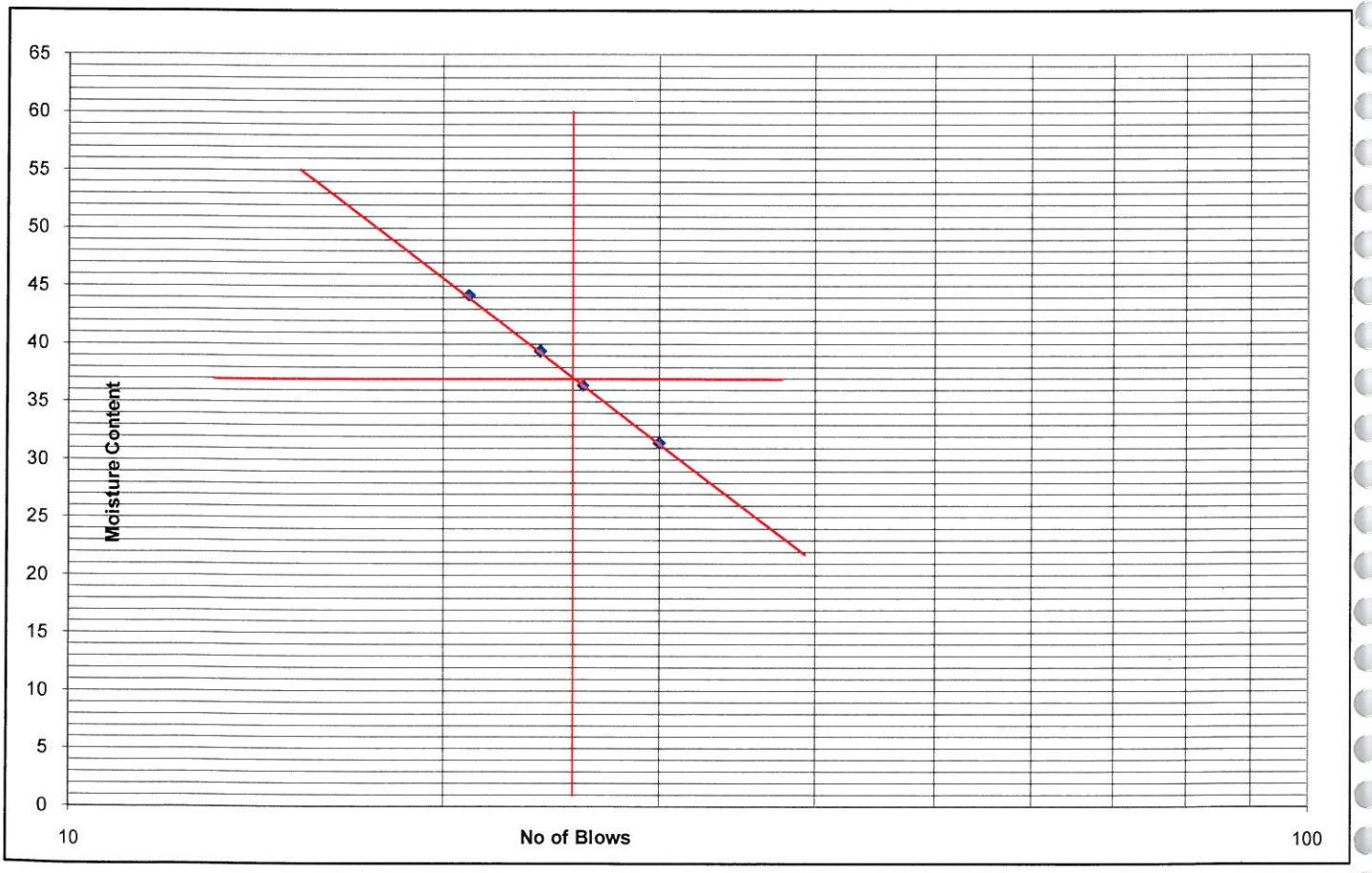
IS : 2720 (Part -5)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	SPT	Date Of Testing	:	18.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	50.0m	Tested by	:	D.Mohanty

