

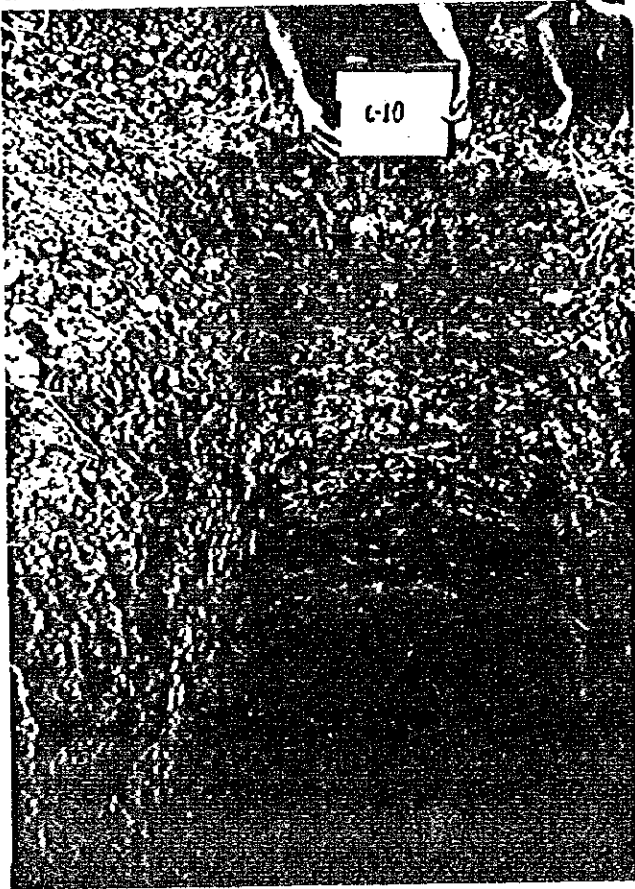


7.2 PHOTOGRAPHIC DOCUMENTATION



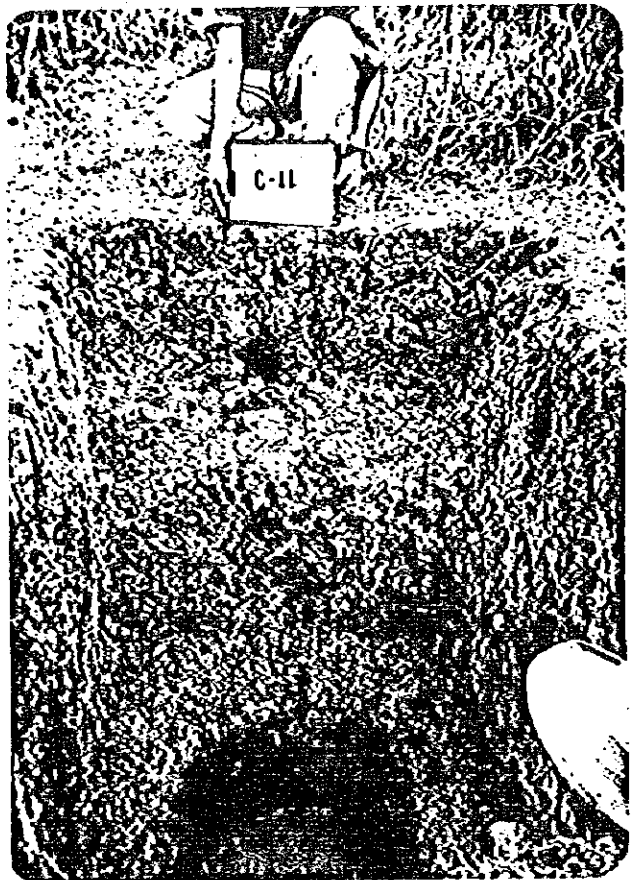
TEST PIT

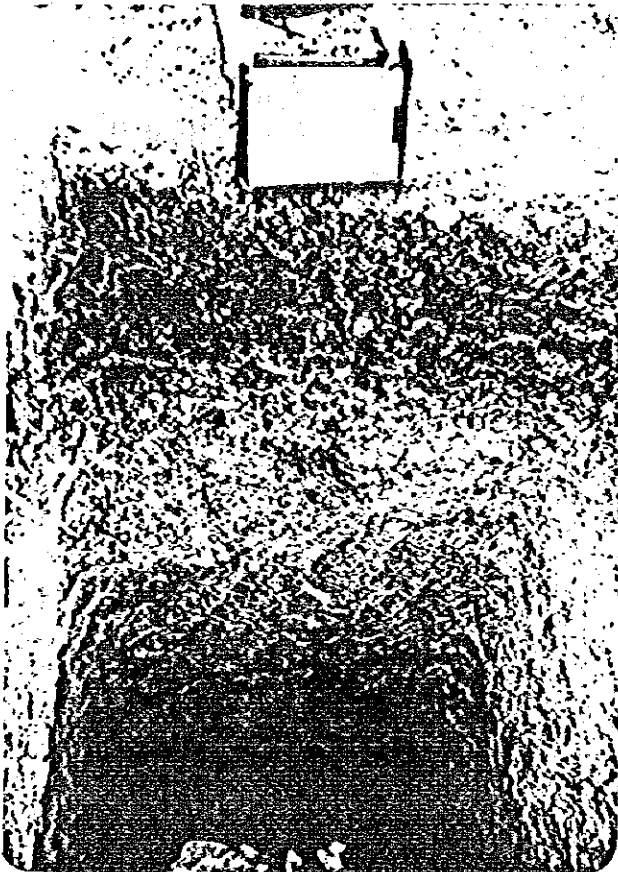
WORK: OPEN CHANNEL



TEST PIT NO: C - 10
DEPTH: 3.0 m.
WORK: OPEN CHANNEL

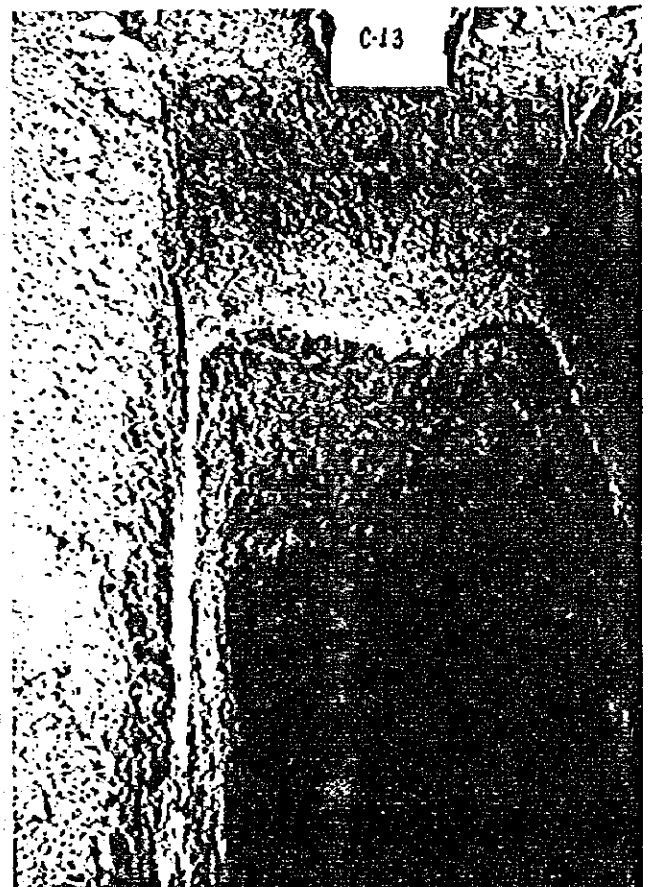
TEST PIT NO: C - 11
DEPTH: 2.0 m.
WORK: OPEN CHANNEL

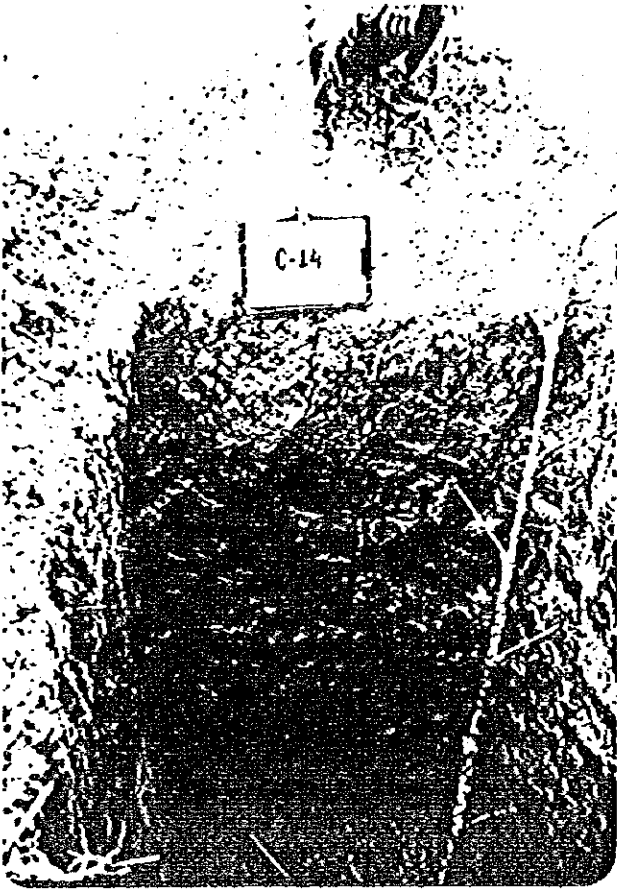




TEST PIT NO: C - 12
DEPTH: 4.0 m.
WORK: OPEN CHANNEL

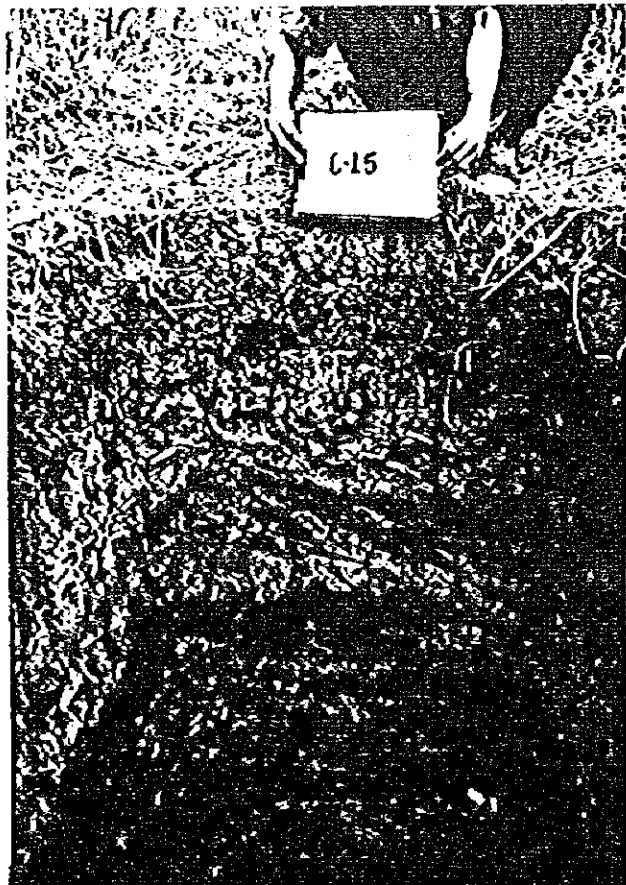
TEST PIT NO: C - 13
DEPTH: 4.0 m.
WORK: OPEN CHANNEL



