No. 51

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

MINISTRY OF SETTLEMENT AND REGIONAL DEVELOPMENT THE REPUBLIC OF INDONESIA

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

FINAL REPORT

WORLDOWN NICHTSHIP THOUSEN



AUGUST 2000

CTI ENGINEERING INTERNATIONAL CO., LTD.
IN ASSOCIATION WITH
PACIFIC CONSULTANTS INTERNATIONAL
AND
PASCO INTERNATIONAL INC.

558

JR

00-105

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

MINISTRY OF SETTLEMENT AND REGIONAL DEVELOPMENT THE REPUBLIC OF INDONESIA

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

FINAL REPORT

COMPONENT B:
JATIBARANG MULTIPURPOSE DAM CONSTRUCTION

VOLUME III DESIGN NOTES

AUGUST 2000

CTI ENGINEERING INTERNATIONAL CO., LTD.
IN ASSOCIATION WITH
PACIFIC CONSULTANTS INTERNATIONAL
AND
PASCO INTERNATIONAL INC.



()

CONSTITUTION OF THE REPORT

- 1. SUMMARY
- 2. COMPONENT A: WEST FLOODWAY/GARANG RIVER IMPROVEMENT

VOLUME I MAIN REPORT

VOLUME II DESIGN CRITERIA

VOLUME III DESIGN NOTES

VOLUME IV WORK QUANTITY CALCULATION

VOLUME V CONSTRUCTION PLANNING

VOLUME VI COST ESTIMATE

VOLUME VII DATA BOOK

3. COMPONENT B: JATIBARANG MULTIPURPOSE DAM CONSTRUCTION

VOLUME I MAIN REPORT

VOLUME II DESIGN CRITERIA

VOLUME III DESIGN NOTES

VOLUME IV WORK QUANTITY CALCULATION

VOLUME V CONSTRUCTION PLANNING

VOLUME VI COST ESTIMATE

VOLUME VII DATA BOOK

VOLUME VIII ANNEX

4. COMPONENT C: URBAN DRAINAGE SYSTEM IMPROVEMENT

VOLUME I MAIN REPORT

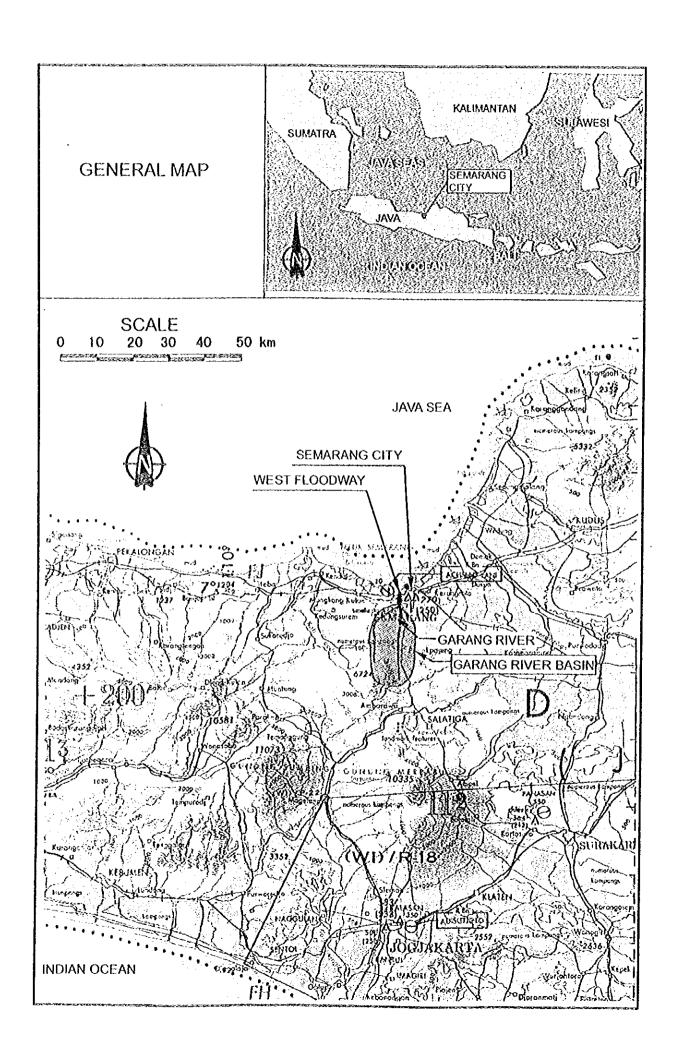
VOLUME II DESIGN NOTES

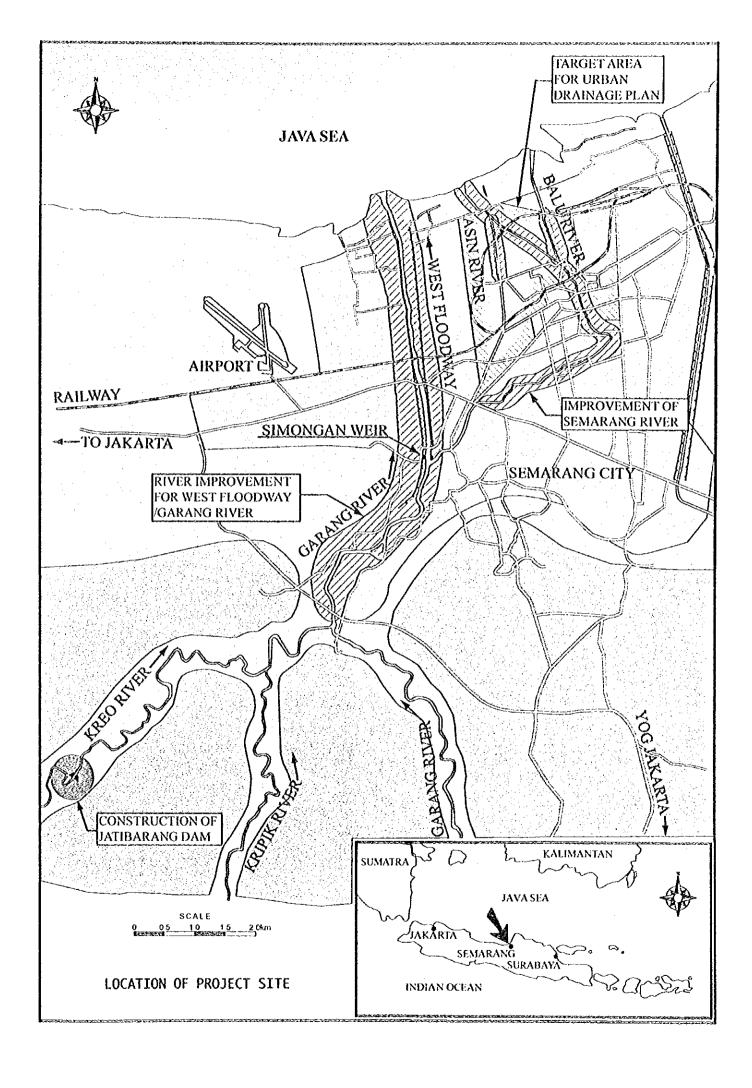
VOLUME III WORK QUANTITY CALCULATION

VOLUME IV CONSTRUCTION PLANNING

VOLUME V COST ESTIMATE

VOLUME VI DATA BOOK





VOLUME III DESIGN NOTES

TABLE OF CONTENTS

GENERAL N	1AP	
LOCATION	OF PROJECT SITE	
		Page
CHAPTER 1		1 - 1
CHAPTER 2		
2.1		. 2-1-1
2.2	Dam Embankment	. 2-2-1
2.3	Gallery	2-3-1
2.4	Spillway	
	2.4.1 Design Conditions	2-4-1
	2.4.2 Stability Analysis	2-4-5
	2.4.3 Structural Culculation	2-4-57
2.5	Diversion Tunnel	2-5-1
2.6		2-6-1
2.7	Gate Structure	2-7-1
	2.7.1 Bulkhead Gate	2-7-1
	2.7.2 Emergency Gate	2-7-30
	2.7.3 Trash Rack for Bulkhead Gate	2-7-53
	2.7.4 Trash Rack for Emergency Gate	2-7-59
		2-7-69
	2.7.6 Control Gate (\$\phi\$ 0.65 m)	4
	2.7.7 Control Gate (\$\phi\$ 0.25 m)	2-7-102
	2.7.8 Guard Gate (\$ 0.65 m)	
	2.7.9 Guard Gate (\$ 0.25 m)	2-7-120
2.8	Trash Boom	4 1 2 1 1
	2.8.1 Components and Materials	2-8-1
	2.8.2 Design Condition.	2-8-1
	2.8.3 Design Calculation	2-8-2