Number of Blows	30	26	24	21	Plastic Limit	
Container No.	C37	C38	C39	C40	C41	C42
Container Weight (gm) (W1)	38.52	37.22	39.43	30.5	37.6	35.55
Container + Wt. of wet soil (gm) (W2)	90.33	107.12	102.16	113.81	89.51	89.34
Wt of Container + Wt. of oven dry soil (gm) (W3)	77.93	88.45	84.44	88.28	81.66	81.29
Wt. Of water (gm) (W2-W1)-(W3-W1)	12.40	18.66	17.72	25.54	7.85	8.04
Wt. of oven dry soil (gm) (W3-W1)	39.41	51.23	45.01	57.78	44.06	45.74
Moisture Content (%)= [(W2-W1)-(W3-W1)]/(W3-W1) X 100	**31.46**	**36.43**	**39.37**	**44.20**	**17.82**	**17.58**

Result Summary

Liquid Limit (WL)	37	%
Plastic Limit (Wp)	18	%
Plasticity Index (Ip)	19	%



4520

Arki Techno Consultants (India) Pvt.Ltd

N 3/91, IRC Village, Bhubaneswar

DIFFERENTIAL FREE SWELL INDEX OF SOIL (D.F.S.)

AS PER IS: 2720 (PART - 40)

Client	: DFCC				
Project Name	: G.I For 3 Nos. Important Bridges	Date Of Testing	:	17.09.12
Type of Sample	: UDS	Tested by	:	D.Mohanty
Location	: BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	: 10.0m	Weight of Sample	:	10gm

SAMPLE NO.	VOLUME IN KEROSIN OIL Vk	VOLUME IN WATER Vd	SWELL (Vd-Vk)	SWELL INDEX = (Vd-Vk)/ (Vk)*100 (%)	AVERAGE SWELL %	SPECIFIC LIMIT
1	10	10.5	0.50	5	5	50%
2	10	10.5	0.50	5		
3	10	10.5	0.50	5		

Remarks:

Lab Manager

Checked By:

4521

Arki Techno Consultants (India) Pvt.Ltd

N 3/91, IRC Village, Bhubaneswar

DIFFERENTIAL FREE SWELL INDEX OF SOIL (D.F.S.)

AS PER IS: 2720 (PART - 40)

Client : DFCC

Project Name : G.I For 3 Nos. Important Bridges

Type of Sample : UDS

Location : BH-3(Tangri River-Ambala)

Depth : 10.0m

Date Of Testing : 17.09.12

Tested by : D.Mohanty

Sampled by : T.K.Das

Weight of Sample : 10gm

SAMPLE NO.	VOLUME IN KEROSIN OIL Vk	VOLUME IN WATER Vd	SWELL (Vd-Vk)	SWELL INDEX = (Vd-Vk)/ (Vk)*100 (%)	AVERAGE SWELL %	SPECIFIC LIMIT
1	10	10.5	0.50	5	5	50%
2	10	10.5	0.50	5		
3	10	10.5	0.50	5		

Remarks:

Lab Manager

Checked By:

4522

Arki Techno Consultants (India) Pvt.Ltd

N 3/91, IRC Village, Bhubaneswar

DIFFERENTIAL FREE SWELL INDEX OF SOIL (D.F.S.)

AS PER IS: 2720 (PART - 40)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges	Date Of Testing	:	17.09.12
Type of Sample	:	UDS	Tested by	:	D.Mohanty
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	13.0m	Weight of Sample	:	10gm

SAMPLE NO.	VOLUME IN KEROSIN OIL Vk	VOLUME IN WATER Vd	SWELL (Vd-Vk)	SWELL INDEX = (Vd-Vk)/ (Vk)*100 (%)	AVERAGE SWELL %	SPECIFIC LIMIT
1	10	11.0	1.00	10	8	50%
2	10	11.0	1.00	10		
3	10	10.5	0.50	5		

Remarks:

Lab Manager

Checked By:

4523

Arki Techno Consultants (India) Pvt.Ltd

ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DIFFERENTIAL FREE SWELL INDEX OF SOIL (D.F.S.)