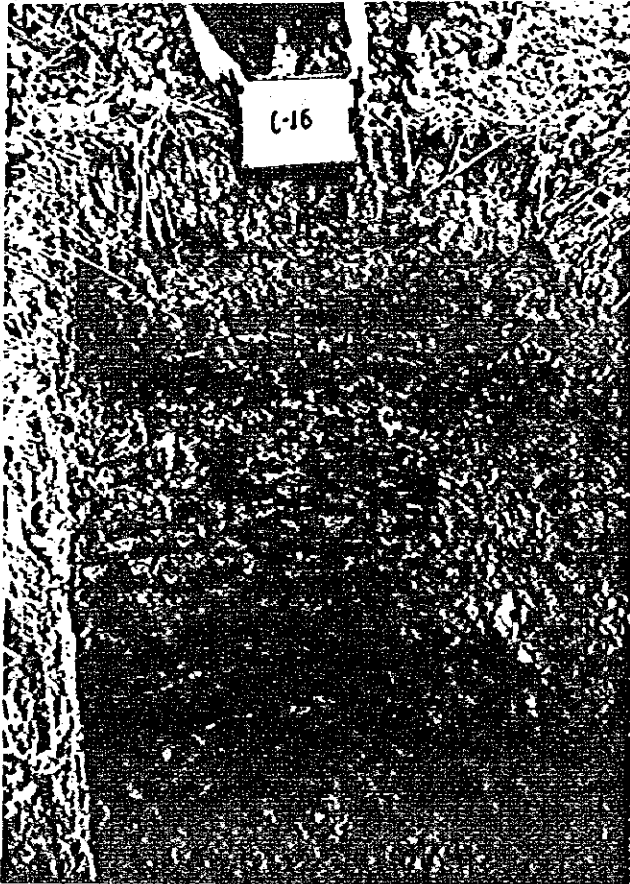


TEST PIT NO: C - 14
DEPTH: 4.0 m.
WORK: OPEN CHANNEL

TEST PIT NO: C - 15
DEPTH: 3.0 m.
WORK: OPEN CHANNEL

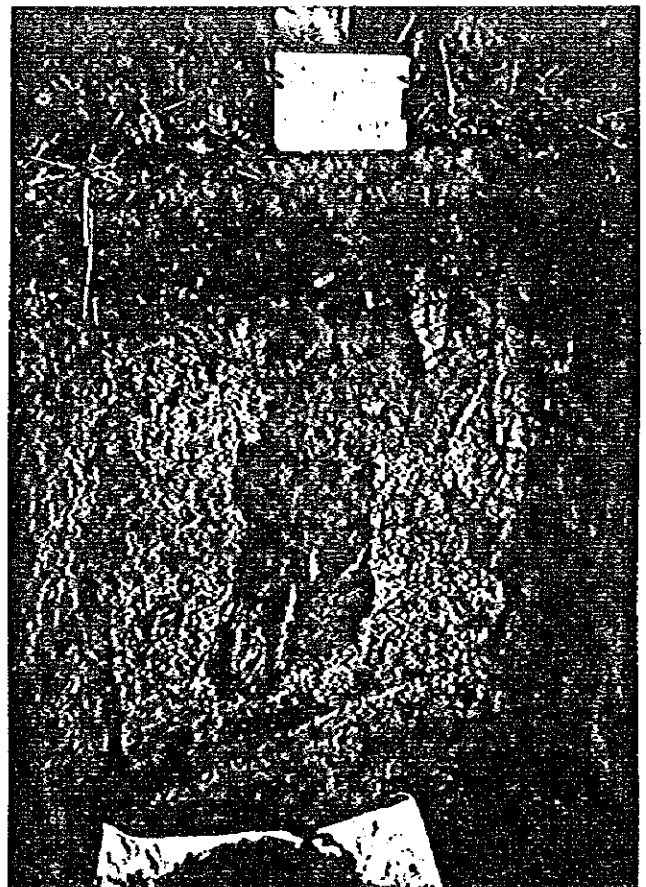


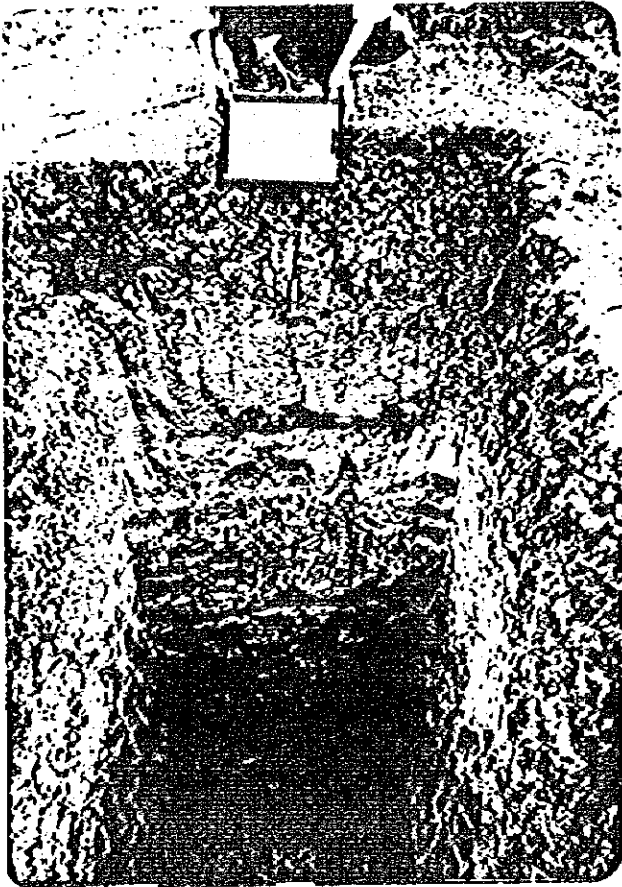
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TEST PIT NO: C - 16
DEPTH: 4.0 m.
WORK: OPEN CHANNEL

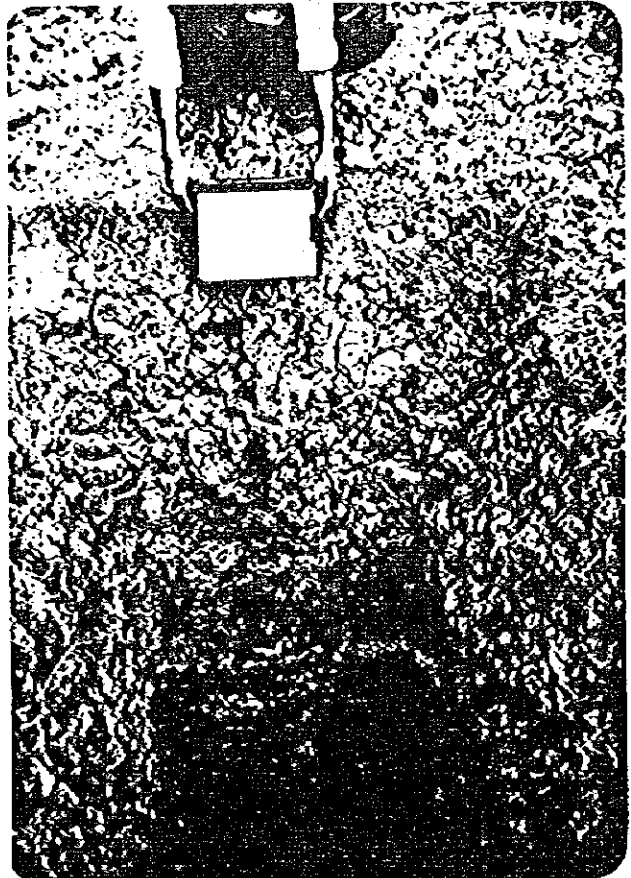
TEST PIT NO: C - 17
DEPTH: 3.0 m.
WORK: OPEN CHANNEL





TEST PIT NO: C - 18
DEPTH: 3.0 m.
WORK: OPEN CHANNEL

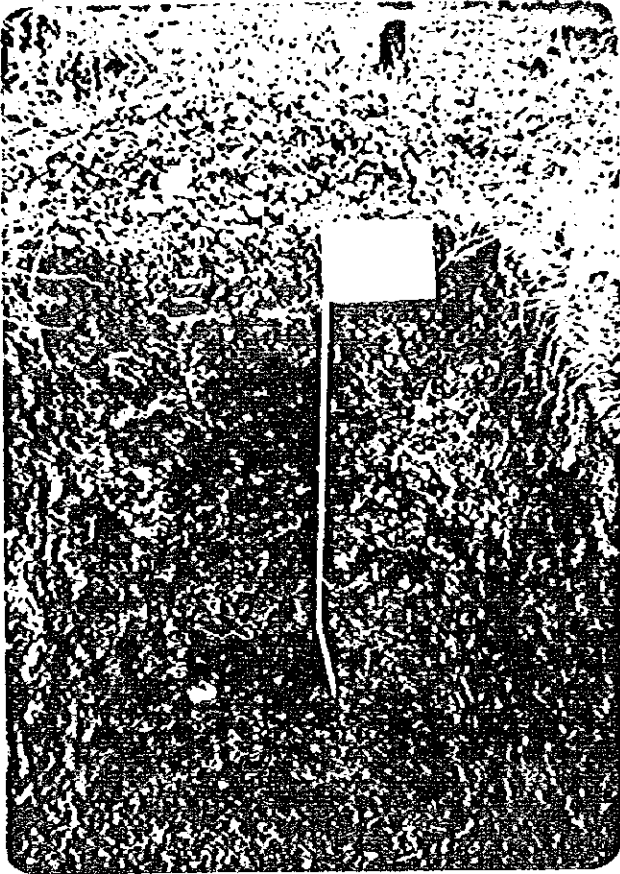
TEST PIT NO: C - 19
DEPTH: 4.0 m.
WORK: OPEN CHANNEL