CHAPTER 3 POWERHOUSE

	3.1	Scope	or Design	. 3-1-1
	3.2	Main F	Catures	3-2-1
	3.3	Geolog	ical Condition in the Powerhouse Area	
	3.4	Effecti	ve Head	3-4-1
		3.4.1	Reservoir Water Level	
1 1 1		3.4.2	Computation of Head Loss	3-4-2
		3.4.3	Effective Head	3-4-22
	3.5	Power	and Power Generation	3-5-1
	3.6	Design	of Penstock	3-6-1
	*********	3.6.1		3-6-1
		3.6.2	Design of Penstock.	3-6-31
		3.6.3	Design of Concrete Lining for Steel Pipe	3-6-33
	3.7	Structu	ral Design of Powerhouse	3-7-1
		3.7.1	Stability of Powerhouse	3-7-1
		3.7.2	Structural Analysis	3-7-50
Market .	3.8	Design	of Tailrace Structures	3-8-1
1.75.3	in de la company. La company		Design of Tailrace	A CONTRACTOR
		3.8.2	化二氯甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基	3-8-4
		3.8.3		3-8-9
		3.8.4		3-8-15
~ ****			사용 기업을 가장 되었다. 그 사람들은 사용 기업을 하는 것이 되었다. 사용 기업을 하는 사용 기업을 하는 사용 기업을 가장 기업을 하는 것이 되었다.	
CHAPT	EK 4	ВР		
	4.1	Design	Calculation of Siwarak Bridge	4-1-1
	i Takaniya		of Approach Bridge to Goa Kreo	
	4.2	4.2.1	Design of Superstructure	
		4.2.2	Design of Sub-Structure	
		T. <i>t.</i> .6		4-4-0
СНАРТ	ER 5	AF	RCHITECTURAL DESIGN	
	5.1	1 St. 6	of Dam Mnagement Complex	
		5.1.1	Administration Building Structural Calculation	the following
		5.1.2	Staff House 1 (Guest House) Structural Calculation	3-1-35

	5.1.3	Staff House 2 Structural Calculation	5-1-46
	5.1.4	Mushola Structural Calculation	5-1-59
5.2	Design	of Upper Structure of Hydropower Station	5-2-1
5.3	Design	of Garage	5-3-1

Chapter 1 GENERAL

CHAPTER 1 GENERAL

(2)

Jatibarang Multipurpose Dam planned on Kreo River is located in the southwest of Semarang City at about 13 km upstream from the confluence of Garang River. It will primarily function flood control, public water supply of Semarang City and hydropower generation.

Detailed discussion on selection of dam type has been given in VOLUME I Main Report. Based on the technical appraisal as well as construction cost, the center core rockfill type was found the most suitable for Jatibarang Multipurpose Dam. It was discussed between JICA Study Team and Indonesian Government and accepted by Indonesian Government in the Meeting held on 23 February 1999 in Jakarta.

This report (VOLUME III Design Notes) presents the structural calculation for the detailed design of Jatibarang Multipurpose Dam in accordance with the design criteria, which contain the codes/design standards, formulas, properties of structural materials, safety factors to be adopted for stability analysis and structural details.

The features are summarized hereinafter.

Water Use Capacity

(1) Dam and Reservoir

Reservoir

53.0 km² Catchment Area 1.10 km² Reservoir Surface Area EL. 155.300 m Maximum Water Surface EL. 151.800 m Surcharge Water Surface Normal Water Surface EL. 148.900 m EL. 136.000 m Low Water Surface 20,400,000 m³ **Gross Storage Capacity** 13,600,000 m³ Effective Storage Capacity 3,100,000 m³ Flood Control Capacity

Sediment Capacity : 6,800,000 m³

10,500,000 m³

Dam

Dam Height above Foundation : 77.0 m

Crest Elevation : EL. 157.000 m

Foundation Elevation : EL. 80,000 m

Crest Length : 200.0 m

Crest Width : 10.0 m

Upstream Slope : 1:2.6

Downstream Slope : 1:1.8

(2) Spillway

Design Flood

Probable Maximum Flood : 1,600 m³/s (inflow into the reservoir)

()

100-year Probability : 290 m³/s (inflow into the reservoir)

Design Discharge for Energy Dissipater: 340 m³/s (100-year probable flood)

Design Discharge for Sidewall Height : 1,310 m³/s (PMF outflow from reservoir)

Overflow Crest (Service Spillway)

Crest Elevation : EL. 148.900 m

Crest Length : 15.0 m

Overflow Crest (Emergency Spillway)

Crest Elevation : EL. 151.800 m

Total Crest Length : 60.0 m

Total Length of Spillway : 307 m

Stilling Basin : 24.0 m wide x 60.0 m long

Spillway Bridge (PC Girder Type) : 5.0 m wide x 23.94 m long

(3) Outlet Facilities

Maximum Design Discharge : 6.0 m³/s

Minimum Design Discharge : 0.26 m³/s

Intake Structure : Inclined Type

Bulkhead Gate : Clear Span 2.0 m x Clear Height 1.4 m

Stable Daniel

Emergency Gate : Clear Span 2.0 m x Clear Height 1.4 m

Steel Outlet Pipe : 393 m long x 1.4 m dia.

Control Gate : 650 and 250 mm dia.

(4) Diversion Facilities

Design Discharge : 280 m³/s (25-year probable flood)

Tunnel Section : Horseshoe with the diameter of 5.6 m

Longitudinal Gradient : 1/30

Tunnel Length : 441 m

Tunnel Inlet Elevation : EL. 98.500 m

Crest of Main Cofferdam : EL. 113.000 m

(5) Hydropower Generation

Maximum Plant Discharge : 3.0 m³/s

Maximum Gross head : 65.5 m

Installed Capacity : 1,560 kW

Number of Generator at Future Stage : No extension

Annual Energy Production : 6,020 MWh

(6) Dam Management Complex

Dam Administration Building : 594.010 m², 3 story

Staff House 1 (Guest House) : 74.416 m², 1 story

Staff House 2 : 49.110 m² x 4 units, 1 story

Mushola : 72.300 m², 1 story

(7) Hydropower Station Complex

Hydropower Station Buildig : 389.640 m², 2 story

Garage : 183.600 m², 1 story

Guard House : 14.275 m², 1 story

Chapter 2
D A M

2.1 General

This chapter presents results of structural design of Jatibarang Multipurpose Dam and its related facilities.

The studied facilities are mentioned hereunder.

- (a) Dam Embankment
- (b) Gallery
- (c) Spillway
- (d) Diversion Tunnel
- (e) Intake Structure
- (f) Gate Structure

2.2 Dam Embankment

2.2.1 Slope Stability Analysis of Dam Embankment

Loading Condition to be Considered

The varieties and combination of loads to be considered in embankment stability against sliding failure shall be determined in accordance with the reservoir water surface and seismic condition.

In principle, self weight, hydrostatic pressure, pore pressure and seismic body force shall be considered.

Load to be considered and the required safety factor for each condition of the dam are tabulated below:

all explain any professor and a second state

Case	Condition of Dam	Combination of Loads	Required Safety Factor
	Reservoir water level is at Normal Water Surface and seepage is steady.	Self weight Hydrostatic pressure Pore pressure 100 % of seismic body force	1.20
2	Reservoir water level is at Normal Water Surface and seepage is steady.	Self weight Hydrostatic pressure Pore pressure 0 % of seismic body force	1.50
3	Reservoir water level is at Maximum Water Surface	Self weight Hydrostatic pressure Pore pressure 0 % of seismic body force	1.20
4	Reservoir water level is being rapidly drawn down from Normal Water Surface to Low Water Surface and there is residual pore pressure	Self weight Hydrostatic pressure Residual pore pressure 100 % of seismic body force	1.1 0
: 5	Reservoir water level is being rapidly drawn down from Normal Water Surface to Low Water Surface and there is residual pore pressure.	Self weight Hydrostatic pressure Residual pore pressure 0 % of seismic body force	1.25
6	At the end of construction, there is residual pore pressure.	Self weight Pore pressure 50 % of seismic body force	1.20

Loads

(1) Self Weight

Self weight for analyzing the safety of the dam at the end of construction is calculated

based on the wet density of materials. Thus, those at the Maximum Water Surface and Low Water Surface of reservoir are estimated on the wet density and saturated density used for the portion above and below the seepage water line respectively.