AS PER IS: 2720 (PART - 40)

Client : DFCC

Project Name : G.I For 3 Nos. Important Bridges

Type of Sample : UDS

Location : BH-3(Tangri River-Ambala)

Depth : 16.0m

Date Of Testing : 17.09.12

Tested by : D.Mohanty

Sampled by : T.K.Das

Weight of Sample : 10gm

SAMPLE NO.	VOLUME IN KEROSIN OIL Vk	VOLUME IN WATER Vd	SWELL (Vd-Vk)	SWELL INDEX = (Vd-Vk)/ (Vk)*100 (%)	AVERAGE SWELL %	SPECIFIC LIMIT
1	10	11.0	1.00	10	8	50%
2	10	11.0	1.00	10		
3	10	10.5	0.50	5		

Remarks:

Lab Manager

Checked By:

4524

Arki Techno Consultants (India) Pvt.Ltd

ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DIFFERENTIAL FREE SWELL INDEX OF SOIL (D.F.S.)

AS PER IS: 2720 (PART - 40)

Client : DFCC

Project Name : G.I For 3 Nos. Important Bridges

Type of Sample : UDS

Location : BH-3(Tangri River-Ambala)

Depth : 19.0m

Date Of Testing : 17.09.12

Tested by : D.Mohanty

Sampled by : T.K.Das

Weight of Sample : 10gm

SAMPLE NO.	VOLUME IN KEROSIN OIL Vk	VOLUME IN WATER Vd	SWELL (Vd-Vk)	SWELL INDEX = (Vd-Vk)/ (Vk)*100 (%)	AVERAGE SWELL %	SPECIFIC LIMIT
1	10	10.8	0.80	8	6	50%
2	10	10.5	0.50	5		
3	10	10.5	0.50	5		

Remarks:

Lab Manager

Checked By:

4525

Arki Techno Consultants (India) Pvt.Ltd

N 3/91, IRC Village, Bhubaneswar

DIFFERENTIAL FREE SWELL INDEX OF SOIL (D.F.S.)

AS PER IS: 2720 (PART - 40)

Client : DFCC

Project Name : G.I For 3 Nos. Important Bridges

Type of Sample : UDS

Location : BH-3(Tangri River-Ambala)

Depth : 22.0m

Date Of Testing : 17.09.12

Tested by : D.Mohanty

Sampled by : T.K.Das

Weight of Sample : 10gm

SAMPLE NO.	VOLUME IN KEROSIN OIL Vk	VOLUME IN WATER Vd	SWELL (Vd-Vk)	SWELL INDEX = (Vd-Vk)/ (Vk)*100 (%)	AVERAGE SWELL %	SPECIFIC LIMIT
1	10	12.0	2.00	20	15	50%
2	10	11.5	1.50	15		
3	10	11.0	1.00	10		

Remarks:

Lab Manager

Checked By:

4526

Arki Techno Consultants (India) Pvt.Ltd

N 3/91, IRC Village, Bhubaneswar

DIFFERENTIAL FREE SWELL INDEX OF SOIL (D.F.S.)

AS PER IS: 2720 (PART - 40)

Client : DFCC

Project Name : G.I For 3 Nos. Important Bridges

Type of Sample : UDS

Location : BH-3(Tangri River-Ambala)

Depth : 25.0m

Date Of Testing : 17.09.12

Tested by : D.Mohanty

Sampled by : T.K.Das

Weight of Sample : 10gm

SAMPLE NO.	VOLUME IN KEROSIN OIL Vk	VOLUME IN WATER Vd	SWELL (Vd-Vk)	SWELL INDEX = (Vd-Vk)/ (Vk)*100 (%)	AVERAGE SWELL %	SPECIFIC LIMIT
1	10	12	2.30	23	16	50%
2	10	11.5	1.50	15		
3	10	11.0	1.00	10		

Remarks:

Lab Manager

Checked By:

4527

Arki Techno Consultants (India) Pvt.Ltd

N 3/91, IRC Village, Bhubaneswar

DIFFERENTIAL FREE SWELL INDEX OF SOIL (D.F.S.)