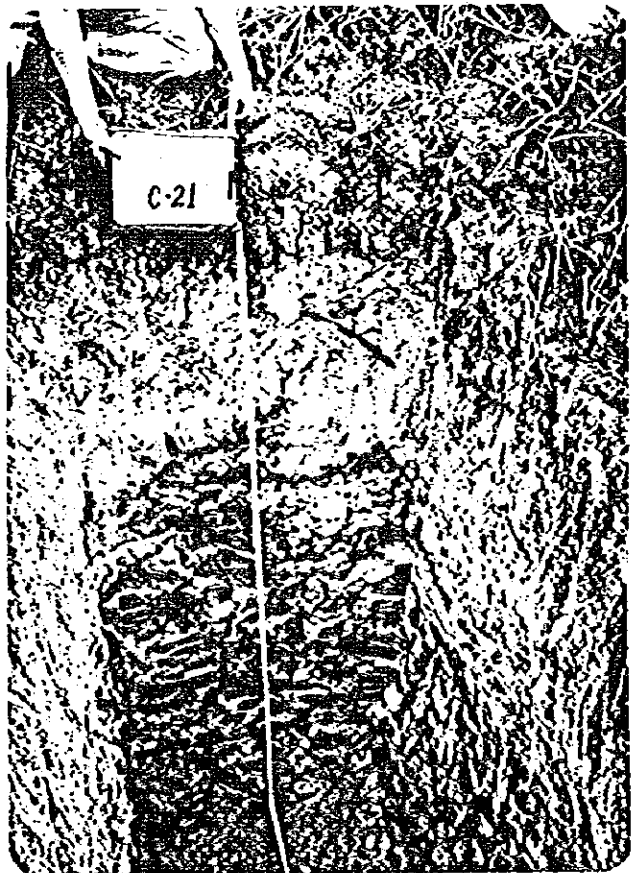
TEST PIT

WORK: TRANSMISSION LINE

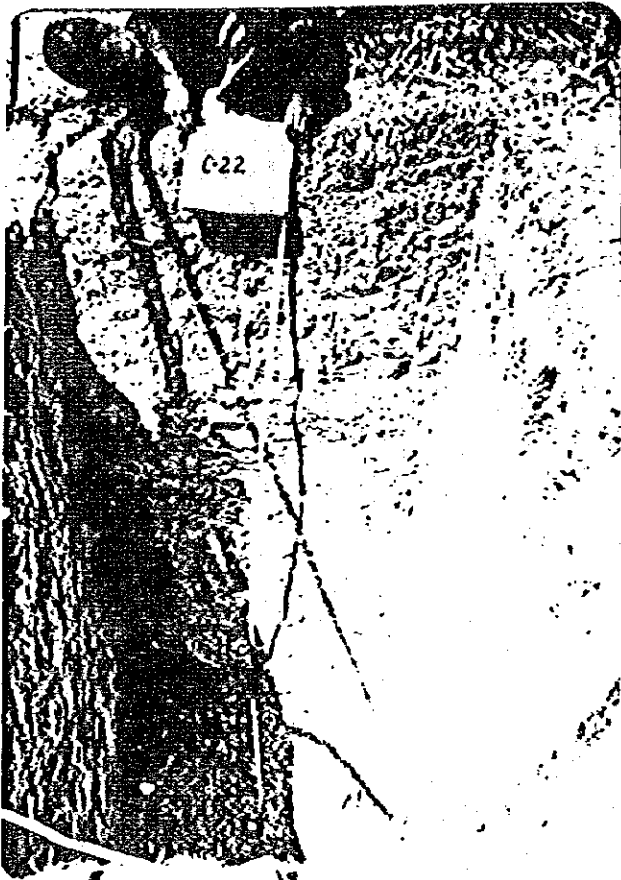


TEST PIT NO: C - 20
DEPTH: 1.5 m.
WORK: TRANSMISSION
LINE

TEST PIT NO: C - 21
DEPTH: 3.0 m.
WORK: TRANSMISSION
LINE

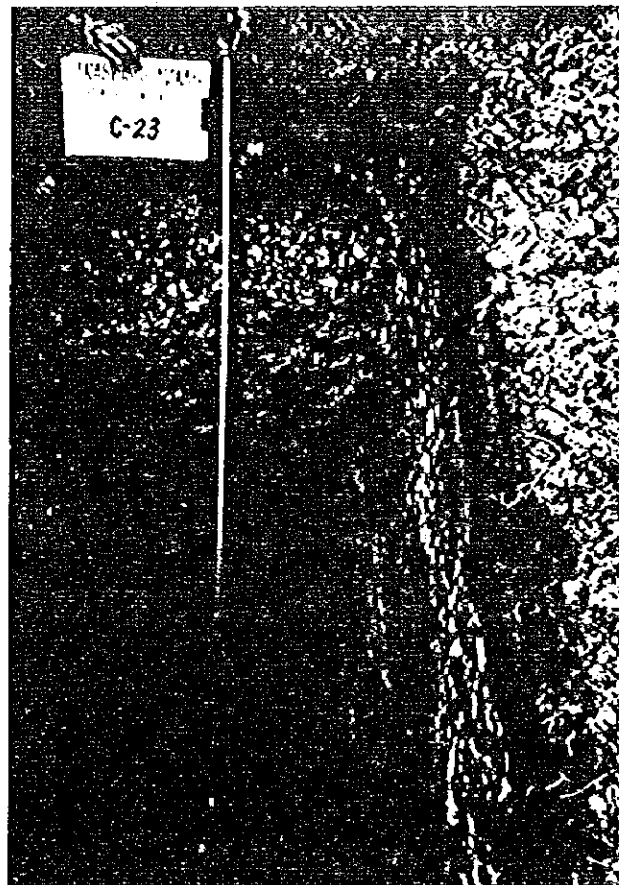


304

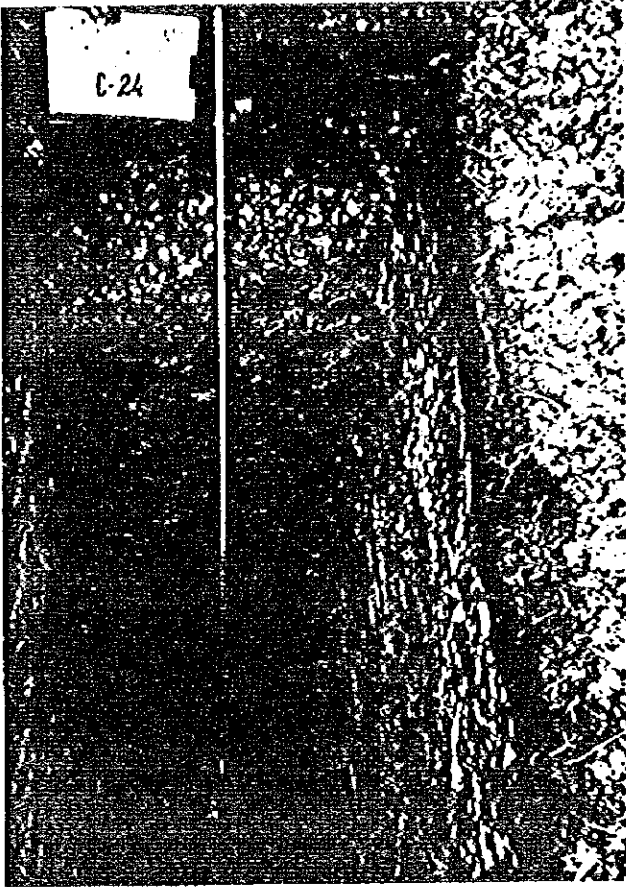


TEST PIT NO: C - 22
DEPTH: 3.5 m.
WORK: TRANSMISSION
LINE

TEST PIT NO: C - 23
DEPTH: 3.5 m.
WORK: TRANSMISSION
LINE



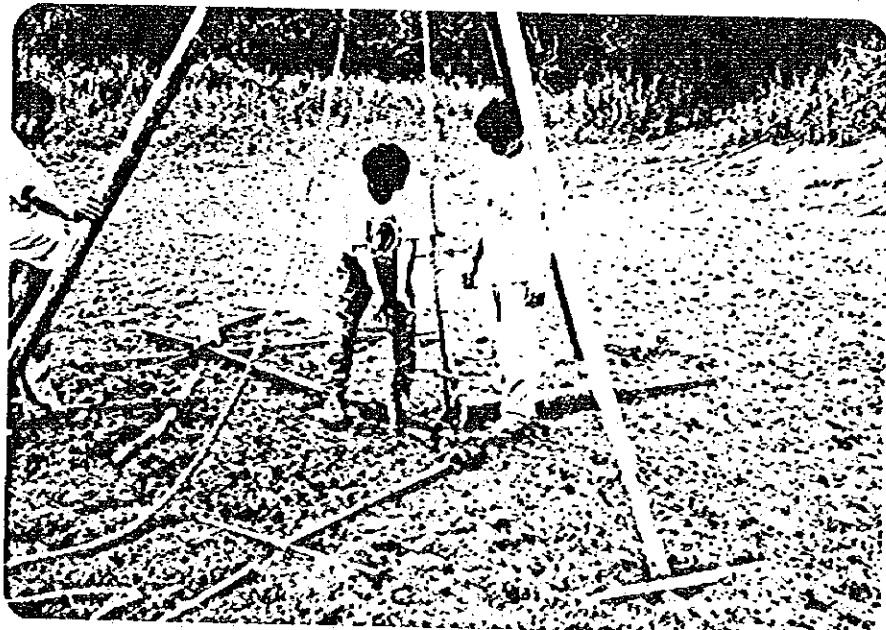
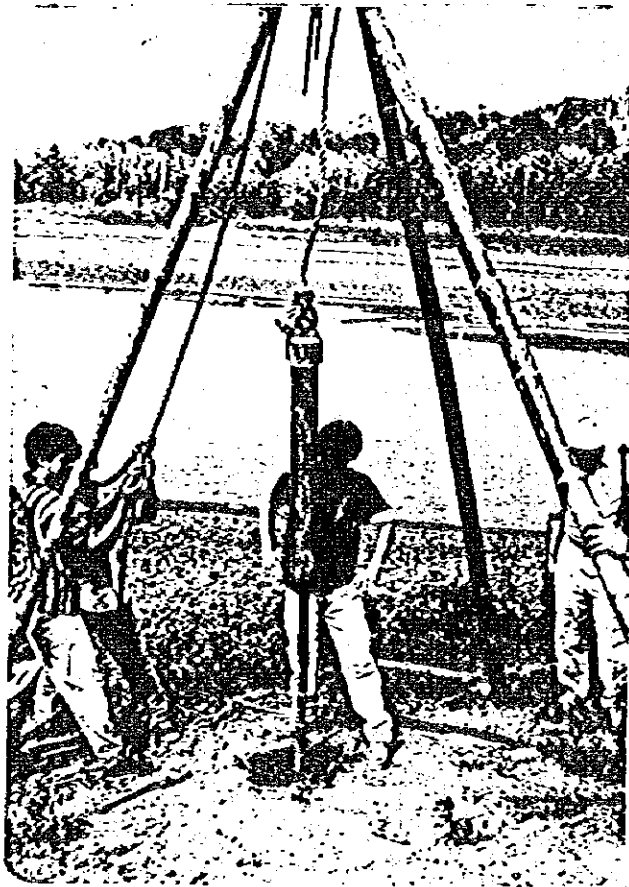
21



TEST PIT NO: C - 24
DEPTH: 4.0 m.
WORK: TRANSMISSION
LINE



SOUNDING WITH TOWER





SOUNDING WITHOUT TOWER

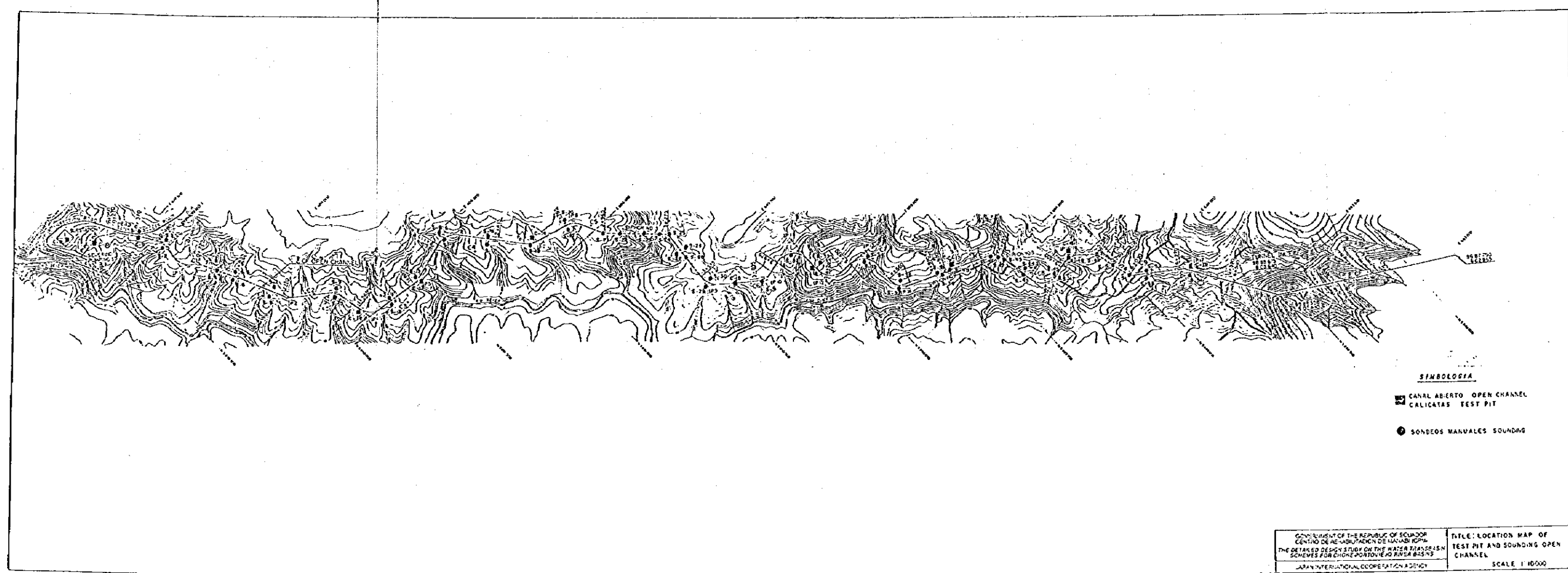
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100

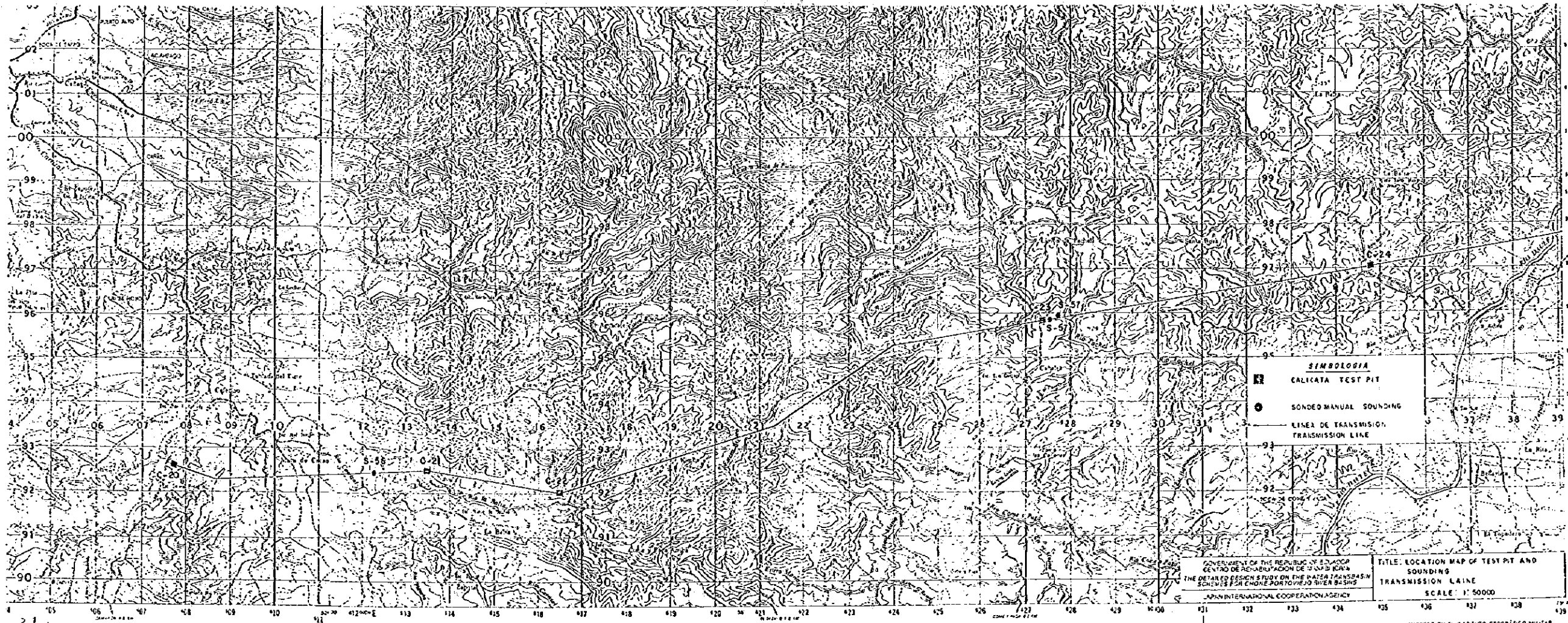


7.3 PLAN WITH LOCATION OF TEST PIT AND SOUNDING



GOVERNMENT OF THE REPUBLIC OF ECUADOR CENTRO DE INVESTIGACION DE AGUAS (CIGA) THE DETAILED DESIGN STUDY ON THE WATER TRANSFER SCHEMES FOR CHONE PORTOVIEJO RIVER BASIN JAPAN INTERNATIONAL COOPERATION AGENCY	TITLE: LOCATION MAP OF TEST PIT AND SOUNDING OPEN CHANNEL SCALE: 1:10000
---	---

3/2



SIMBOLOGIA

- CALICATA TEST PIT
- SONDED MANUAL SOUNDING
- LINEA DE TRANSMISION, TRANSMISSION LINE

GOVERNMENT OF THE REPUBLIC OF ECUADOR
 CENTRO DE RECONSTRUCCION DE SAN JUAN
 THE OBTAIN ED DESIGN STUDY ON THE WATER TRANSDAM
 SCHEMES FOR CHONE PORTUVEJO RIVER BASINS
 JAPAN INTERNATIONAL COOPERATION AGENCY

TITLE: LOCATION MAP OF TEST PIT AND SOUNDING TRANSMISSION LINE
SCALE: 1:50,000

IMPRESO EN LOS TALLERES GRAFICOS DEL INSTITUTO GEOGRAFICO MILITAR E 3724
 DERECHOS RESERVADOS CONFORME A LA LEY - NOVEMBRE 1964

Escala 1:50,000

IMPRESO EN EL INSTITUTO GEOGRAFICO MILITAR
 DERECHOS RESERVADOS CONFORME A LA LEY - FEBRERO 1968



**JAPAN INTERNATIONAL
COOPERATION AGENCY
J I C A**

**THE DETAILED DESIGN STUDY ON THE WATER
TRANSBASIN SCHEMES FOR CHONE-PORTOVIEJO
RIVER BASINS**

**GEOLOGICAL - GEOTECHNICAL
INVESTIGATIONS REPORT**

ANNEX - VOLUME II

FEBRUARY 1984



**RESULTS OF LABORATORY
TESTS**



CLASSIFICATION

(NATURAL MOISTURE CONTENT)

(ATTERBERG LIMITS)

(GRAIN SIZE ANALYSIS)

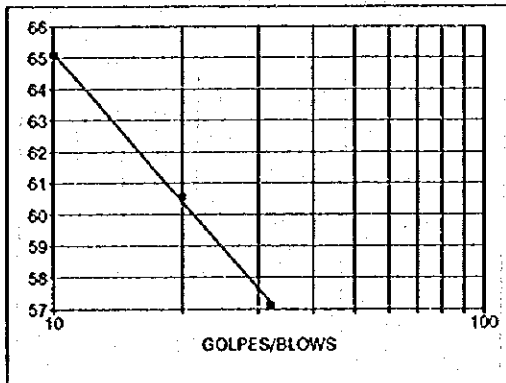


HIDROSUELOS CIA. LTDA.

ENSAYOS DE CLASIFICACION/CLASIFICATION TEST

PROYECTO/PROJEC	TRASVASES/TRANSASINS			MUESTRA No./SAMPLE	H-1
UBICACION/SITE:	C-10	FECHA/DATE	DIC./93	ENSAYADO/TESTEADO:	G.S.
				PROFUNDIDAD/DEPTH:	0.50-1.40
				CALCULO/CALCULATED	F.U.

	No. DE GOLPES No. OF BLOWS	PESO HUMEDO WET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	W %	MEDIA AVERAGE
1.-HUMEDAD/MOISTURE		48.26	41.24	18.16	30.42	31.17
		56.20	47.05	18.38	31.91	
2.-LIM.LIQUIDO/LIQUID LIMIT	32	24.86	20.24	12.15	57.11	58.89
	20	25.20	20.10	11.68	60.57	
	10	26.14	20.64	12.19	65.09	
3.-LIM.PLASTICO/PLASTIC LIMIT		8.62	7.72	5.27	36.73	36.63
		9.45	8.36	5.37	36.45	
		9.83	8.63	5.36	36.70	



4.- GRANULOMETRIA/SIEVE ANALYSIS			
P. IN./IN. WEIGHT	101.85	(H/S)	H
PESO INICIAL DE CALCULO/INITIAL CALCULUS WEIGHT :			77.65
TAMIZ/SIEVE	P. RET./RET.W.	%RET./RETAINED %	%PASA/PASSED
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 4	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	0.00	0.0	100.0
No. 200	3.12	4.0	96.0

5.-CLASIFICACION/CLASIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	4
FINOS/FINES	96

LL/LL	59.0
LP/PL	37.0
IP/PI	22.0
Wp	31.2

SUCS	MH
AASHTO	A-7-5
IG(86)	28
IG(45)	17

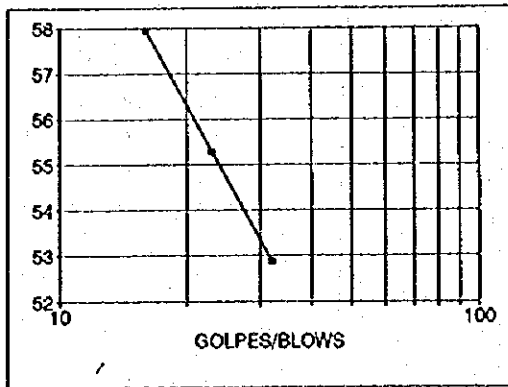


HIDROSUELOS CIA. LTDA.