()

Self weight will be calculated by following equation:

$$G = W V$$

Where,

G: self weight (tf)

W: wet or saturated density (tf/m³)

V : volume of dam body (m³)

(2) Hydrostatic Pressure

Hydrostatic pressure acts perpendicularly on the surface of the embankment and its value will be determined using the following equation:

$$P = W_0 h$$

Where,

P: hydrostatic pressure (tf/m²)

W_o: unit weight of water (1.0 tf/m³)

h : depth of water (m)

(3) Pore Pressure

Pore pressure is assumed to act perpendicularly on sliding faces and horizontally on the sides of a slice. In relation to the condition of the dam, three cases are considered in the calculation of pore pressure. At the end of construction, pore pressure is considered, which will be estimated by using 50 % of the self-weight above the point of the sliding face. At the Normal Water Surface, pore pressure that develops by seepage is considered (free surface of the seepage flow is explained in the next sub-clause). At rapid drawdown, residual pore pressure is considered.

(4) Seismic Body Force

For the seismic body force, the value of weight of the embankment multiplied by a seismic coefficient is applied and treated to act horizontally. The force can be calculated as follows:

 $G_k = G \cdot k$

Where,

G_k: seismic body force (tf)

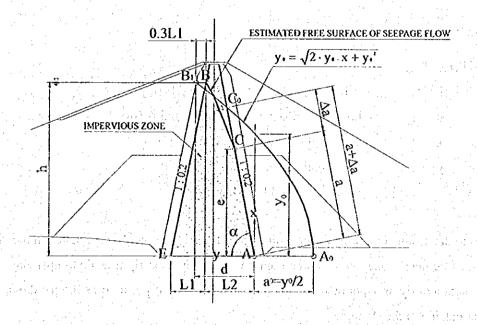
G: self weight (tf)

k : seismic coefficient

Seepage Flow in Dam Body

6 3

The pore pressures that exist within the impervious zone at any time are considered to be generated by gravity seepage flow. The seepage flow is estimated by Casagrande's method to clarify the pore pressure distribution in the impervious zone.



L1: horizontal distance between B and E (m)

L2: horizontal distance between B and A (m)

A: toe of downstream slope on pervious portion

A_o: origin of coordinate which is y₀/2 downstream from A

B: intersection of water level and upstream slope

B₁: the point located at 0.3 L1 upstream from B

Free Surface of Seepage Flow

According to A. Casagrande, the free surface of seepage flow (hereafter: top flow line) in the dam body (to be adequate distance from both upstream and downstream slopes) coincides with

standard parabola developed by J.S. Kozeny for a dam with downstream slope at 30° degree to the horizontal.

As shown in the figure, this parabola starts at point B_1 , slightly upstream of point B, while C_0 is obtained from the intersection of parabola with the downstream slope locates slightly higher than C, the actual breakout point of seepage on the downstream slope. The standard parabola concerned with the top flow line is as follows:

$$x = \frac{y^2 - y_o^2}{2y_o}, \quad \text{where } x = x + y_o^2$$

$$y = \sqrt{2y_o x + y_o^2}$$

$$y = \sqrt{2y_0 x + y_0^2}$$

$$y_o = \sqrt{h^2 + d^2} - d$$

Where.

vertical distance between A and B (m)

horizontal distance between B₁ and A (m)

vertical distance from A (m)

horizontal distance from A (m)

value estimated from h and d Уo

However, to determine the top flow line, some corrections to the parabola obtained in the above manner must be made. One, the entrance point to dam body, is at right angle to upstream slope that is simultaneously an equipotential line. Other, the breakout point so as the parabola, does not appear outside of the slope.

The top flow line (B-C-A) is obtained by corrections to the fundamental parabola (B₂-C₀-A₀) for which the entrance point is as described above and C is lowered to C₀ with slope of Δa. The Δa exhibits a different value according to the angle of slope on the discharge face (at breakout point) and can be found by the following equation.

$$a + \Delta a = \frac{y_0}{1 - \cos \alpha}$$

Where,

a : slope distance between point A and C (m)

Δa : slope distance between point Co and C (m) α : slope angle on discharge face (degree)

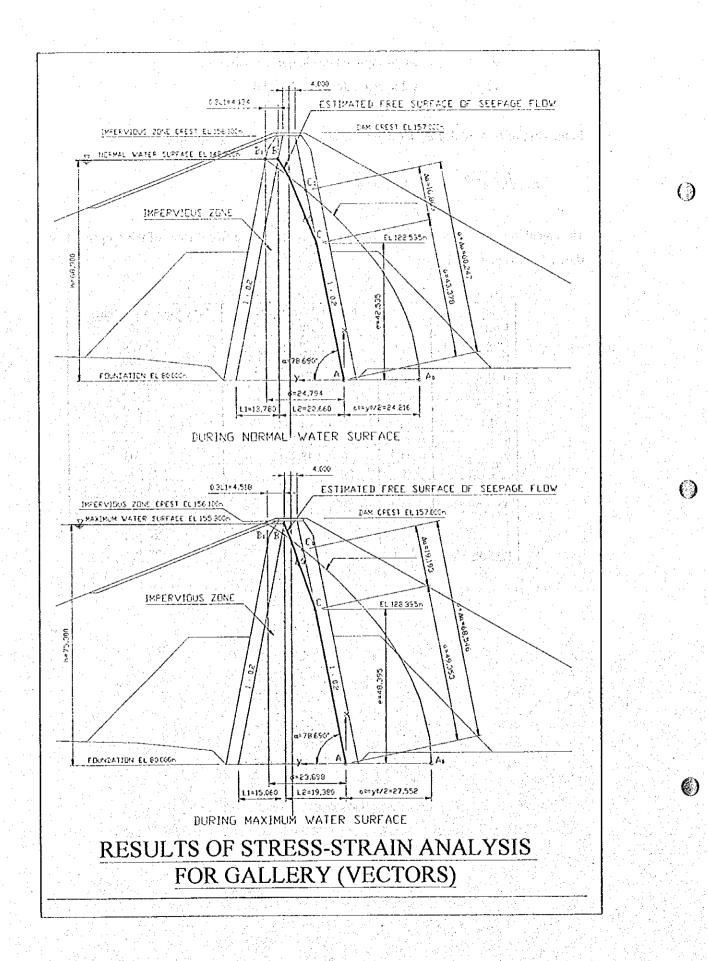
y₀ value estimated from h and d

In the case of α < 30 degree, a can be obtained by the following equation.

$$a = \sqrt{h^2 + d^2} - \sqrt{d^2 - h^2 \cot^2 \alpha}$$

The calculation results are given as follows and the estimated free surface of the seepage flow is shown in next page.