AS PER IS: 2720 (PART - 40)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges	Date Of Testing	:	17.09.12
Type of Sample	:	UDS	Tested by	:	D.Mohanty
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	28.0m	Weight of Sample	:	10gm

SAMPLE NO.	VOLUME IN KEROSIN OIL Vk	VOLUME IN WATER Vd	SWELL (Vd-Vk)	SWELL INDEX = (Vd-Vk)/ (Vk)*100 (%)	AVERAGE SWELL %	SPECIFIC LIMIT
1	10	12.5	2.50	25	16	50%
2	10	11	1.30	13		
3	10	11.0	1.00	10		

Remarks:

Lab Manager

Checked By:

4523

Arki Techno Consultants (India) Pvt.Ltd

N 3/91, IRC Village, Bhubaneswar

DIFFERENTIAL FREE SWELL INDEX OF SOIL (D.F.S.)

AS PER IS: 2720 (PART - 40)

Client : DFCC

Project Name : G.I For 3 Nos. Important Bridges

Type of Sample : UDS

Location : BH-3(Tangri River-Ambala)

Depth : 31.0m

Date Of Testing : 17.09.12

Tested by : D.Mohanty

Sampled by : T.K.Das

Weight of Sample : 10gm

SAMPLE NO.	VOLUME IN KEROSIN OIL Vk	VOLUME IN WATER Vd	SWELL (Vd-Vk)	SWELL INDEX = (Vd-Vk)/ (Vk)*100 (%)	AVERAGE SWELL %	SPECIFIC LIMIT
1	10	12.5	2.50	25	17	50%
2	10	11.5	1.50	15		
3	10	11.0	1.00	10		

Remarks:

Lab Manager

Checked By:

4529

Arki Techno Consultants (India) Pvt.Ltd

N 3/91, IRC Village, Bhubaneswar

DIFFERENTIAL FREE SWELL INDEX OF SOIL (D.F.S.)

AS PER IS: 2720 (PART - 40)

Client : DFCC

Project Name : G.I For 3 Nos. Important Bridges

Type of Sample : SPT

Location : BH-3(Tangri River-Ambala)

Depth : 39.0m

Date Of Testing : 17.09.12

Tested by : D.Mohanty

Sampled by : T.K.Das

Weight of Sample : 10gm

SAMPLE NO.	VOLUME IN KEROSIN OIL Vk	VOLUME IN WATER Vd	SWELL (Vd-Vk)	SWELL INDEX = (Vd-Vk)/ (Vk)*100 (%)	AVERAGE SWELL %	SPECIFIC LIMIT
1	10	12.0	2.00	20	15	50%
2	10	11.5	1.50	15		
3	10	11.0	1.00	10		

Remarks:

Lab Manager

Checked By:

4530

Arki Techno Consultants (India) Pvt.Ltd

N 3/91, IRC Village, Bhubaneswar

DIFFERENTIAL FREE SWELL INDEX OF SOIL (D.F.S.)

AS PER IS: 2720 (PART - 40)

Client : DFCC

Project Name : G.I For 3 Nos. Important Bridges

Type of Sample : SPT

Location : BH-3(Tangri River-Ambala)

Depth : 45.0m

Date Of Testing : 17.09.12

Tested by : D.Mohanty

Sampled by : T.K.Das

Weight of Sample : 10gm

SAMPLE NO.	VOLUME IN KEROSIN OIL Vk	VOLUME IN WATER Vd	SWELL (Vd-Vk)	SWELL INDEX = (Vd-Vk)/ (Vk)*100 (%)	AVERAGE SWELL %	SPECIFIC LIMIT
1	10	12.5	2.50	25	17	50%
2	10	11.5	1.50	15		
3	10	11.0	1.00	10		

Remarks:

Lab Manager

Checked By:

4531

Arki Techno Consultants (India) Pvt.Ltd

ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF SPECIFIC GRAVITY BY DENSITY BOTTLE METHOD AS PER IS : 2386 (Part -2)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	SPT	Date Of Testing	:	17.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	1.5m	Tested by	:	D.Mohanty

Sl. No.	Observations	1	Remarks
1	Weight of density bottle W1 in gm	31.52	
2	Weight of bottle with dry soil in W2 gm	37.83	
3	Weight of bottle with soil and water W3 in gm	136.44	
4	Weight of bottle full of water W4 in gm	132.5	
5	Weight of dry soil (W2-W1)in gm	6.32	
6	Weight of equal volume of water(W2 - W1) - (W3 - W4) in gm	2.37	
7	Specific Gravity G = (5) / (6)	2.66	

Lab Manager

Checked By

4532

Arki Techno Consultants (India) Pvt.Ltd

ARKITECHNO CONSULTANTS (INDIA) PVT. LTD.