ENSAYOS DE CLASIFICACION/CLASIFICATION TEST

PROYECTO/PROJEC TRASVASES/TRANSASINS				MUESTRA No./SAMPLE M-2	
				PROFUNDIDAD/DEPTH: 2.00-3.00m	
UBICACION/SITE: C-10	FECHA/DATE DIC./93	ENSAYADO/TESTED: G.S.	CALCULO/CALCULATED F.U.		

	No. DE GOLPES No. OF BLOWS	PESO HUMEDO WET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	W %	MEOTA AVERAGE
1. -HUMEDAD/MOISTURE		52.85	43.51	16.51	34.41	34.27
		55.47	46.21	19.05	34.09	
2. -LIM. LIQUIDO/LIQUID LIMIT	32	25.30	20.71	12.03	52.88	51.68
	23	25.32	20.56	11.95	55.28	
	16	26.60	21.31	12.18	57.94	
3. -LIM. PLASTICO/PLASTIC LIMIT		16.19	15.07	12.05	37.09	37.22
		16.81	15.52	12.05	37.18	
		9.77	8.51	5.14	37.39	



4. - GRANULOMETRIA/SIEVE ANALYSIS			
P. IN. /IN. WEIGHT	119.90	(G/S)	H
PESO INICIAL DE CALCULO/INITIAL CALCULUS WEIGHT :			89.30
TAMIZ/SIEVE	P. RET. /RET. W.	%RET. /RETAINED %	%PASA/PASSED
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 4	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	0.00	0.0	100.0
No. 200	1.13	1.3	98.7

5. -CLASIFICACION/CLASIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	1
FINOS/FINES	99

LL/LL	55.0
LP/PL	37.0
IP/PI	18.0
Wz	34.3

SUCS	MH
AASHTO	A-7-5
IG(86)	24
IG(45)	14

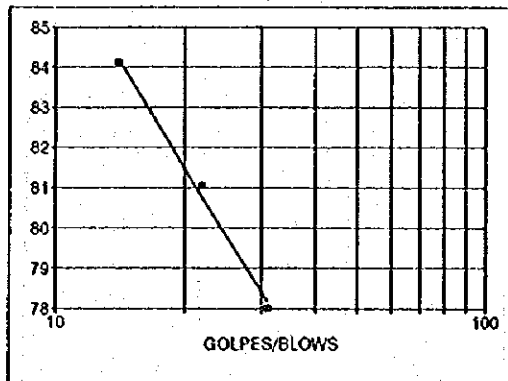


HIDROSUELOS CIA. LTDA.

ENSAYOS DE CLASIFICACION/CLASIFICATION TEST

PROYECTO/PROJEC	TRASVASES/TRANSASINS			MUESTRA No./SAMPLE	M-1
				PROFUNDIDAD/DEPTH:	0.55-1.6
UBICACION/SITE:	C-11	FECHA/DATE	DIC./93	ENSAYADO/TESTEO:	G.S.
				CALCULO/CALCULATED	F.V.

	No. DE GOLPES No. OF BLOWS	PESO HUNEDO WET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	W %	MEDIA AVERAGE
1.-HUMEDAD/MOISTURE		57.30	46.66	18.32	37.54	
		64.02	51.78	19.50	37.92	37.73
2.-LIM.LIQUIDO/LIQUID LIMIT	31	26.32	20.15	12.24	78.00	
	22	25.58	19.50	12.00	81.07	
	14	25.65	19.66	12.54	84.13	
						79.80
3.-LIM.PLASTICO/PLASTIC LIMIT		16.43	14.98	12.26	53.31	
		9.34	7.98	5.45	53.75	
		16.06	14.67	12.10	54.09	53.72



4.- GRANULOMETRIA/SIEVE ANALYSIS			
P. IN./IN. WEIGHT	107.04	(G/S)	H
PESO INICIAL DE CALCULO/INITIAL CALCULUS WEIGHT :			77.7
TAMIZ/SIEVE	P. RET./RET.W.	%RET./RETAINED %	%PASA/PASSE
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 1	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	0.22	0.3	99.7
No. 200	10.16	13.1	86.9

5.-CLASIFICACION/CLASIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	13
FINOS/FINES	87

LL/AL	80.0
LD/PL	54.0
IP/PI	26.0
W _L	37.7

SUCS	MH
AASHTO	A-7-5
IG(86)	32
IG(45)	18

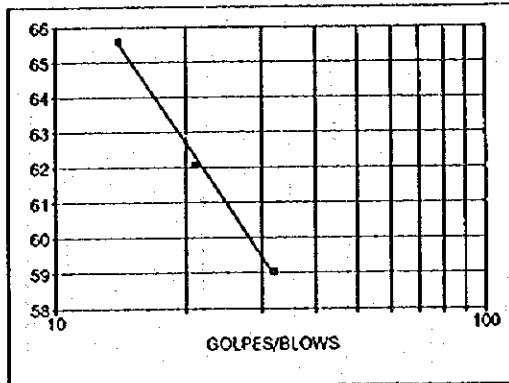


HIDROSUELOS CIA. LTDA.

ENSAYOS DE CLASIFICACION/CLASIFICATION TEST

PROYECTO/PROJEC TRASVASSES/TRANSASINS				MUESTRA No./SAMPLE M-1	
				PROFUNDIDAD/DEPTH: 0.60-1.60m	
UBICACION/SITE: C-12	FECHA/DATE DIC./93	ENSAYADO/TESTED: G.S.	CALCULO/CALCULATED F.U.		

	No. DE GOLPES No. OF BLOWS	PESO HUMEDO WET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	W %	MEDIA AVERAGE
1.-HUMEDAD/MOISTURE		51.12 57.57	43.51 48.05	19.47 18.93	31.66 32.69	32.17
2.-LIM.LIQUIDO/LIQUID LIMIT	32 21 14	25.91 27.18 25.26	20.66 21.45 20.00	11.77 12.22 11.98	59.06 62.08 65.59	60.91
3.-LIM.PLASTICO/PLASTIC LIMIT		16.41 16.88 17.52	15.08 15.46 15.82	12.05 12.17 11.88	43.89 43.16 43.15	43.40



4.- GRANULOMETRIA/SIEVE ANALYSIS			
P. IN. /IN. WEIGHT	107.00	(G/S)	H
PESO INICIAL DE CALCULO/INITIAL CALCULUS WEIGHT :			80.95
TAMIZ/SIEVE	P. RET. /RET. W.	%RET. /RETAINED %	%PASA /PASSED
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 4	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	0.00	0.0	100.0
No. 200	8.13	10.0	90.0

5.-CLASIFICACION/CLASIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	10
FINOS/FINES	90

LL/LL	61.0
LP/PL	43.0
IP/PI	18.0
w%	32.2

SUCS	MH
AASHTO	A-7-5
IG(86)	23
IG(45)	15

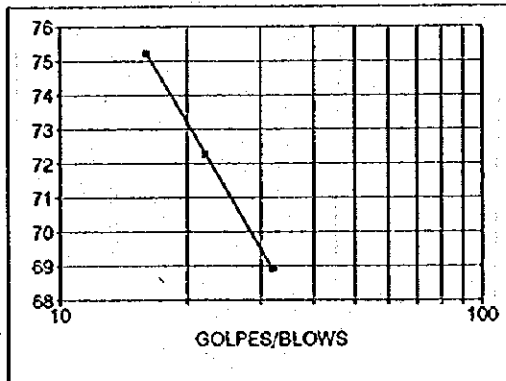


HIDROSUELOS CIA. LTDA.

ENSAYOS DE CLASIFICACION/CLASIFICATION TEST

PROYECTO/PROJEC: TRASVASES/TRANSASINS				MUESTRA No./SAMPLE: M-2	
				PROFUNDIDAD/DEPTH: 2.00-3.6	
UBICACION/SITE: C-12	FECHA/DATE: DIC./93	ENSAYADO/TESTED: G.S.	CALCULO/CALCULATED: F.V.		

	No. DE GOLPES No. OF BLOWS	PESO HUMEDO WET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	W %	MEDIA AVERAGE
1.-HUMEDAD/MOISTURE		51.48	42.15	19.50	41.19	41.64
		55.00	44.51	19.59	42.09	
2.-LIM.LIQUIDO/LIQUID LIMIT	32	24.31	19.32	12.08	68.92	71.16
	22	26.48	20.40	11.99	72.29	
	16	28.17	21.34	12.26	75.22	
3.-LIM.PLASTICO/PLASTIC LIMIT		9.07	7.85	5.31	48.03	48.24
		9.23	7.98	5.40	48.45	
		8.80	7.71	5.45	48.23	



4.- GRANULOMETRIA/SIEVE ANALYSIS			
P. IN./IN. WEIGHT	102.37	(H/S)	H
PESO INICIAL DE CALCULO/INITIAL CALCULUS WEIGHT :			72.
TAMIZ/SIEVE	P. RET./RET.W.	%RET./RETAINED %	%PASA/PASS
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 4	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	0.00	0.0	100.0
No. 200	7.80	10.8	89.2

5.-CLASIFICACION/CLASIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	11
FINOS/FINES	89

LL/AL	71.0
LP/PL	48.0
IP/PI	23.0
Ux	41.6

SUCS	MH
AASHTO	A-7-E
IG(86)	29
IG(45)	17

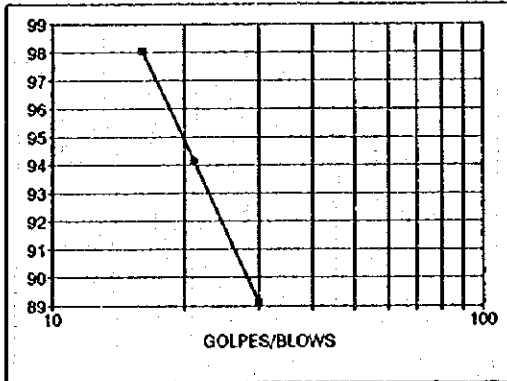


HIDROSUELOS CIA. LTDA.

ENSAYOS DE CLASIFICACION/CLASIFICATION TEST

PROYECTO/PROJEC TRASUASES/TRANBASJAS				MUESTRA No./SAMPLE M-1	
				PROFUNDIDAD/DEPTH: 0.80-2.00m	
UBICACION/SITE: C-13	FECHA/DATE DIC./93	ENSAYADO/TESTED: G.S.	CALCULO/CALCULATED F.U.		

	No. DE GOLPES No. OF BLOWS	PESO HUMEDO WET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	W %	MEDIA AVERAGE
1.-HUMEDAD/MOISTURE		55.48	45.70	18.32	35.72	35.67
		58.67	48.54	20.10	35.62	
2.-LIM. LIQUIDO/LIQUID LIMIT	30	25.10	19.03	12.22	89.13	91.70
	21	23.20	17.74	11.94	94.14	
	16	27.23	19.71	12.04	98.04	
3.-LIM. PLASTICO/PLASTIC LIMIT		17.35	15.61	11.92	47.15	47.23
		10.21	8.66	5.37	47.11	
		15.93	14.64	11.92	47.43	



4.- GRANULOMETRIA/STIEVE ANALYSIS			
P. IN. / IN. WEIGHT	103.46	(M.S)	H
PESO INICIAL DE CALCULO/INITIAL CALCULUS WEIGHT :			76.26
TAMIZ/SIEVE	P. RET. / RET. W.	%RET. / RETAINED %	%PASA / PASSED
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 4	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	0.38	0.5	99.5
No. 200	2.40	3.1	96.9

5.-CLASIFICACION/CLASIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	3
FINOS/FINES	97

LL/AL	92.0
LP/PL	47.0
IP/PI	15.0
w _p	35.7

SUCS	MH
AASHTO	A-7-5
IG(86)	57
IG(45)	20

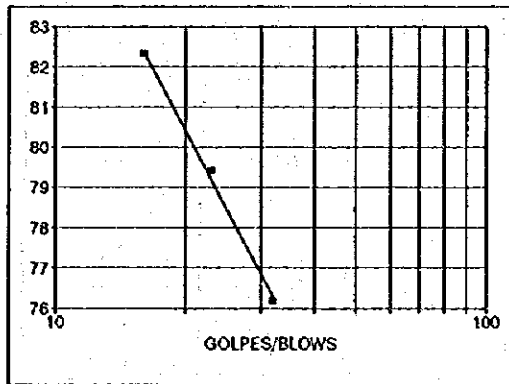


HIDROSUELOS CIA. LTDA.

ENSAYOS DE CLASIFICACION/CLASIFICATION TEST

PROYECTO/PROJEC	TRASURSES/TRANBASINS			MUESTRA No./SAMPLE	H-2
UBICACION/SITE:	C-13	FECHA/DATE	DIC./93	ENSAYADO/TESTED:	G.S.
				PROFUNDIDAD/DEPTH:	2.00-3.50
				CALCULO/CALCULATED	F.U.

	No. DE GOLPES No. OF BLOWS	PESO HUMEDO WET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	W %	MEGIA AVERAGE
1.- HUMEDAD/MOISTURE		56.23	47.11	19.51	33.04	
		49.07	41.06	17.18	33.54	33.29
2.- LIM. LIQUIDO/LIQUID LIMIT	32	26.71	20.38	12.07	76.17	
	23	25.42	19.40	11.82	79.42	
	16	27.57	20.58	12.09	82.33	
						78.46
3.- LIM. PLASTICO/PLASTIC LIMIT		10.85	9.24	5.40	41.93	
		17.38	15.82	12.09	41.82	
		16.95	15.49	12.03	42.20	41.98



4.- GRANULOMETRIA/SIEVE ANALYSIS			
P. IN./IN. WEIGHT	108.8	(H/S)	H
PESO INICIAL DE CALCULO/INITIAL CALCULUS WEIGHT :			81.6
TAMIZ/SIEVE	P. RET./RET.W.	%RET./RETAINED %	%PASA/PASSED
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 4	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	0.30	0.4	99.6
No. 200	0.61	0.7	99.3

5.- CLASIFICACION/CLASIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	1
FINOS/FINES	99

LL/LL	78.0
LP/PL	42.0
IP/PI	36.0
W _p	33.3

SUCS	MH
AASHTO	A-7-5
IG(86)	47
IG(45)	20

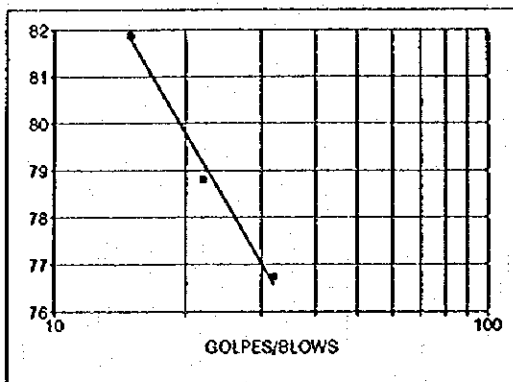


HIDROSUELOS CIA. LTDA.