Symbol	Unit	Normal Water Surface	Maximum Water Surface
Upstream	EL. m	148.900	155,300
Downstream	EL. m	80.000	80.000
h	m	68.900	75,300
α	degree	78.690	78,690
L1	/ m	13.780	15.060
L2	m	20.660	19.380
0.3L1	m	4.134	4.518
d	m	24.794	23.898
y ₀	m	48,431	55.103
y₀/2	m	24.216	27.552
a+∆a	m	60.247	68.546
Δa	m	16.869	19.193
a	m	43.378	49.353
e	m	42.535	48.395
Elevation C	EL. m	122.535	128.395



Method of Stability Analysis

The stability analysis is carried out by slip circle method using the effective stress. The safety factor against sliding for an assumed circle is examined by the following equation:

$$SF = \frac{\Sigma \{C'*L + (N - U - Ne)* \tan \phi'\}}{\Sigma (T + Te)}$$

Where,

SF: safety factor

N : normal force acting on slip circle (tf/m)

T: tangential force acting on slip circle (tf/m)

U : pore pressure acting on slip circle (tf/m)

Ne : normal force of earthquake load acting on slip circle (tf/m)

Te : tangential force of earthquake load acting on slip circle (tf/m)

o': effective internal friction angle on slip circle (')

C' : effective cohesion on slip circle (tf/m)

L : arc length of slip circle (m)

Design Values of Each Zone

The design values of materials to be used in stability analysis are adopted from the limited test results on smaller samples. Cohesion and internal friction angle in terms of effective stresses are directly determined from the test results. Wet density and saturated density obtained from the laboratory tests can be converted into the design values considering a content ratio of a gravel coarser than the maximum size (19.0 mm) of samples in the laboratory. Estimated design values are given hereunder.

(1) Impervious Zone

Resulting from the laboratory tests, the design values of the impervious zone are estimated as follows.

No.	Item	Unit	Design Value
1	Average Specific Gravity (Gs)	tf/m³	2.72
2	Average Natural Moisture Content (W)	%	12.6
3	Dry Density (γ _d)	tt/m³	tata 42 mm 1.87 mm s
4	Wet Density (γ)	tf/m³	2.11
5	Saturated Density (75st)	tf/m³	2.19
6	Effective Internal Friction Angle (ϕ')	0	25.0
7	Effective Cohesion (C')	tf/m²	1.0

(2) Semi-pervious Zone

Resulting from the laboratory tests, the design values of the semi-pervious zone are estimated as follows.

				Design Val	ue
No.	ltem	Unit	Upstream	Down-stream (fine)	Down-stream (coarse)
1	Specific Gravity (Gs)	tľ/m³	2.56	2.58	2,54
2	Natural Water Content (W)	%	1.6	2.0	1.0
3	Dry Density (γ _d)	tf/m³	2.08	1.86	1.92
4	Wet Density (γ _ι)	tf/m³	2.11	1.90	1.94
5	Saturated Density (7,51)	tf/m³	2.27	2.14	2.16
	Effective Internal				45 (0<σ' ≤ 2.6)
6		•	35.0	35.0	$42 (2.6 < \sigma' \le 6.3)$
1.75	Friction Angle (\$\phi')				37 (6.3 < σ')
7	Effective Cohesion (C')	tŪm²	0.0	0.0	0.0

(3) Pervious Zone

In general, rock materials for the pervious zone have high friction angle at low stress levels. The upper envelope of the circles on a Mohr diagram is typically concave downward with a slope that is steepest in the lower range of normal stress that decreases gradually with increasing stress.

For the rock materials for outer pervious zone, three (3) fixed values of friction angle depending on stress levels are adopted. Internal friction angle of them in inner pervious zone is reduced by about 5 % because the soft rocks from the required excavations, which have less desirable properties and are more erratic, are allowed to be mixed in this zone.

The design values of the pervious zone are estimated as follows.

No.	Item	Unit	Design Value					
INO.	I(¢III	Ont	Inner Zone	Outer Zone				
1	Specific Gravity (Gs)	ti/m³	2.54	2.54				
2	Natural Water Content (W)	%	1.0	1.0				
3	Void Ratio	100	0.325	0.325				
4	Dry Density (γ _d)	tØm³	1.92	1.92				
5	Wet Density (γ _t)	tľ/m³	1.94	1.94				
6	Saturated Density (Yut)	tt/m³	2.16	2.16				
	Effective Internal Friction	7.7	43 (0<σ' ≤ 2.6)	45 (0<σ' ≤ 2.6)				
7	Angle (\$\phi')	٥	$40 (2.6 < \sigma' \le 6.3)$	42 (2.6<σ' ≤ 6.3)				
	Angle (#)		35 (6.3 < σ')	37 (6.3 < σ')				
8	Effective Cohesion (C')	tf/m²	0.0	0.0				

Notes: $\sigma' = \text{Effective normal stress acting on the failure surface (kgf/cm²)$

Results of Slope Stability Analysis

In accordance with the aforesaid discussions, slope stability analysis is executed. The figures and tables of results are given in the following pages, and the most critical results are shown below:

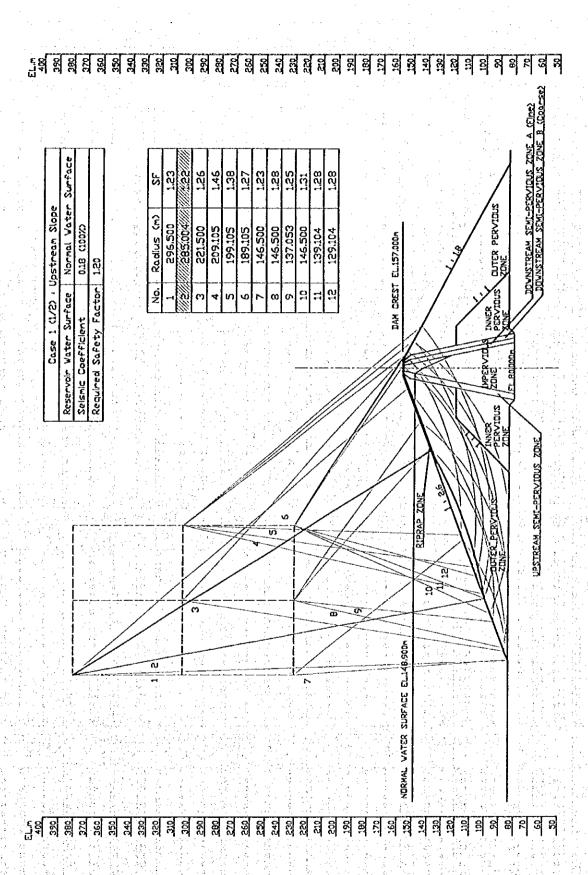
Casa	Reservoir Water Surface	Earthquake	Clana	Radius of Sliding	Safety	Factor		
Case	Reservoir Water Surface	Carriquake	Slope	Circle (m)	Calculated	Required		
	Normal Water Surface	100%	U/S	285,004	1.22	1.20OK		
1	Notifial Water Surface	k=0.18	D/S	106.500	1.23	1.20OK		
2	Normal Water Surface	0%	U/S	189.105	2.61	1.50OK		
4	Normal Water Surface	k=0.0	D/S	153.642	1.83	1.30010		
2	Maximum Water Surface	0%	U/S	285.004	2.62	1.20OK		
	Waximum Water Surface	k=0.0	D/S	106.500	1.80	1.20OK		
4	Rapid Drawdown to Low	100%	U/S	285.004	1.22	1.10-OK		
	Water Surface	k=0.18	D/S	153.642	1.24	1.10OK		
<	Rapid Drawdown to Low	0%	U/S	139,104	2.39	1.25OK		
J.	Water Surface	k=0.0	D/S.	153.642	1.83	1.23**UK		
2	End of Construction	50%	U/S	285.004	2.05	130 OV		
0	End of Construction	k=0.09	D/S	136.500	1.49	1.20OK		

Note: U/S = Up Stream (1:2.6), D/S = Down Stream (1:1.8)

From these results, it is concluded that designed slopes of the dam embankment satisfy the required safety factor.