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF SPECIFIC GRAVITY BY DENSITY BOTTLE METHOD AS PER IS : 2386 (Part -2)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	SPT	Date Of Testing	:	17.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	3.0m	Tested by	:	D.Mohanty

Sl. No.	Observations	1	Remarks
1	Weight of density bottle W1 in gm	31.52	
2	Weight of bottle with dry soil in W2 gm	36.52	
3	Weight of bottle with soil and water W3 in gm	137.23	
4	Weight of bottle full of water W4 in gm	134.12	
5	Weight of dry soil (W2-W1)in gm	5.00	
6	Weight of equal volume of water(W2 - W1) - (W3 - W4) in gm	1.89	
7	Specific Gravity G = (5) / (6)	2.65	

Lab Manager

Checked By

4533

Arki Techno Consultants (India) Pvt.Ltd

ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF SPECIFIC GRAVITY BY DENSITY BOTTLE METHOD AS PER IS : 2386 (Part -2)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	SPT	Date Of Testing	:	17.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	6.0m	Tested by	:	D.Mohanty

Sl. No.	Observations	1	Remarks
1	Weight of density bottle W1 in gm	31.52	
2	Weight of bottle with dry soil in W2 gm	36.82	
3	Weight of bottle with soil and water W3 in gm	136.67	
4	Weight of bottle full of water W4 in gm	133.37	
5	Weight of dry soil (W2-W1)in gm	5.30	
6	Weight of equal volume of water(W2 - W1) - (W3 - W4) in gm	2.00	
7	Specific Gravity G = (5) / (6)	2.65	

Lab Manager

Checked By

4531

Arki Techno Consultants (India) Pvt.Ltd

ARKITECHNO CONSULTANTS (INDIA) PVT. LTD.

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF SPECIFIC GRAVITY BY DENSITY BOTTLE METHOD AS PER IS : 2386 (Part -2)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	UDS	Date Of Testing	:	17.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	7.0m	Tested by	:	D.Mohanty

Sl. No.	Observations	1	Remarks
1	Weight of density bottle W1 in gm	31.52	
2	Weight of bottle with dry soil in W2 gm	37.21	
3	Weight of bottle with soil and water W3 in gm	137.65	
4	Weight of bottle full of water W4 in gm	134.10	
5	Weight of dry soil (W2-W1)in gm	5.69	
6	Weight of equal volume of water(W2 - W1) - (W3 - W4) in gm	2.14	
7	Specific Gravity G = (5) / (6)	2.66	

Lab Manager

Checked By

4535

Arki Techno Consultants (India) Pvt.Ltd

ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF SPECIFIC GRAVITY BY DENSITY BOTTLE METHOD AS PER IS : 2386 (Part -2)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	UDS	Date Of Testing	:	17.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	10.0m	Tested by	:	D.Mohanty

Sl. No.	Observations	1	Remarks
1	Weight of density bottle W1 in gm	31.52	
2	Weight of bottle with dry soil in W2 gm	38.49	
3	Weight of bottle with soil and water W3 in gm	136.27	
4	Weight of bottle full of water W4 in gm	131.92	
5	Weight of dry soil (W2-W1)in gm	6.97	
6	Weight of equal volume of water(W2 - W1) - (W3 - W4) in gm	2.62	
7	Specific Gravity G = (5) / (6)	2.66	

Lab Manager

Checked By

4536

Arki Techno Consultants (India) Pvt.Ltd

ARKITECHNO CONSULTANTS (INDIA) PVT. LTD.

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF SPECIFIC GRAVITY BY DENSITY BOTTLE METHOD AS PER IS : 2386 (Part -2)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	SPT	Date Of Testing	:	17.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	12.0m	Tested by	:	D.Mohanty

Sl. No.	Observations	1	Remarks
1	Weight of density bottle W1 in gm	31.52	
2	Weight of bottle with dry soil in W2 gm	37.94	
3	Weight of bottle with soil and water W3 in gm	137.53	
4	Weight of bottle full of water W4 in gm	133.53	
5	Weight of dry soil (W2-W1)in gm	6.42	
6	Weight of equal volume of water(W2 - W1) - (W3 - W4) in gm	2.42	
7	Specific Gravity G = (5) / (6)	2.65	

Lab Manager

Checked By

4537

Arki Techno Consultants (India) Pvt.Ltd

ARKITECHNO CONSULTANTS (INDIA) PVT. LTD.