ENSAYOS DE CLASIFICACION/CLASIFICATION TEST

PROYECTO/PROJEC	TRANSUASES/TRANSASINS			MUESTRA No./SAMPLE	M-1
UBICACION/SITE:	C-14	FECHA/DATE	DIC./93	ENSAYADO/TESTED:	G.S.
				PROFUNDIDAD/DEPTH:	0,90-1,90m
				CALCULO/CALCULATED	F.V.

	No. DE GOLPES No. OF BLOWS	PESO HUMEDO WET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	W %	MEDIA AVERAGE
1.-HUMEDAD/MOISTURE		52.84	44.84	19.76	31.90	31.87
		56.95	47.65	18.45	31.85	
2.-LIM.LIQUIDO/LIQUID LIMIT	32	22.28	17.86	12.10	76.74	78.27
	22	21.51	17.38	12.14	78.82	
	15	23.65	18.45	12.10	81.89	
3.-LIM.PLASTICO/PLASTIC LIMIT		8.51	7.59	5.39	41.82	42.86
		9.22	8.07	5.44	43.73	
		14.39	13.65	11.93	43.02	



4.- GRANULOMETRIA/SIEVE ANALYSIS			
P. IN./IN.WEIGHT	112.58	(G/S)	H
PESO INICIAL DE CALCULO/INITIAL CALCULUS WEIGHT :			85.37
TAMIZ/SIEVE	P. RET./RET.W.	%RET./RETAINED %	%PASA/PASSED
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 4	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	5.34	6.3	93.7
No. 200	20.82	24.4	75.6

5.-CLASIFICACION/CLASIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	24
FINOS/FINES	76

LL/AL	78.0
LP/PL	43.0
IP/PI	35.0
U _c	31.9

SUCS	MH
AASHTO	A-7-5
IG(86)	31
IG(45)	20

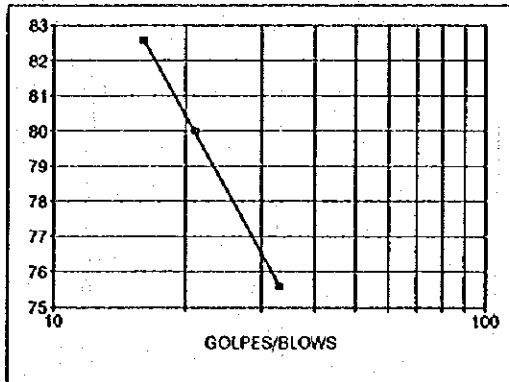


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ENSAYOS DE CLASIFICACION/CLASSIFICATION TEST

PROYECTO/PROJEC	TRASUASES/TRANBASINS			MUESTRA No./SAMPLE	M-2
UBICACION/SITE:	C-14	FECHA/DATE	DIC./93	ENSAYADO/TESTED:	G.S.
				PROFUNDIDAD/DEPTH:	2.00-3.1
				CALCULO/CALCULATED	F.U.

	Nº. DE GOLPES No. OF BLOWS	PESO HUMEDO WET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	W %	MEDIA AVERAGE
1.-HUMEDAD/MOISTURE		57.44 71.26	46.32 56.22	18.47 18.20	39.93 39.56	39.74
2.-LIM.LIQUIDO/LIQUID LIMIT	33 21 16	22.36 25.27 24.25	17.93 19.47 18.71	12.07 12.22 12.00	75.60 80.00 82.56	78.26
3.-LIM.PLASTICO/PLASTIC LIMIT		14.29 15.42 15.10	13.60 14.40 14.22	12.05 12.08 12.17	44.52 43.97 42.93	43.80



4.- GRANULOMETRIA/SIEVE ANALYSIS			
P. IN./IN. WEIGHT	127.22	(G/S)	H
PESO INICIAL DE CALCULO/INITIAL CALCULUS WEIGHT :			91.
TAMIZ/SIEVE	P. RET./RET.W.	%RET./RETAINED %	%PASA/PASS
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 4	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	0.76	0.8	99.2
No. 200	5.70	6.3	93.7

5.- CLASIFICACION/CLASSIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	6
FINOS/FINES	94

LL/AL	78.0
LP/PL	44.0
IP/PI	34.0
Wp	39.7

SUCS	MH
AASHTO	A-7-5
IG(86)	42
IG(45)	20

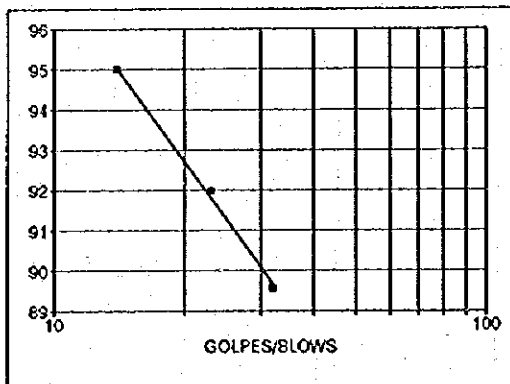


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ENSAYOS DE CLASIFICACION/CLASIFICATION TEST

PROYECTO/PROJEC. TRASVASES/TRANSBASINS				MUESTRA No./SAMPLE M-1	
				PROFUNDIDAD/DEPTH: 0.40-1.00m	
UBICACION/SITE: C-15	FECHA/DATE: DIC./93	ENSAYADO/TESTED: G.S.	CALCULO/CALCULATED F.U.		

	No. DE GOLPES No. OF BLOWS	PESO HUMEDO WET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	W %	PEDIA AVERAGE
1.-HUMEDAD/MOISTURE		66.41 58.55	56.06 49.95	18.57 18.58	27.61 27.41	27.51
2.-LIM. LIQUIDO/LIQUID LIMIT	32 23 14	28.25 26.61 28.12	20.62 19.72 20.32	12.10 12.23 12.11	89.55 91.99 95.01	91.27
3.-LIM. PLASTICO/PLASTIC LIMIT		10.41 15.58 8.87	9.00 14.63 7.84	5.35 12.15 5.17	38.63 38.31 38.58	38.50



4.- GRANULOMETRIA/SIEVE ANALYSIS			
P.IN./IN.WEIGHT	103.15	(G.S)	H
PESO INICIAL DE CALCULO/INITIAL CALCULUS WEIGHT :			80.89
TAMIZ/SIEVE	P.RET./RET.W.	%RET./RETAINED %	%PASA/PASSED
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 4	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	0.88	1.1	98.9
No. 200	19.25	23.8	76.2

5.-CLASIFICACION/CLASIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	24
FINDS/FINES	76

LL/LL	91.0
LP/PL	39.0
IP/PI	52.0
w%	27.5

SUCS	CH
AASHTO	A-7-5
IG(86)	44
IG(45)	20

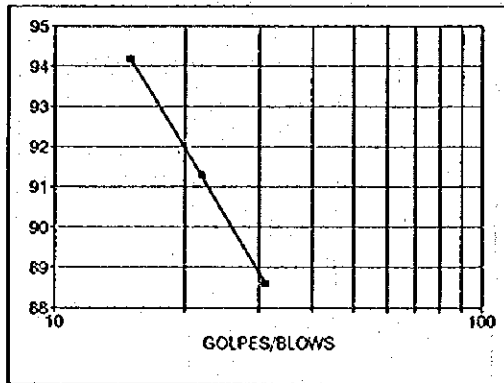


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ENSAYOS DE CLASIFICACION/CLASIFICATION TEST

PROYECTO/PROJEC	TRASVASES/TRANSASINS			MUESTRA No./SAMPLE	N-2		
					PROFUNDIDAD/DEPTH:	1.20-1.6	
UBICACION/SITE:	C-15	FECHA/DATE	01C./93	ENSAYADO/TESTED:	G.S.	CALCULO/CALCULATED	F.U.

	No. DE GOLPES No. OF BLOWS	PESO HUMEDO WET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	W %	MEDIA AVERAGE
1.-HUMEDAD/MOISTURE		55.86	46.73	18.97	32.89	32.43
		52.74	44.43	18.43	31.96	
2.-LIM. LIQUIDO/LIQUID LIMIT	31	27.33	20.18	12.11	88.60	90.27
	22	29.15	21.07	12.22	91.30	
	15	28.86	20.77	12.18	94.18	
3.-LIM. PLASTICO/PLASTIC LIMIT		9.65	8.38	5.47	43.64	43.68
		10.23	8.75	5.41	44.31	
		9.68	8.37	5.33	43.09	



4.- GRANULOMETRIA/SIEVE ANALYSIS			
P. IN./IN. WEIGHT	134.64	(H/S)	H
PESO INICIAL DE CALCULO/INITIAL CALCULUS WEIGHT :			101.6
TAMIZ/SIEVE	P. RET./RET.W.	%RET./RETAINED %	PASA/PASSE
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 4	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	0.83	0.8	99.2
No. 200	2.10	2.1	97.9

5.-CLASIFICACION/CLASIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	2
FINOS/FINES	98

LL/LL	90.0
LP/PL	44.0
IP/PI	46.0
w _p	32.4

SUCS	MH
AASHTO	A-7-5
IG(86)	58
IG(45)	20

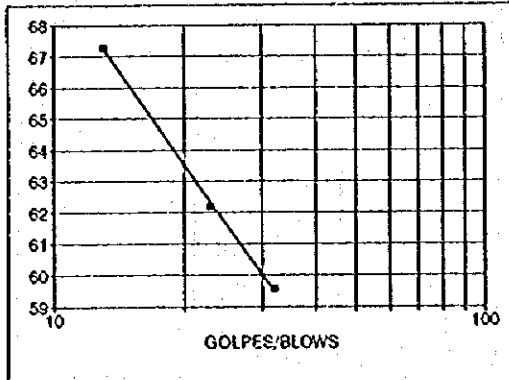


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ENSAYOS DE CLASIFICACION/CLASIFICATION TEST

PROYECTO/PROJEC TRASVASES/TRANSBASINS				MUESTRA No./SAMPLE 11-1	
				PROFUNDIDAD/DEPTH: 0.85-1.80m	
UBICACION/SITE: C-16	FECHA/DATE DIC./93	ENSAYADO/TESTED: G.S.	CALCULO/CALCULATED F.U.		

	No. DE GOLPES No. OF BLOWS	PESO HUMEDO WET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	W %	MEDIA AVERAGE
1.-HUMEDAD/MOISTURE		62.81	52.73	19.29	30.14	30.12
		57.78	48.55	17.88	30.09	
2.-LIM.LIQUIDO/LIQUID LIMIT	32	24.48	19.84	12.05	59.56	61.60
	23	22.51	18.53	12.13	62.19	
	13	25.12	19.88	12.09	67.27	
3.-LIM.PLASTICO/PLASTIC LIMIT		15.42	14.53	12.10	36.63	36.19
		15.77	14.81	12.12	35.69	
		10.75	9.34	5.45	36.25	



4.- GRANULOMETRIA/SIEVE ANALYSIS			
P. IN./IN. WEIGHT	137.40	(G/S)	H
PESO INICIAL DE CALCULO/INITIAL CALCULUS WEIGHT :			105.60
TAMIZ/SIEVE	P. RET./RET.W.	%RET./RETAINED %	%PASA/PASSED
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 4	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	0.90	0.9	99.1
No. 200	22.74	21.5	78.5

5.-CLASIFICACION/CLASIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	22
FINOS/FINES	78

U.C.L	62.0
L.P./P.L	36.0
I.P./P.I	26.0
U.C.	30.1

SUCS	MR
AASHTO	A-7-5
IG(86)	24
IG(45)	18

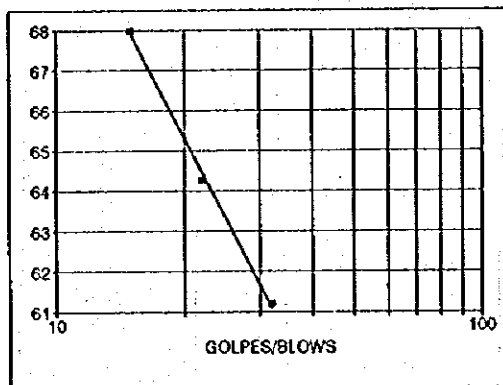


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ENSAYOS DE CLASIFICACION/CLASIFICATION TEST

PROYECTO/PROJEC	TRANSURSES/TRANSBASINS			MUESTRA No./SAMPLE	M-2
UBICACION/SITE:	C-16	FECHA/DATE	DIC./93	ENSAYADO/TESTED:	G.S.
				CALCULO/CALCULATED	F.U.

	No. DE GOLPES No. OF BLOWS	PESO HUMEDO WET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	W %	MEDIA AVERAGE
1.- HUMEDAD/MOISTURE		59.26	48.75	16.75	32.84	32.66
		63.29	52.36	18.70	32.47	
2.- LIM. LIQUIDO/LIQUID LIMIT	32	27.12	21.13	11.34	61.18	63.32
	22	22.82	18.52	11.83	64.28	
	15	26.48	20.62	12.00	67.98	
3.- LIM. PLASTICO/PLASTIC LIMIT		9.11	8.15	5.33	34.04	34.10
		9.29	8.30	5.39	34.02	
		16.06	15.05	12.10	34.24	



4.- GRANULOMETRIA/SIEVE ANALYSIS			
P. IN./IN. WEIGHT	119.71 (g/s)		H
PESO INICIAL DE CALCULO/INITIAL CALULUS WEIGHT : 90.2			
TAMIZ/SIEVE	P. RET./RET.W.	%RET./RETAINED %	%PASA/PASSED
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 4	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	0.86	1.0	99.0
No. 200	4.27	4.7	95.3

5.- CLASIFICACION/CLASIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	5
FINOS/FINES	95

LL/LL	63.0
LP/PL	34.0
IP/PI	29.0
w _p	32.7

SUCS	MH
AASHTO	A-7-5
IG(86)	34
IG(45)	20

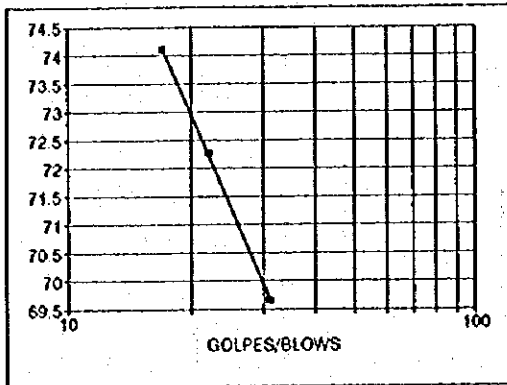


HIDROSUELOS CIA. LTDA.