Calculated Safety Factor by Each Case

ſ	Casa		1	2	2	4	5	6
ļ	Case		1	2	3			6
						Rapid	Rapid	
l	Reservo	ir	Normal	Normal	Maximum	Drawdown	Drawdown	End of
	Water	•	Water	Water	Water	to Low	to Low	Construction
	Surface	· .	Surface	Surface	Surface	Water	Water	
ļ	بنبين					Surface	Surface	
ļ	Earthqua		100%	0%	0%	100%	0%	50%
Ì	Require	d			stiller militar			
1	Safety		1.20	1.50	1.20	1.10	1.25	1.20
1	Factor			2.2	2.5		A 55	A • <i>c</i>
		1	1.23	2.66	2.67	1.25	2.55	2.16
İ		2	1.22	2.62	2.62	1.218	2.62	2.05
		3	1.26	2.67	2.78	1.25	2.48	2.06
		4.	1.46	3.44	3.96	1,36	2.81	2.22
	Up	5	1.38	3.02	3.41	1.34	2.58	2.17
	Stream	6	1.27	2.61	2.85	1.34	2.41	2.12
	Slope =	7	1.23	2.65	2.65	1.23	2.65	2.07
1	1:2.6	8	1.28	2.82	2.82	1.27	2.74	2.19
		9	1.25	2.74	2.74	1.25	2.73	2.12
I		10	1.31	2.91	3.18	1.24	2.49	2.06
ı		11	1.28	2.74	2.95	1.222	2,39	2.08
		12	1.28	2.72	2.84	1.29	2.49	2.13
Ì	Minimu	n						
	Safety		1.22	2.61	2.62	1.22	2.39	2.05
l	Factor							
ĺ		j	1.28	1.89	1.89	1.28	1.89	1.54
I		2	1.24	1.83	1.83	1.24	1.83	1.49
		3	1.28	1.92	1.87	1.28	1.92	1.50
		4	1.29	2.00	1.87	1.33	2.06	1.57
	Down	5	1.34	2.02	1.94	1.34	2,02	1.55
	Stream	6	1.29	1.91	1.91	1.29	1.91	1.54
	Slope =	7	1.28	1.90	1.90	1.28	1.90	1.54
	1:1.8	8	1.34	2.01	2.01	1.34	2.01	1.62
		9	1.32	1.96	1.96	1,32	1.96	1.59
		10	1.23	1.92	1.80	1.28	2.00	1,54
]]	1.28	1.96	1.87	1.30	1.99	1.53
		12	1.34	2.01	1.98	1.34	2.01	1.56
	Minimu		2,5	H.01	1,70	****	20,02	
	Safety		1.23	1.83	1.80	1.24	1.83	1.49
	Factor							
٤					L			



Case 1 (1/2): Upstream Slope

 $SF = \frac{\Sigma \left(C \cdot L + (N - U - N_0) \cdot t_{ST, 0}\right)}{\Sigma \left(T + T_0\right)}$ SF: Safety Factor

N: Normal Force Acting on Sip Circle (tf/m)
1: Tangential Force Acting on Sip Circle (tf/m)
Ne: Normal Force of Earthquake Load Acting on Sip Circle (tf/m)
1: Tangential Force of Earthquake Load Acting on Sip Circle (tf/m)
U: Pore Pressure acting on Sip Circle (tf/m)

0: Effective Internal Friction Angle on Sip Circle (f)

C: Effective Cohesion on Sip Circle (tf/m2)
L: Are Length of Sip Circle (m)
y:: Wet Density (tf/m3)
yest: Saturated Density of Material (tf/m3)
b: Width of Sip Circle (m)
y: Y Cohesion of Contact of Sin Circle
yest: Saturated Sensity of Material (tf/m3)

	Coordnate		

()