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF SPECIFIC GRAVITY BY DENSITY BOTTLE METHOD AS PER IS : 2386 (Part -2)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	UDS	Date Of Testing	:	17.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	16.0m	Tested by	:	D.Mohanty

Sl. No.	Observations	1	Remarks
1	Weight of density bottle W1 in gm	31.52	
2	Weight of bottle with dry soil in W2 gm	36.88	
3	Weight of bottle with soil and water W3 in gm	136.97	
4	Weight of bottle full of water W4 in gm	133.64	
5	Weight of dry soil (W2-W1)in gm	5.36	
6	Weight of equal volume of water(W2 - W1) - (W3 - W4) in gm	2.03	
7	Specific Gravity G = (5) / (6)	2.64	

Lab Manager

Checked By

4533

Arki Techno Consultants (India) Pvt.Ltd

ARKITECHNO

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF SPECIFIC GRAVITY BY DENSITY BOTTLE METHOD AS PER IS : 2386 (Part -2)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	SPT	Date Of Testing	:	17.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	21.0m	Tested by	:	D.Mohanty

Sl. No.	Observations	1	Remarks
1	Weight of density bottle W1 in gm	31.52	
2	Weight of bottle with dry soil in W2 gm	37.12	
3	Weight of bottle with soil and water W3 in gm	137.03	
4	Weight of bottle full of water W4 in gm	133.51	
5	Weight of dry soil (W2-W1)in gm	5.60	
6	Weight of equal volume of water(W2 - W1) - (W3 - W4) in gm	2.08	
7	Specific Gravity G = (5) / (6)	2.69	

Lab Manager

Checked By

4539

Arki Techno Consultants (India) Pvt.Ltd

ARKITECHNO CONSULTANTS (INDIA) PVT. LTD.

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF SPECIFIC GRAVITY BY DENSITY BOTTLE METHOD AS PER IS : 2386 (Part -2)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	UDS	Date Of Testing	:	17.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	25.0m	Tested by	:	D.Mohanty

Sl. No.	Observations	1	Remarks
1	Weight of density bottle W1 in gm	31.52	
2	Weight of bottle with dry soil in W2 gm	36.57	
3	Weight of bottle with soil and water W3 in gm	137.20	
4	Weight of bottle full of water W4 in gm	134.03	
5	Weight of dry soil (W2-W1)in gm	5.05	
6	Weight of equal volume of water(W2 - W1) - (W3 - W4) in gm	1.88	
7	Specific Gravity G = (5) / (6)	2.68	

Lab Manager

Checked By

4540

Arki Techno Consultants (India) Pvt.Ltd

ARKITECHNO CONSULTANTS (INDIA) PVT. LTD.

N 3/91, IRC Village, Bhubaneswar

DETERMINATION OF SPECIFIC GRAVITY BY DENSITY BOTTLE METHOD AS PER IS : 2386 (Part -2)

Client	:	DFCC			
Project Name	:	G.I For 3 Nos. Important Bridges			
Type of Sample	:	SPT	Date Of Testing	:	17.09.12
Location	:	BH-3(Tangri River-Ambala)	Sampled by	:	T.K.Das
Depth	:	27.0m	Tested by	:	D.Mohanty

Sl. No.	Observations	1	Remarks
1	Weight of density bottle W1 in gm	31.52	
2	Weight of bottle with dry soil in W2 gm	37.24	
3	Weight of bottle with soil and water W3 in gm	136.86	
4	Weight of bottle full of water W4 in gm	133.27	
5	Weight of dry soil (W2-W1)in gm	5.72	
6	Weight of equal volume of water(W2 - W1) - (W3 - W4) in gm	2.13	
7	Specific Gravity G = (5) / (6)	2.69	

Lab Manager

Checked By

4541