ENSAYOS DE CLASIFICACION/CLASIFICATION TEST

PROYECTO/PROJEC TRASVASES/TRANSASINS				MUESTRA No./SAMPLE M-1	
				PROFUNDIDAD/DEPTH: 0.40-1.60m	
UBICACION/SITE: C-17	FECHA/DATE DIC./93	ENSAYADO/TESTED: G.S.	CALCULO/CALCULATED F.V.		

	No. DE GOLPES No. OF BLOWS	PESO HUMEDO WET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	U %	MEDIA AVERAGE
1.-HUMEDAD/MOISTURE		59.27	51.81	19.98	23.44	23.27
		52.86	46.52	19.08	23.10	
2.-LIM.LIQUIDO/LIQUID LIMIT	31	25.18	19.83	12.15	69.66	71.28
	22	21.88	15.78	7.34	72.27	
	17	26.00	20.16	12.28	74.11	
3.-LIM.PLASTICO/PLASTIC LIMIT		10.36	8.90	5.35	41.13	41.28
		16.64	15.33	12.16	41.32	
		16.45	15.25	12.35	41.38	



4.- GRANULOMETRIA/SIEVE ANALYSIS			
P. IN./IN. WEIGHT	107.21	(M/S)	H
PESO INICIAL DE CALCULO/INITIAL CALCULUS WEIGHT :			86.97
TAMIZ/SIEVE	P. RET./RET.W.	%RET./RETAINED %	%PASA/PASSED
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 4	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	0.00	0.0	100.0
No. 200	3.96	4.6	95.4

5.-CLASIFICACION/CLASIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	5
FINOS/FINES	95

LL/LL	71.0
LP/PL	41.0
IP/PI	30.0
U%	23.3

SUCS	MH
AASHTO	A-7-5
IG(86)	38
IG(45)	20

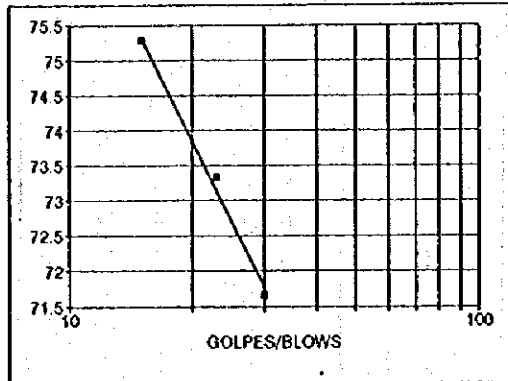


HIDROSUELOS CIA. LTDA.

ENSAYOS DE CLASIFICACION/CLASIFICATION TEST

PROYECTO/PROJEC TRASURSES/TRANSASINS				MUESTRA No./SAMPLE M-2	
				PROFUNDIDAD/DEPTH: 2.00-3.0	
UBICACION/SITE: C-17	FECHA/DATE DIC./93	ENSAYADO/TESTED: G.S.	CALCULO/CALCULATED F.U.		

	No. DE GOLPES No. OF BLOWS	PESO HUMEDO WET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	W %	MEDIA AVERAGE
1.-HUMEDAD/MOISTURE		55.90 68.90	47.68 57.72	18.89 18.67	28.55 28.63	28.59
2.-LIM.LIQUIDO/LIQUID LIMIT	30 23 15	26.22 26.53 24.61	20.33 20.26 19.25	12.11 11.71 12.13	71.65 73.33 75.28	72.71
3.-LIM.PLASTICO/PLASTIC LIMIT		10.39 10.03 10.06	8.85 8.61 8.62	5.36 5.43 5.36	44.13 44.65 44.17	44.32



4.- GRANULOMETRIA/SIEVE ANALYSIS			
P.IN./IN.WEIGHT	107.28	(M/S)	H
PESO INICIAL DE CALCULO/INITIAL CALCULUS WEIGHT :			83.
TAMIZ/SIEVE	P.RET./RET.W.	%RET./RETAINED %	%PASA/PASS
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 4	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	0.00	0.0	100.0
No. 200	0.66	0.8	99.2

5.-CLASIFICACION/CLASIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	1
FINDS/FINES	99

LL/LL	73.0
LP/PL	44.0
IP/PI	29.0
W	28.6

SUCS	MH
AASHTO	A-7-E
IG(86)	39
IG(45)	20

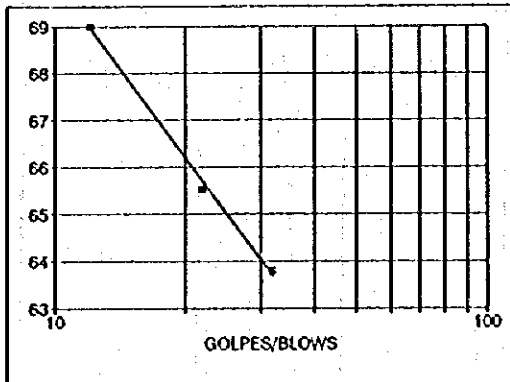


HIDROSUELOS CIA. LTDA.

ENSAYOS DE CLASIFICACION/CLASIFICATION TEST

PROYECTO/PROJEC TRASFURSES/TRANBASINS			MUESTRA No./SAMPLE M-1	
UBICACION/SITE: C-18			FECHA/DATE: DIC./93	ENSAYADO/TESTED: G.S.
			PROFUNDIDAD/DEPTH: 0.30-1.60m	
			CALCULO/CALCULATED F.U.	

	No. DE GOLPES No. OF BLOWS	PESO HUMEDO WET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	W %	MEDIA AVERAGE
1.-HUMEDAD/MOISTURE		61.96	54.32	18.45	21.30	21.74
		62.91	54.86	18.57	22.18	
2.-LIM.LIQUIDO/LIQUID LIMIT	32	28.37	22.08	12.22	63.79	65.02
	22	24.45	19.43	11.77	65.54	
	12	28.50	21.78	12.04	68.99	
3.-LIM.PLASTICO/PLASTIC LIMIT		9.32	8.26	5.31	35.93	35.05
		15.63	14.72	12.13	35.14	
		9.65	8.58	5.44	34.08	



4.- GRANULOMETRIA/SIEVE ANALYSIS			
P. IN./IN. WEIGHT	114.38		(G/S) H
PESO INICIAL DE CALCULO/INITIAL CALCULUS WEIGHT :			93.95
TAMIZ/SIEVE	P. RET./RET.W.	%RET./RETAINED %	%PASA/PASSED
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 4	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	0.63	0.7	99.3
No. 200	4.47	4.8	95.2

5.-CLASIFICACION/CLASIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	5
FINOS/FINES	95

LL/AL	65.0
LP/PL	35.0
IP/PI	30.0
W _p	21.7

SUCS	MH
AASHTO	A-7-5
IG (86)	36
IG (45)	20

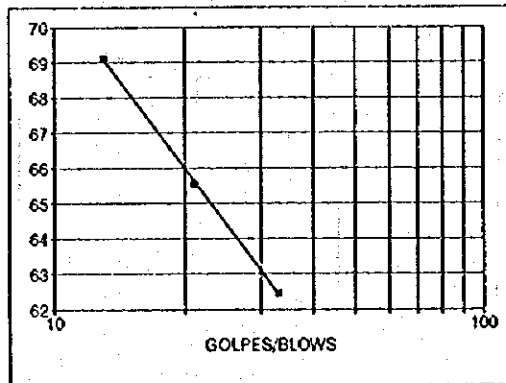


HIDROSUELOS CIA. LTDA.

ENSAYOS DE CLASIFICACION/CLASIFICATION TEST

PROYECTO/PROJEC	TRASUASES/TRANSASINS			MUESTRA No./SAMPLE	M-2
				PROFUNDIDAD/DEPTH:	2.00-3.5
UBICACION/SITE:	C-18	FECHA/DATE	DIC./93	ENSAYADO/TESTED:	G.S.
				CALCULO/CALCULATED	F.U.

	No. DE GOLPES No. OF BLOWS	PESO HUMEDO WET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	W %	MEDIA AVERAGE
1.-HUMEDAD/MOISTURE		60.34	51.72	17.84	25.44	
		66.62	57.10	19.77	25.50	25.47
2.-LIM.LIQUIDO/LIQUID LIMIT	33	22.93	18.67	11.85	62.46	
	21	23.40	18.93	12.11	65.54	
	13	25.98	19.27	9.56	69.10	
						64.40
3.-LIM.PLASTICO/PLASTIC LIMIT		16.57	15.38	12.10	36.28	
		8.96	8.00	5.33	35.96	
		15.98	14.94	12.07	36.24	36.16



4.- GRANULOMETRIA/SIEVE ANALYSIS			
P. IN./IN. WEIGHT	101.05	(G.S)	H
PESO INICIAL DE CALCULO/INITIAL CALCULUS HEIGHT :			80.5
TAMIZ/SIEVE	P. RET./RET.W.	%RET./RETAINED %	%PASA/PASS
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 4	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	0.00	0.0	100.0
No. 200	4.00	5.0	95.0

5.-CLASIFICACION/CLASIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	5
FINOS/FINES	95

LL/LL	64.0
LP/PL	36.0
IP/PI	28.0
Wp	25.5

SUCS	MH
AASHTO	A-7-5
IG(86)	34
IG(45)	19

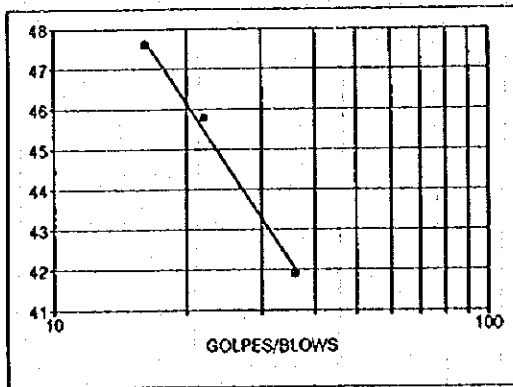


HIDROSUELOS CIA. LTDA.

ENSAYOS DE CLASIFICACION/CLASIFICATION TEST

PROYECTO/PROJEC TRASASES/TRANSASINS				MUESTRA No./SAMPLE	H-1
				PROFUNDIDAD/DEPTH:	1.10-1.20m
UBICACION/SITE:	C-19	FECHA/DATE	DIC./93	ENSAYADO/TESTEEO:	G.S.
				CALCULO/CALCULATED	F.U.

	No. DE GOLPES No. OF BLOWS	PESO HUMEDO WET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	W %	MEDIA AVERAGE
1.-HUMEDAD/MOISTURE		63.12	54.18	17.44	24.33	24.26
		53.68	46.85	18.60	24.18	
2.-LIM.LIQUIDO/LIQUID LIMIT	36	27.03	22.38	11.28	41.89	
	22	28.37	23.27	12.13	45.78	44.57
	16	24.10	19.41	9.56	47.61	
3.-LIM.PLASTICO/PLASTIC LIMIT		10.24	9.37	5.35	21.64	21.54
		8.74	8.14	5.36	21.58	
		9.46	8.75	5.43	21.39	



4.- GRANULOMETRIA/SIEVE ANALYSIS			
P. IN./IN.WEIGHT	111.42	(G/S)	H
PESO INICIAL DE CALCULO/INITIAL CALCLULUS WEIGHT :			89.67
TAMIZ/SIEVE	P. RET./RET.W.	%RET./RETAINED %	%PASA/PASSED
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 4	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	0.00	0.0	100.0
No. 200	0.68	0.8	99.2

5.- CLASIFICACION/CLASIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	1
FINOS/FINES	99

LL/LL	45.0
LP/PL	22.0
IP/PI	23.0
Wp	24.3

SUCS	CL
AASHTO	A-7-6
IG(86)	25
IG(45)	11

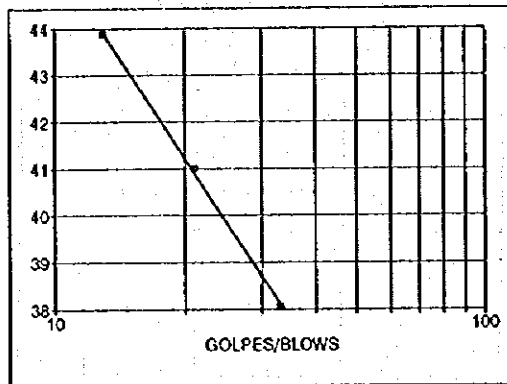


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ENSAYOS DE CLASIFICACION/CLASIFICATION TEST

PROYECTO/PROJEC	TRASARSES/TRANSASINS			MUESTRA No./SAMPLE	M-2
UBICACION/SITE:	C-19	FECHA/DATE	DIC./93	ENSAYADO/TESTED:	G. S.
				CALCULO/CALCULATCO	F. U.

	No. DE GOLPES No. OF BLOWS	PESO HUMEDO WET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	W %	MEOTA AVERAGE
1.-HUREDAO/MOISTURE		64.71 74.96	56.19 64.29	19.69 19.10	23.34 23.61	23.48
2.-LIM. LIQUIDO/LIQUID LIMIT	33 21 13	24.30 25.94 30.21	20.94 21.95 24.69	12.11 12.22 12.11	38.05 41.01 43.88	39.83
3.-LIM. PLASTICO/PLASTIC LIMIT		9.61 17.30 11.40	8.87 16.40 10.36	5.36 12.12 5.45	21.08 21.03 21.18	21.10



4.- GRANULOMETRIA/SIEVE ANALYSIS			
P. IN./IN. WEIGHT	135.40	(G/S)	H
PESO INICIAL DE CALCULO/INITIAL CALCULUS WEIGHT :			109.66
TAMIZ/SIEVE	P. RET./RET. W.	% RET./RETAINED %	% PASA/PASSED
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 4	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	3.12	2.8	97.2
No. 200	46.57	42.5	57.5

5.- CLASIFICACION/CLASIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	42
FINOS/FINES	58

LL/LL	40.0
LP/PL	21.0
IP/PI	19.0
U _c	23.5

SUCS	CL
AASHTO	A-6
IG(86)	8
IG(45)	8

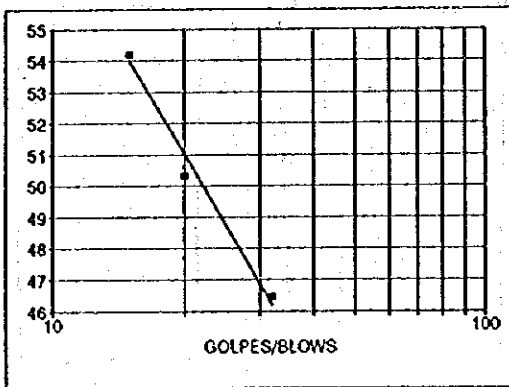


HIDROSUELOS CIA. LTDA.