													će on SSp Ç				•	•••	1.0			-	of Sto C			
Cas	e T (1	/2) : U	stream	Slope	S o C	rcle	5. 5	Reser					ter Surface	: EL 14	500m	Se	smic Co	e5c	ent					afety Fac	tor	1.20
No.	۱,	yest	ь	1	Y	l e	•	tanp		the w	e le	t		include	the mate	r surfac	e Ye	11	 -,		under t	he wate	r surfac	e Te	U	Ci.
Sice	. '`	,		-	,	ľ	*	· · ·	1 "		• • •	Ĭ	solid wate	r 6056	water	l '''		•		water	10Fd	mater		16	٠	۱ "
1	1.5		9.00	76 85				1.00	0	0	0 0	C	0	- 1	0	0	0	0	355	5	-46	44	-1	8	377	0.0
2	1.5		9.00						8	0	0 0	0	0		-	0	0	0	450	2	-22			23	383	00
1 4	15		9.00					1.00 1.00		ŏ	0 0	č	ő	ö		ő	ŏ	ò	495 533	0	-13 10		1	37 43	387	0.0
5	1.9		9.00	112 65					ō	ō	0 0	ō	ŏ	0	0	Ö	ō	o	551	ž	35			60	384	0.0
6	1.9		9.00	121.85			45		0	0	0 0	C	0	0	0	0	0	Q	579	5	64	• • • • • • • • • • • • • • • • • • • •	8	€3	379	00
1 ?	15		9.00				45		! :	0	0 0	9	0	0] 1	0 0	0	0	<u> </u>	588		92			76	370	0.0
,	13		9.00	139.85 149.85	29.92 31.98		45 45		Ĭ	č	0 0	Ô	ŏ			ŏ	Ö		588 578	14 21	120			82 85	358 343	0.0
10	15		9.00	157.65			45	1.00	ŏ	ě	ŏ ŏ	¢	ō	of d	0	ŏ	'. ō	o)	558	27	170			83	324	0.0
11	1.54		9.00	16685			45	1.00	0	0	0 0	¢	-	0 (0	0	0	0	529	34	169			8-3	300	0.0
12	1.94		7.80 8.00	175 24 183,14	40,66 44,06		45 45	1.00	°	0	0 0	0	-	0] (8] 18:	-	34	0 74		428	34	175		1 .	75	238	0.0
14	1.9		6.72	190.50	47.65		45	1.00	ı	ě	0 0	č	326 3			30	59	218 180	٠ ŏ	·	8		. 0	0	č	Q.0 0.0
15	195	2.22	4.50	196.11	50.83	0	35	0.70	0	0	0 0	0	210 2		-40	21	38	\$4	0	0	Ö	ŏ	. 0	ŏ	Ö	0.0
16	200		3.40	200.06	52.28		25	0.47	0	_	0 0	Ç	154 1			16	28	6.3	0	0	0		0	0	. 0	3.9
18	2.11		5.69 2.89	204.71	55.65 58.44	1 :	25 25	0.47	0		0 0	0	229 5 90	9 14 0 5		25 11	41 16	52	0	0		0		0	. 0	8.9 3.5
15		2.16	5 2 7	213.18	61,19	6	35	0.70		-	0 0	ŏ		0 8		15	21.	ŏ	ŏ	ŏ	l ŏ	ŏ	ŏ	ŏ	: 0	0.0
20	154		\$27	219.95	65 CE	<u> </u>	45	1.00	0	0	0 0	Đ	10	0 5		10	13	0	٥	0	0	Ó	0	. 0	0	0.0
Re	rof o	Calcula	tion	SF =	1.378	>12	··· 0×	0K	<u> </u>	0	0 0	0	1,608 16	8 83	-311	161	289	587	6 2 6 5	153	910	-459	143	740	4,230	14.3
Case	e 1 (1	72) : Ua	stream	Soce I	S o Ci	rcle l	lo. 61	Reser	voir Wate	er Surfac	e Norre	4 W	ter Surface	EL 145	.900m	. دی	smic Co	- (5e.	ent 1	018	1001)	Ren	uired S	rety Fac	tor	120
No.			· .				لتيند		accvi	the wa	ter surfec	•		rklude	he wate	r surfac	4						r surface			
OF SSC4	r t	yest	ь		. А	°	¢	r.	א	TK	Te	וט	N			Ne	Te	v	N			T	Ne	Te	U	α.
Shice 1	194	2.15	720	9721	35.92	-	45	1.00		0	ó o	-,	क्रिल जिल्हा ()	r (5070d	19/64	0	· · ·		250	marter O	scod	water 4	-		238	0.0
2	1.5		7.20	104,41	35.95	ŏ	45	1.00	ŏ	_	0 0	ŏ	0	0 0	0	Ö	Ö	ò	272	ŏ	6	-5	. 0	12	237	0.0
3	1.94		7.20	111.61	35 25	0	45	1.00	0	0	0 0	0	0	이 (. 0	O	ŏ	c	290	1	18	-14	្រំ	19	235	0.0
:	1.94		7.20 7.20	118.81 12601	35.83 37.89	8	45	1.00	١،	- 7	0 0	엙	0	0 9		0	0	બ	303	2	30	-23	. 2	25	232	0.0
6	1.54		7.20	13321	38.83	Ö	45 45	1.00	8	-	0 0	ö	0		, 6	0	Ď		312	5	43 58	-31 -38	4	33 34	227	0.0
i	1.94	2.15	7.20	140,41	4028	٥	45	1.00	ŏ	-	ŏŏ	ē	ō	0 0	o o	ŏ	Ť	č	314	. 10	63	-44		38	211	0.0
3	1.94		7.20	147.61	41.99	0	45	1.00	0	-	0 0	0	0	아 9	. 0	0	0	٥	307	13	80	-49	10	40	200	0.6
16	1.94		7.20 7.20	154.81 162.01	44 01 45 35	0	45 45	1.00	0	-	0 0	0	0		, 9	0	0	ç	296 279	16	\$9 \$7	-52 -53	13 15	42	187	0,0 0.0
111	1.94		7.20	169.21	49.01	ŏ	45	1.00	ŏ	-	ŏŏ	ŏ	1 2	0 8	-	ŏ	· ŏ	ö	258	21	102	-52	16	42	154	0.0
12	1,54			17597	51 83	٥	45	1.00	0	0	0 0	e.	-	0 0	0	0	ō	e	205	19	90	-43	16	36	118	0.0
13	1.94		9.00 8.31	183.64 192.29	55.40	°	45	1.00	0	_	0 0	9	565 5			23	47	135	0	0	0	0	0	0	이	0.0
15	201		4.56	198.73	59,95 63,71	Ĭ	45 35	0.70	8	0	0 0	2	211 2 104	0 118 B 64		21 11	38 19	85 28	0	. 6	0	. 0	, ,	. 0	위	0.0
16	2.11		0.75	201.38	65.37	i	25	0.47	ŏ	ě	ŏŏ	ė	16	10		ž	3	3	ő	0	ŏ	o	ŏ	Ö		0.5
1 2	2.11		1.46	202.49	65.08	1	25	0.47	0		0 0	0	28	3 18	-	3	5	3	0	. 6	Ç	0	Ó	ō	. 0	1.7
18	2.09 1.93		5.19 4.38	205.81 210.60	6327	1	25	0.47	0.	-	0 0	e	78	51	•	10	14	c)	0	0	0	0	0	0	¢	6.3
20	1.54		1.80	213.69	71.61 73.88	ĭŏ	35	0.70	! !	•	-	Ľ	35	26		5	. :	°,	v		0			. 0	ៈ ៕	0.0
							7.3	1.00		0	0 0	e,	3 .									· UI	. 0	0		0.01
Pet	ાંધ	Carculat			1273	·	45		8		0 0	_6	739 5	8 421		76	133	253	3,402	111	677	-49Z	92		2,431	8.9
		Carcula	ion]	SF =	1273	212	9	ÓК	•	Ó	0 0		733 5		-108	76					677			362		8.9
Case No.	1 (1)	Calcula /2) : Up	on [SF =	1273	D 12	9	ÓK Resen	O roir Wate	0 er Surfac e the we	0 0 e Norma ter surfac	i Wa	739 5 ter Surface	EL 148	-108	76 Sei	umic Cor	efficie	nt	0.18 (677	Req		362 fety Fact	or	120
Case No. of	1 (1)	Carcula	ion]	SF =	1273	212	9	ÓК	O roir Wate	0 er Surfac	0 0 e Norma ter surfac	i Wa	739 5 ter Surface N	EL148	-168 900m	76 Sei	umic Cor		nt I	0.18 (611 (00%)	Req	ured Sa	362 Fety Fact		8.9
Case No.	1 (1)	Calculat /2) : Up y sat	on [SF =	1273	D 12	9	ÓK Resen	O roir Wate	O er Surfac t the we T Ne	0 0 e Norma ter surfac	i Wa	739 5 ter Surface	EL148	-168 900m	76 Sei	umic Cor	efficie	rrt 	0.18 (677	Req	uired Sa surface	362 fety Fact	U	120 OL
Case No. of	7 t 194 194	72): Up yest 216 216	stream b 4.00 4.00	SF = Slope 1 11.59 15.93	1273 Sp Ca y 319 437	C 0	5. 7 6 45 45	Resen tank 100 100	O moir Water above N	or Surface the are	O O Norma ter surfac Te O O O O	U C	139 5 ter Surface N solid wate	EL148 relude 1	900m Je water water	Series Ne	Te O	efficie	nd N solid 252 265	0.18 (677 100%) mder U solid 21 29	Requirements of the second sec	uired Sa surface Ne	362 fety Fact	U 261 260	120 CL 0.0 0.0
Case No. of	7 t 194 194 154	72): Up y sat 216 216 216 216	b 4.60 4.00 4.00	SF = Slope 1 11.59 15.99 19.99	1273 Sip Ca Y 359 437 487	0 0 0	6 6 45 45 45	Rasen tana) 1.00 1.00 1.00	O Water Market N O O O	or Surfaces the west News	e Norma ter surfac Te	1 W.	133 5 ter Surface N solid mate	EL148	500m The water water 0	Series Ne	Te O O	efficie	## N #0#d 262 265 265 267	0.18 (61) mder U solid 21 29 37	Requirements weter -21 -28 -35	uired Sa surface Ne	362 fety Fact	261 260 259	89 120 OL 0.0 0.0 0.0
Case No. of	7 t 194 194	72): Up yest 216 216	stream b 4.00 4.00	SF = Slope 1 11.59 15.93	3 5°9 4 37 4 87 5 48	C 0 0 0	5. 7 6 45 45	0K tank 1.00 1.00 1.00 1.00	O moir Water above N	or Surface the we Ne O	O O Norma ter surfac Te O O O O	U C	139 5 ter Surface N solid wate	EL148 relude 1	-168 500m he water 0	Series Ne	Te C C C C	efficie	N solid 252 265 267 267	0.18 (677 100%) roder U 105d 21 29 37 44	Req water -21 -28 -35 -42	uired Sa surface Ne	362 fety Fact	261 260 259 257	89 120 CL 0.0 0.0 0.0 0.0
Case No. of	7 t 194 194 154 154 184	72): Up yest 216 216 216 218 218 218 218	b 4.00 4.00 4.00 4.00 4.00 4.00	SF = Slope 11.59 15.99 19.59 23.99 27.59 31.59	359 4.37 4.37 4.87 5.48 6.20 7.03	C C C C C C C C C C C C C C C C C C C	45 45 45 45 45 45 45	0K tank 1.00 1.00 1.00 1.00 1.00	O Water Water Above N O O O O	or Surface the we Ne O	e Norma ter surfac Te	1 W.	133 5 ter Surface N solid mate	EL 148	-168 900m he water 0 0 0	Ser surfac Ne 0 0 0	Te O O	U C C C	## N #0#d 262 265 265 267	0.18 (water 2 3 5	61) mder U solid 21 29 37	Requirements weter -21 -28 -35	uired Sa surface Ne	362 fety Fact	261 260 259	89 120 OL 0.0 0.0 0.0