ENSAYOS DE CLASIFICACION/CLASIFICATION TEST

PROYECTO/PROJEC	TRASVASES/TRANSASINS			MUESTRA No. /SAMPLE	M-1
				PROFUNDIDAD/DEPTH:	0.35-1.10m
UBICACION/SITE:	C-20	FECHA/DATE	DIC./93	ENSAYADO/TESTED:	G.S.
				CALCULO/CALCULATED	F.U.

	No. DE GOLPES No. OF BLOWS	PESO HUMEDO WET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	w %	MEDIA AVERAGE
1.-HUMEDAD/MOISTURE		57.10	49.21	18.51	25.70	25.71
		52.45	45.24	17.20	25.71	
2.-LIM.LIQUIDO/LIQUID LIMIT	32	20.22	17.54	11.77	46.45	48.73
	20	23.50	19.70	12.15	50.33	
	15	25.14	20.63	12.31	54.21	
3.-LIM.PLASTICO/PLASTIC LIMIT		16.54	15.50	12.15	31.04	31.20
		15.84	14.95	12.10	31.23	
		9.71	8.67	5.35	31.33	



4.- GRANULOMETRIA/SIEVE ANALYSIS			
P.IN./IN.WEIGHT	104.48	(G/S)	H
PESO INICIAL DE CALCULO/INITIAL CALCULUS WEIGHT :			83.11
TAMIZ/SIEVE	P.RET./RET.W.	%RET./RETAINED %	%PASA/PASSED
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 4	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	0.41	0.5	99.5
No. 200	16.88	20.3	79.7

5.-CLASIFICACION/CLASIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	20
FINOS/FINES	80

LL/LL	49.0
LP/PL	31.0
IP/PI	18.0
w%	25.7

SUCS	ML
AASHTO	A-7-5
IG(86)	16
IG(45)	13

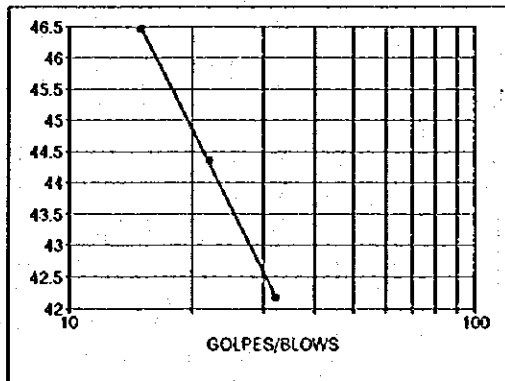


HIDROSUELOS CIA. LTDA.

ENSAYOS DE CLASIFICACION/CLASIFICATION TEST

PROYECTO/PROJEC	TRASUASES/TRANSASINS			MUESTRA No./SAMPLE	H-1		
					PROFUNDIDAD/DEPTH:	0, 40- 1, 00	
UBICACION/SITE:	C-21	FECHA/DATE	DIC./93	ENSAYADO/TESTED:	G.S.	CALCULO/CALCULATED	F.U.

	No. DE GOLPES No. OF BLOWS	PESO HUMEDO WET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	U %	MEDIA AVERAGE
1.-HUMEDAD/MOISTURE		56.91	50.75	17.88	18.74	
		64.65	57.47	18.93	18.63	18.69
2.-LIM. LIQUIDO/LIQUID LIMIT	32	26.06	21.91	12.07	42.17	
	22	26.96	22.43	12.22	44.37	
	15	27.27	22.46	12.11	46.47	
						43.60
3.-LIM. PLASTICO/PLASTIC LIMIT		10.10	9.05	5.35	28.38	
		9.32	8.44	5.36	28.57	
		9.45	8.57	5.43	28.03	
						28.33



4.- GRANULOMETRIA/SIEVE ANALYSIS			
P. IN./IN. HEIGHT	116.46	(G/S)	H
PESO INICIAL DE CALCULO/INITIAL CALCULUS HEIGHT :			98.1
TAMIZ/SIEVE	P. RET./RET.W.	%RET./RETAINED %	%PASA/PASSE
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 4	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	0.75	0.8	99.2
No. 200	49.00	49.9	50.1

5.- CLASIFICACION/CLASSIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	50
FINOS/FINES	50

LL/LL	44.0
LP/PL	28.0
IP/PI	16.0
W _p	18.7

SUCS	ML
AASHTO	A-7-6
16(86)	5
16(45)	5

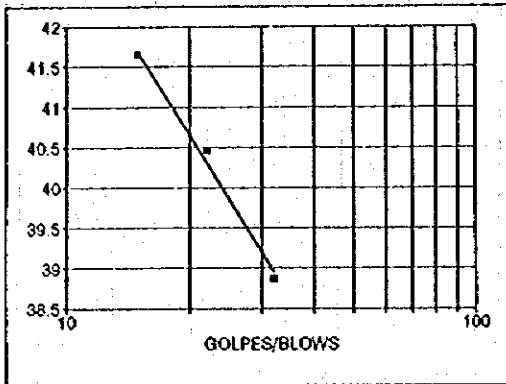


HIDROSUELOS CIA. LTDA.

ENSAYOS DE CLASIFICACION/CLASIFICATION TEST

PROYECTO/PROJEC	TRASUASES/TRANBASINS			MUESTRA No./SAMPLE	M-2
UBICACION/SITE:	C-21	FECHA/DATE	DIC./93	ENSAYADO/TESTED:	G.S.
				PROFUNDIDAD/DEPTH:	1. 10-2. 15m
				CALCULO/CALCULATED	F.U.

	No. DE GOLPES No. OF BLOWS	PESO HURECO NET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	W %	MEDIA AVERAGE
1.-HUREDAO/MOISTURE		58.30	49.95	18.45	26.51	26.66
		64.22	54.72	19.28	26.81	
2.-LIM.LIQUIDO/LIQUID LIMIT	32	25.45	21.73	12.16	38.87	39.84
	22	23.33	20.00	11.77	40.46	
	15	26.32	22.13	12.07	41.65	
3.-LIM.PLASTICO/PLASTIC LIMIT		10.17	9.28	5.37	22.76	22.45
		9.35	8.62	5.36	22.39	
		9.70	8.91	5.35	22.19	



4.- GRANULOMETRIA/SIEVE ANALYSIS			
P. IN./IN. WEIGHT	103.43	(G/S)	H
PESO INICIAL DE CALCULO/INITIAL CALCULUS WEIGHT :			81.66
TAMIZ/SIEVE	P. RET./RET. W.	%RET./RETAINED %	%PASA/PASSED
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 4	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	1.15	1.4	98.6
No. 200	10.16	12.4	87.6

5.-CLASIFICACION/CLASIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	12
FINOS/FINES	88

LL-LL	40.0
LP-PL	22.0
IP-PI	18.0
W%	26.7

SUCS	CL
AASHTO	A-6
IG(86)	16
IG(45)	11

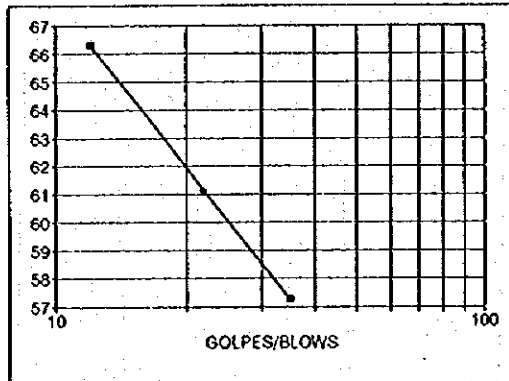


HIDROSUELOS CIA. LTDA.

ENSAYOS DE CLASIFICACION/CLASIFICATION TEST

PROYECTO/PROJEC	TRASMASES/TRANSASINS			MUESTRA NO./SAMPLE	M-2
				PROFUNDIDAD/DEPTH:	1.00-2.35
UBICACION/SITE:	C-22	FECHA/DATE	DIC./93	ENSAYADO/TESTEO:	G.S.
				CALCULO/CALCULATED	F.U.

	No. DE GOLPES No. OF BLOWS	PESO HUMEDO WET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	W %	NOTA AVERAGE
1.-HUMEDAD/MOISTURE		61.34	52.27	18.48	26.84	27.28
		66.06	55.87	19.10	27.71	
2.-LIM.LIQUIDO/LIQUID LIMIT	35	27.21	21.73	12.16	57.26	60.07
	22	25.86	20.68	12.20	61.08	
	12	27.00	21.00	11.95	66.30	
3.-LIM.PLASTICO/PLASTIC LIMIT		9.84	8.83	5.36	29.11	28.61
		15.87	15.05	12.12	27.99	
		15.65	14.88	12.20	28.73	



4.- GRANULOMETRIA/SIEVE ANALYSIS			
P. IN./IN. WEIGHT	109.10	(H/S)	H
PESO INICIAL DE CALCULO/INITIAL CALCULUS WEIGHT :			85.7
TAMIZ/SIEVE	P. RET./RET.W.	%RET./RETAINED %	%ASA/PASSE
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 4	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	0.00	0.0	100.0
No. 200	44.08	51.4	48.6

5.-CLASIFICACION/CLASIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	51
FINOS/FINES	49

LL/LL	60.0
LP/PL	29.0
IP/PI	31.0
W _L	27.3

SUCS	SC
AASHTO	A-7-6
16(86)	11
16(45)	11

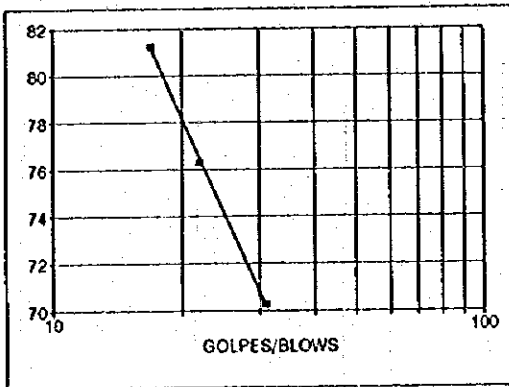


HIDROSUELOS CIA. LTDA.

ENSAYOS DE CLASIFICACION/CLASIFICATION TEST

PROYECTO/PROJEC TRASURSES/TRANBASINS			MUESTRA No./SAMPLE M-2	
			PROFUNDIDAD/DEPTH: 2.00-2.80m	
UBICACION/SITE: C-23	FECHA/DATE DIC./93	ENSAYADO/TESTED: G.S.	CALCULO/CALCULATED F.U.	

	No. DE GOLPES No. OF BLOWS	PESO HUMEDO WET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	w %	MEDIA AVERAGE
1.-HUMEDAD/MOISTURE		59.26	48.43	19.69	37.68	37.71
		59.51	48.17	18.12	37.74	
2.-LIM.LIQUIDO/LIQUID LIMIT	31	25.41	19.93	12.13	70.26	74.13
	22	24.28	19.00	12.08	76.30	
	17	28.10	21.00	12.26	81.24	
3.-LIM.PLASTICO/PLASTIC LIMIT		8.57	7.92	5.45	26.32	29.57
		9.47	8.48	5.32	31.33	
		9.69	8.68	5.43	31.08	



1.- GRANULOMETRIA/SIEVE ANALYSIS			
P. IN./IN. WEIGHT	103.61	g/s)	H
PESO INICIAL DE CALCULO/INITIAL CALCULUS HEIGHT :			75.24
TAMIZ/SIEVE	P. RET./RET. W.	%RET./RETAINED %	%PASA/PASSED
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 4	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	0.00	0.0	100.0
No. 200	1.49	2.0	98.0

5.-CLASIFICACION/CLASIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	2
FINOS/FINES	98

LL/LL	74.0
LP/PL	30.0
IP/PI	44.0
w%	37.7

SUCS	CH
AASHTO	A-7-5
IG(86)	52
IG(45)	20

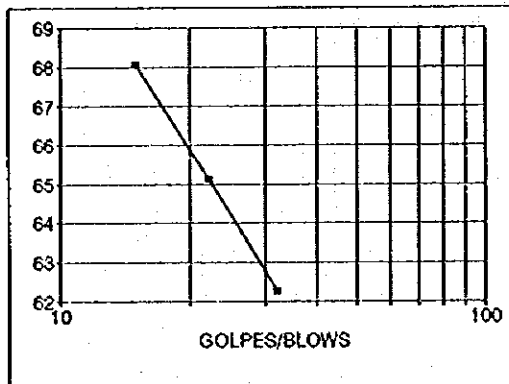


HIDROSUELOS CIA. LTDA.

ENSAYOS DE CLASIFICACION/CLASIFICATION TEST

PROYECTO/PROJEC	TRANSVASES/TRANSBASINS			MUESTRA No./SAMPLE	H-2		
					PROFUNDIDAD/DEPTH:	2.50-3.5	
UBICACION/SITE:	C-24	FECHA/DATE	DIC./93	ENSAYADO/TESTED:	G.S.	CALCULO/CALCULATED	F.U.

	No. DE GOLPES No. OF BLOWS	PESO HUMEDO WET WEIGHT	PESO SECO DRY WEIGHT	PESO CAPSULA CAN WEIGHT	W %	MEDIA AVERAGE
1.-HUMEDAD/MOISTURE		55.35	42.00	18.63	57.12	57.66
		57.00	42.82	18.47	58.23	
2.-LIM.LIQUIDO/LIQUID LIMIT	32	26.84	21.36	12.56	62.27	64.16
	22	25.46	20.06	11.77	65.14	
	15	25.27	22.35	18.06	68.07	
3.-LIM.PLASTICO/PLASTIC LIMIT		15.78	14.87	12.01	31.82	32.14
		9.76	8.74	5.52	31.68	
		9.85	8.76	5.45	32.93	



4.- GRANULOMETRIA/SIEVE ANALYSIS			
P. IN./IN. WEIGHT	105.66	(G/S)	H
PESO INICIAL DE CALCULO/INITIAL CALCULUS WEIGHT :			67.
TAMIZ/SIEVE	P. RET./RET.W.	%RET./RETAINED %	%PASA/PASS
1"	0.00	0.0	100.0
3/4"	0.00	0.0	100.0
1/2"	0.00	0.0	100.0
3/8"	0.00	0.0	100.0
No. 4	0.00	0.0	100.0
No. 10	0.00	0.0	100.0
No. 40	0.23	0.3	99.7
No. 200	7.00	10.4	89.6

5.-CLASIFICACION/CLASIFICATION	
GRAVA/GRAVEL	0
ARENA/SAND	10
FINOS/FINES	90

LL/LL	64.0
LP/PL	32.0
IP/PI	32.0
U _c	57.7

SUCS	MH
AASHTO	A-7-5
16(86)	34
16(45)	20



0

UNDISTURBED SAMPLE

0

0

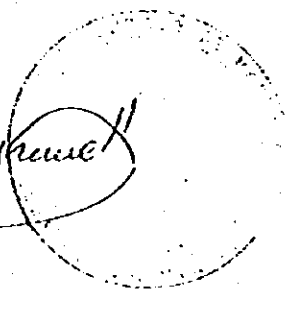
REPUBLICA ARGENTINA NACIONAL
SECRETARIA DE JUSTICIA CIVIL
SECRETARIA DE JUSTICIA DE FAMILIA

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ESTADO LIBRE ASOCIADO DE PUERTO RICO
TRIBUNAL DE JUSTICIA CIVIL
CIRCUITO DE LOS REYES

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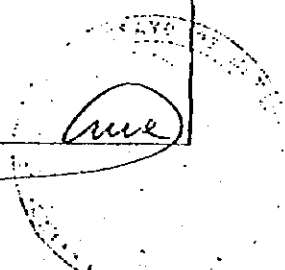
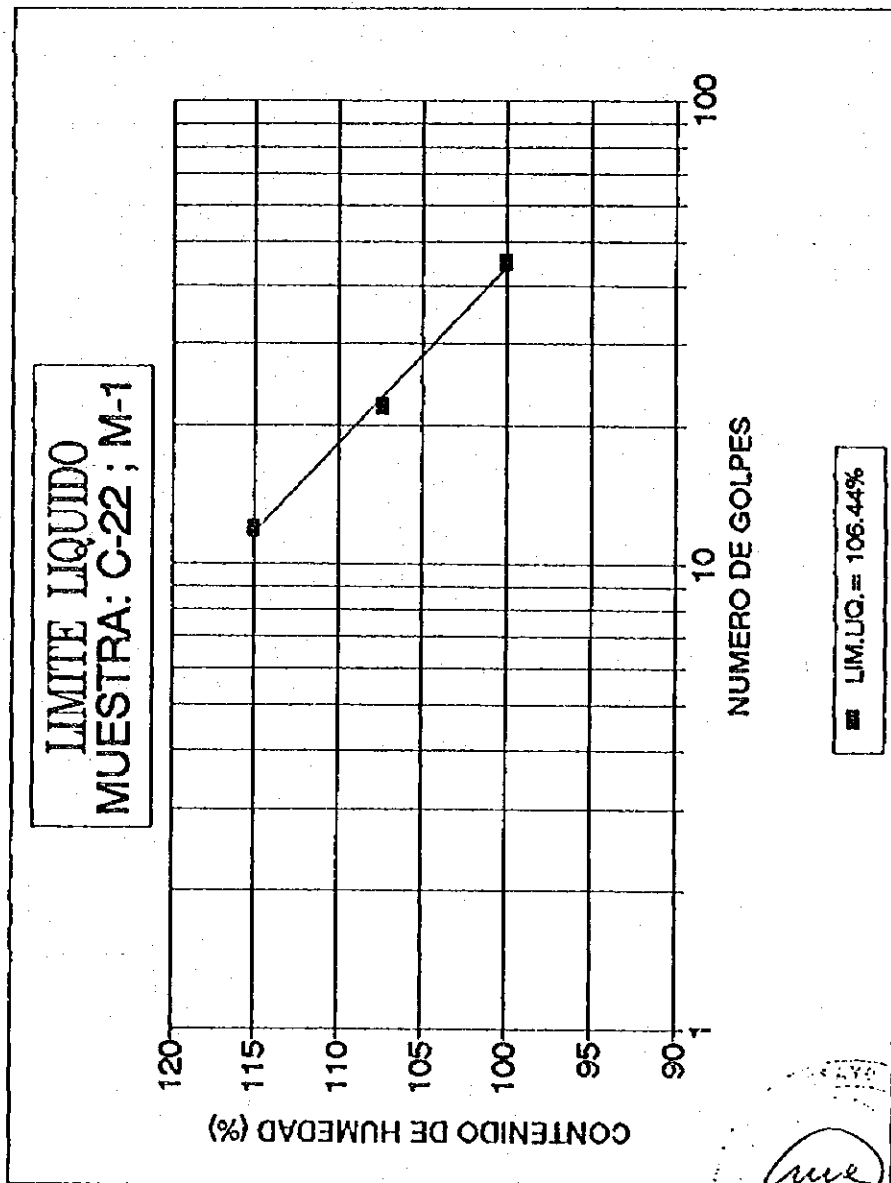
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PROYECTO "TRASVASES MANABI"

ENVID 2
SONDEO:
MUESTRA:
PROFUNDIDAD:

C-22
BLOQUE M-1
Ø.60-Ø.90



ESCUELA POLITECNICA NACIONAL
 FACULTAD DE INGENIERIA CIVIL
 LABORATORIO DE MECANICA DE ROCAS

PROYECTO "TRASVASES MANABI"

ENVIO 2
 SOLICITADO POR: HIDROSUELOS
 SONDEO: C-23
 MUESTRA: BLOQUE M-1

 PROFUNDIDAD: 1.20-1.50

LIMITE LIQUIDO						
CAPSULA No.	No. GOLFES	PESO HUMEDO	PESO SECO	PESO CAPSULA	% HUMEDAD	
6	40	22.50	15.81	9.68	107.73	
8	30	22.40	14.88	6.60	111.23	
36	21	23.20	15.88	9.62	116.93	
5	12	23.44	15.79	9.67	125.00	
LIMITE PLASTICO						
22		13.48	12.14	9.46	58.00	
38		13.85	12.31	9.37	52.38	

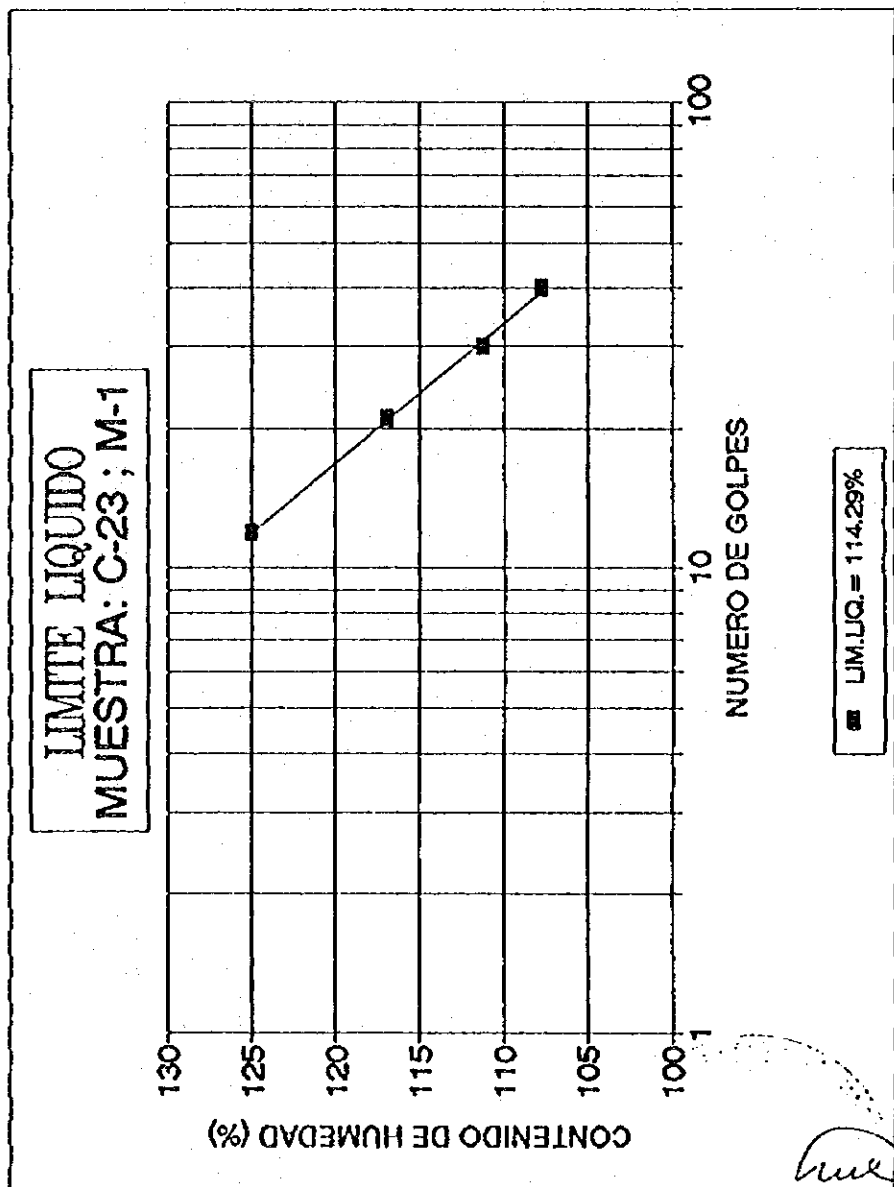
RESUMEN DE RESULTADOS: SUCS: CH LP = 51.19
 LL = 114.29 IP = 63.10

Diana Luna
 Ing. Germán Luna H.
 JEFE DE LABORATORIO

PROYECTO "TRASVASES MANABI"

ENVIO 2
SONDEO:
MUESTRA:
PROFUNDIDAD:

C-23
BLOQUE M-1
1.20-1.50



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PROYECTO "TRASVASES MANABI"

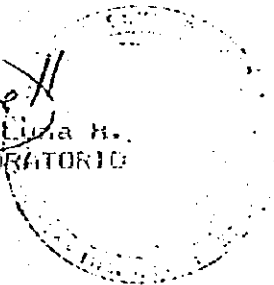
ENVIO 2
SOLICITADO POR:
SONDEO:
MUESTRA:
PROFUNDIDAD:

HIDROSUELOS
C-24
BLOQUE M-1
1.50-180

LINITE LIQUIDO					
CAPSULA No.	No. GOLPES	PESO HUNEDO	PESO SECO	PESO CAPSULA	% HUMEDAD
20	28	24.90	17.84	9.62	85.89
19	14	24.08	17.06	9.62	94.35
35	8	25.11	17.26	9.66	103.29
LINITE PLASTICO					
46		13.27	12.14	9.56	44.57
39		13.47	12.32	9.68	43.56

RESUMEN DE RESULTADOS: SUCS: CH LP = 44.07
 LP = 43.04
 87.11

Ing. German Lina H.
JEFE DE LABORATORIO

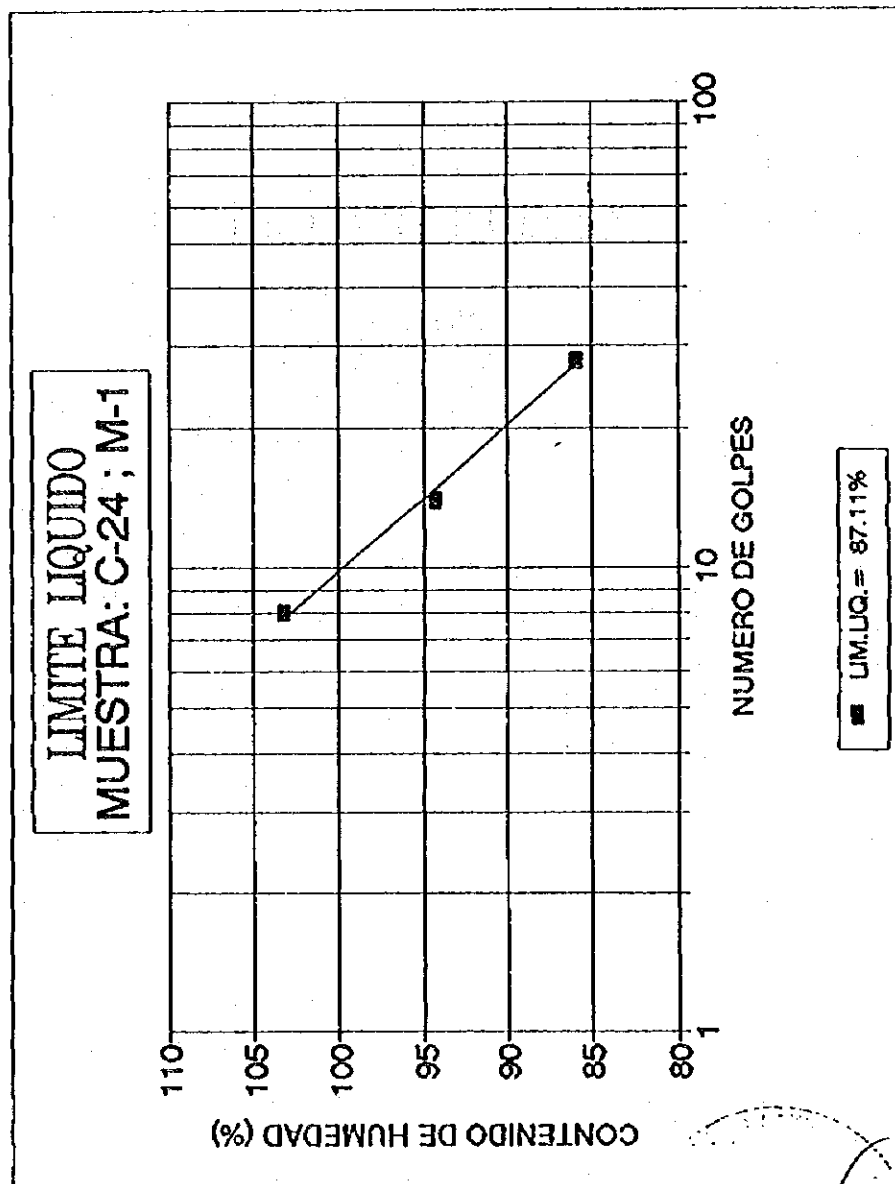


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PROYECTO "TRASVASES MANABI"

ENVIO 2
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live