Case No. of	1 (1) y t 1 94 1 94 1 94 1 94 1 94	Calculate (2): Up yest 2:16 2:16 2:16 2:16 2:16 2:16 2:16 2:16	b 4.00 4.00 4.00 4.00 4.00 4.00 4.00	SF = Slope 11.59 15.99 23.99 27.59 35.59 35.59	359 Ca 359 4.37 4.87 5.48 6.20 7.03 1.99	C C C C C C C C C C C C C C C C C C C	45 45 45 45 45 45 45 45	1.00 1.00 1.00 1.00 1.00 1.00 1.00	O Wife Modern N O O O O O O O O O O O O O O O O O O	O C C C C C C C C C C C C C C C C C C C	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 W.	133 5 ter Surface N solid wate 0 0 0 0 0	EL 148 relude 1 relude 1 relude 1 relude 1 relude 1	900m he water 0 0 0 0	Sei surfac Ne O O O O	0 0 0 0 0	00000	8056 262 265 267 267 267 263	0.18 (water 2 3 5 7 9	671 100h) nder U 10fd 21 29 37 44 52 59 67	Req water -21 -28 -35 -42 -48 -54 -50	uired Sa surface Ne	362 fety Fact	261 260 259 257 256 254 251	120 CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Case No. of	7 t 194 194 154 154 184	Calculate (2): Up yest 2:16 2:16 2:16 2:18 2:18 2:18 2:18 2:18 2:18 2:18	600 4.00 4.00 4.00 4.00 4.00 4.00 4.00 4.	SF = Slope 11.59 15.99 23.99 27.59 35.59 35.59 39.99 35.59 39.99	3.59 4.37 4.87 5.48 6.20 7.03 1.99 9.08	C C C C C C C C C C C C C C C C C C C	45 45 45 45 45 45 45 45	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	O O O O O O O O O O O O O O O O O O O	O C C C C C C C C C C C C C C C C C C C	O O O O O O O O O O O O O O O O O O O	1 W.	133 5 ter Surface N solid wate 0 0 0 0 0	EL 148 relude 1 relude 1 relude 1 relude 1	900m he water 0 0 0 0	Series Ne	0 0 0 0 0 0	0000000	**************************************	0.18 (water 2 3 5 12 15 19	677 100h) mder th 21 29 37 44 52 59 67 73	Requested water -21 -28 -35 -42 -48 -54 -50 -65	uired Sa surface Ne	362 fety fact Tz 1 3 4 6 7 8	261 260 259 257 256 254 251 249	8.9 120 CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Case No. of	194 194 194 194 194 194 194	Calculate (2): Up yest 2:16 2:16 2:16 2:16 2:16 2:16 2:16 2:16	b 4.00 4.00 4.00 4.00 4.00 4.00 4.00	SF = Slope 11.59 15.99 23.99 27.59 35.59 35.59	359 Ca 359 4.37 4.87 5.48 6.20 7.03 1.99	C C C C C C C C C C C C C C C C C C C	45 45 45 45 45 45 45 45	1.00 1.00 1.00 1.00 1.00 1.00 1.00	O Wife Modern N O O O O O O O O O O O O O O O O O O	O C C C C C C C C C C C C C C C C C C C	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 W.	133 5 ter Surface N solid wate 0 0 0 0 0	EL 148 relude 1 relude 1 relude 1 relude 1 relude 1	900m he water 0 0 0 0	Series Ne	0 0 0 0 0	00000	8056 262 265 267 267 267 263	0.18 (water 2 3 5 7 9	671 100h) nder U 10fd 21 29 37 44 52 59 67	Req water -21 -28 -35 -42 -48 -54 -50	uired Sa surface Ne	362 fety Fact	261 260 259 257 256 254 251 249 246	8.9 120 CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Case No. of S5ce 1 2 3 4 5 6 7 8 9	1 (1) 7 t 1 9 4 1 9 4	72): Up yest 216 216 216 218 218 216 216 216 216 216 216 216 216 216	b 460 4.00 4.00 4.00 4.00 4.00 4.00 4.00	SF = Slope 11.59 15.93 19.93 27.99 35.59 35.59 39.99 47.59 51.59 51.59	35°P Ca 7 35°P 4.37 4.87 5.48 6.20 7.03 7.99 9.08 11.58 13.03	C C C C C C C C C C C C C C C C C C C	45 45 45 45 45 45 45 45 45 45 45	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	O O O O O O O O O O O O O O O O O O O	O C C C C C C C C C C C C C C C C C C C	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 W.	133 5 ter Surface N solid wate 0 0 0 0 0	EL 148 relude 1 relude 1 relude 1 relude 1 relude 1	900m he water 0 0 0 0	Series Ne	0 0 0 0 0 0	0000000	N solid 252 265 267 267 265 263 258 253 247 239	0.18 (water 2 3 5 12 15 19 22	677 100h) mder th 21 29 37 44 52 59 67 73 80	Requester water -21 -28 -35 -42 -48 -50 -65 -70 -75 -79	uired Sa surface Ne	362 fety Fact Tz 1 3 4 6 7 8 8	261 260 259 257 256 254 251 249 246 243 239	8.9 120 CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
Case No. of S5ce 1 2 3 4 5 6 7 7 8 9 10	1 54 1 54 1 54 1 54 1 54 1 54 1 54 1 54	72): Up 7 s.st 216 216 216 216 216 216 216 216 216 216	60 4.00 4.00 4.00 4.00 4.00 4.00 4.00 4.	SF = Slope 11.59 15.99 15.99 27.99 31.59 35.59 39.99 47.59 51.59 55.99	7273 Sip Ca y 359 4.37 4.87 5.48 6.20 7.03 7.99 9.06 10.26 11.58 13.03 14.62	C C C C C C C C C C C C C C C C C C C	6. 7] 45 45 45 45 45 45 45 45 45 45 45 45 45	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	O Write above	O C C C C C C C C C C C C C C C C C C C	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 W.	133 5 ter Surface N solid wate 0 0 0 0 0	EL 148 relude 1 relude 1 relude 1 relude 1 relude 1	900m he water 0 0 0 0	Series Ne	0 0 0 0 0 0	00000000000	N so F 6 2 2 6 5 2 6 7 2 6 7 2 6 5 2 6 3 2 5 8 2 5 3 2 5 4 7 2 3 9 2 3 0	0.18 (water 2 3 5 12 15 19 22 26 30 34	677 100%) 100%) 100% 100% 21 29 37 44 52 59 67 73 86 81 95	Requirements Requir	uired Sa surface Ne	362 fety Fact Tz 1 3 4 6 7 8 9 10 10 10	261 260 259 259 256 254 251 249 246 243 239 235	8.9 1.20 CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
Case No. of S5ce 1 2 3 4 5 6 7 8 9	1 (1) 7 t 1 9 4 1 9 4	72): Up 7 s.st 216 216 216 216 216 216 216 216 216 216	b 460 4.00 4.00 4.00 4.00 4.00 4.00 4.00	SF = Slope 11.59 15.93 19.93 27.99 35.59 35.59 39.99 47.59 51.59 51.59	35°P Ca 7 35°P 4.37 4.87 5.48 6.20 7.03 7.99 9.08 11.58 13.03	C C C C C C C C C C C C C C C C C C C	45 45 45 45 45 45 45 45 45 45 45	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	O Write above	O C C C C C C C C C C C C C C C C C C C	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 W.	133 5 ter Surface N solid wate 0 0 0 0 0	EL 148 relude 1 relude 1 relude 1 relude 1 relude 1	900m he water 0 0 0 0	Series Ne	0 0 0 0 0 0 0	-fix-	N solid 252 265 267 267 265 263 258 253 247 239	0.18 (water 2 3 5 12 15 19 22 26 30	677 100%) roder U 21 29 37 44 52 57 73 80 86	Requester water -21 -28 -35 -42 -48 -50 -65 -70 -75 -79	uired Sa surface Ne	362 fety Fact Ta 1 3 4 6 7 8 8 9 10 10	261 260 259 257 256 254 251 249 246 243 239 235 230	8.9 1.20 CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
Case No. of S5ce 1 2 3 4 5 6 7 7 8 9 10 11 12 13 14	7	72): Up 7 est 216 216 216 216 216 216 216 216 216 21	500	SF= Slope 11,59 15,93 18,59 23,99 27,59 35,59 35,59 39,99 47,59 51,59 55,99 55,99 63,99 67,99	7 273 Sip Ca 7 359 4.37 4.87 5.48 6.20 7.03 7.99 9.08 10.26 11.58 13.02 14.62 14.62 14.62 14.62 14.62 14.62 14.62 14.62 16.62 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	45 45 45 45 45 45 45 45 45 45 45 45 45 4	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	O Walk	O C C C C C C C C C C C C C C C C C C C	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 W.	139 5 ter Surface No sold water O O O O O O O O O O O O O O O O O O O	EL 148	-108 500m Ne water 0 0 0 0 0 0 0 0 0 0	76 Series No. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N solid 262 265 267 267 265 263 258 253 247 239 230 220 209 197	0.18 (water 2 3 5 12 15 19 22 25 30 34 39 43	677 100%) moder th 21 29 37 44 52 59 67 73 80 86 91 95 99 102	Request Nation 1 - 21 - 28 - 35 - 42 - 54 - 50 - 70 - 75 - 79 - 83 - 89 - 90 - 90	uired Sa surface Ne	362 fety Fact 1 3 4 6 7 8 9 10 10 10 10 10	261 260 259 257 256 254 251 249 246 243 233 235 230 225 220	8.9 CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
Case No. of S5ce 1 2 3 4 4 5 6 7 7 8 9 9 10 91 11 12 13 14 15 16	7 t 194 194 194 194 194 194 194 194 194 194	72): Up 7 tot 216 216 216 216 216 216 216 216 216 21	500 400 400 400 400 400 400 400 400 400	SF= Slope 11.59 15.93 18.99 27.99 31.59 35.59 39.99 47.99 51.59 55.99 59.99 63.99 67.99	\$\$\text{\$\text{\$\text{\$\text{\$P\$ Ca}}}\$\$ \$\$\text{\$\text{\$\text{\$Y\$}}\$\$ \$\$\$\text{\$\exititt{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\	C C C C C C C C C C C C C C C C C C C	45 45 45 45 45 45 45 45 45 45 45 45 45 4	Resent tary 100 100 100 100 100 100 100 100 100 10	N O O O O O O O O O O O O O O O O O O O	O Surface Surf	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	Ter Surface N sold water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EL 148	-108 -500m	76 Series No 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	N solid 262 265 267 267 265 263 258 253 239 230 220 209 197 183	0.18 (water 2 3 5 12 15 15 19 22 26 30 34 39 43 41 52	677 100%) mder th 21 29 37 44 52 59 67 73 86 81 95 99 102 103	Request Nation 1 - 21 - 28 - 35 - 48 - 54 - 60 - 65 - 79 - 83 - 86 - 89 - 90 - 91	uired Sa surface Ne	362 fety Fact Te 1 3 4 6 7 8 9 10 10 10 10 10 10 8 7	261 260 259 257 256 254 251 246 243 239 235 235 225 225 226	8.9 CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
Case No. of S5ce 1 2 3 4 5 6 7 7 8 9 10 11 12 13 14	7	216 216 216 216 216 216 216 216 216 216	500	SF= Slope 11,59 15,93 18,59 23,99 27,59 35,59 35,59 39,99 47,59 51,59 55,99 55,99 63,99 67,99	7 273 Sip Ca 7 359 4.37 4.87 5.48 6.20 7.03 7.99 9.08 10.26 11.58 13.02 14.62 14.62 14.62 14.62 14.62 14.62 14.62 14.62 16.62 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	45 45 45 45 45 45 45 45 45 45 45 45 45 4	Resent target 100 100 100 100 100 100 100 100 100 10	O Walk	O C C C C C C C C C C C C C C C C C C C	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 W.	139 5 ter Surface No sold water O O O O O O O O O O O O O O O O O O O	EL 148	-108 500m Jac water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	76 Series No. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	267 267 267 267 267 267 263 253 253 247 230 220 209 191 183 169	0.18 (water 2 3 5 12 15 19 22 26 30 34 39 43 47 52 56	677 100%) ***der U ***der U 21 29 37 44 52 59 67 73 80 86 91 95 99 102 103 103	Recommender -211 -28 -35 -42 -48 -54 -50 -70 -75 -79 -83 -86 -89 -90 -91	uired Sa surface Ne	362 Fety Fact 1 3 4 6 7 8 9 10 10 10 10 10 8 8 7 6	261 260 259 257 256 254 251 249 248 243 239 235 225 225 225 225 225 225 225 225 225	8.9 120 CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
Case No. of S5c+ 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	194 194 194 194 194 194 194 194 194 194	72): Up 7 6 st 2 1 6 2 1	b 400 400 400 400 400 400 400 400 400 40	SF= Slope 11.59 15.93 18.99 23.99 23.99 23.59 35.59 35.59 35.59 35.99 47.59 55.99 63.99 67.99 77.99 77.99 78.99	1273 Sip Ca y 4.37 4.87 5.48 6.20 7.03 1.93 10.26 11.58 13.03 14.02 18.34 18.34 18.24 18.34 12.02 23.22 22.41 24.75 27.26 29.96	C C C C C C C C C C C C C C C C C C C	15. 7] 45 45 45 45 45 45 45 45 45 45 45 45 45	Reserved to the served to the	N O O O O O O O O O O O O O O O O O O O	O Surface a Une was I Ne O O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	# W=	N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EL 148	-108 500m	76 Series No 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	N solid 262 265 267 267 265 263 258 253 239 230 220 209 197 183	0.18 (water 2 3 5 12 15 15 19 22 26 30 34 39 43 41 52	677 100%) mder th 21 29 37 44 52 59 67 73 86 81 95 99 102 103	Request Nation 1 - 21 - 28 - 35 - 48 - 54 - 60 - 65 - 79 - 83 - 86 - 89 - 90 - 91	uired Sa surface Ne	362 fety Fact Te 1 3 4 6 7 8 9 10 10 10 10 10 10 8 7	261 260 259 257 256 254 251 246 243 239 235 235 225 225 226	8.9 CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
Casson No. of Sco. 1 2 3 4 4 5 5 6 7 7 8 9 10 11 12 13 14 15 15 16 17 19 20	194 194 194 194 194 194 194 194 194 194	72): Up yest 216 216 216 216 216 216 216 216 216 216	b 400 400 400 400 400 400 400 400 400 40	SF= Slope 11.59 15.59 18.59 23.99 27.59 35.59 35.59 35.99 67.99 77.59 77.59 78.99 83.99 83.99 83.99 83.99 83.99 83.99	3.59 4.37 4.37 4.37 4.87 5.48 6.20 7.03 11.58 13.03 14.62 18.21 20.23 22.41 24.75 27.26 29.26	7 12 N	45 45 45 45 45 45 45 45 45 45 45 45 45 4	Reserved 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	Walter No.	O Surface West No.	Normal N	# W= U O O O O O O O O O O O O	139 5 ter Surface N solid mate	EL143	-109 500m 30 water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	76 Series No.	0 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	N 1056 265 267 267 267 267 267 267 265 263 253 253 247 239 230 209 197 183 169 1536 134	0.18 (water 2 3 5 12 12 15 19 22 26 30 34 43 44 47 52 56 59 62 74	677 100%) 100%) 100%) 100% 100% 100% 100% 1	Regover the state of the state	0 0 0 1 1 1 2 2 2 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	362 Te Te 1 3 4 6 7 8 8 9 10 10 10 10 10 10 10 10 10 10 10 10 10	261 260 259 257 256 254 251 249 245 243 233 233 230 214 207 199 190 204	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Casson No. of Sco. 1 2 3 4 4 5 5 6 7 7 8 9 10 11 12 13 14 15 15 16 17 19 20	194 194 194 194 194 194 194 194 194 194	72): Up 7 6 st 2 1 6 2 1	b 400 400 400 400 400 400 400 400 400 40	SF= Slope 11.59 15.59 18.59 23.99 27.59 35.59 35.59 35.99 67.99 77.59 77.59 78.99 83.99 83.99 83.99 83.99 83.99 83.99	1273 Sip Ca y 4.37 4.87 5.48 6.20 7.03 1.93 10.26 11.58 13.03 14.02 18.34 18.34 18.24 18.34 12.02 23.22 22.41 24.75 27.26 29.96	7 12 N	45 45 45 45 45 45 45 45 45 45 45 45 45 4	Reserved 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	0 W	Surface a the war I Ne O O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	# W= U O O O O O O O O O O O O	139 5 ter Surface N solid mate	EL148 relude r sclid	-108 500m	76 Series No. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	265 267 267 267 267 267 263 258 253 253 230 220 209 197 183 169 153 136	0.18 (water 2 3 5 12 12 15 19 22 26 30 34 43 44 47 52 56 59 62 74	677 100%) 100%) 100%) 100% 100% 100% 100% 1	Resonant Francisco Resonant Re	uired Sa surface Ne	362 Te Te 1 3 4 6 7 8 8 9 10 10 10 10 10 10 10 10 10 10 10 10 10	261 260 259 259 257 256 254 251 249 248 243 239 235 220 2214 207 219 199	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Cases No. of SSce 1 2 3 4 5 6 7 7 8 10 10 11 12 12 13 14 15 16 17 18 19 20 Res	194 194 194 194 194 194 194 194 194 194	72): Uc 7 tat 216 216 216 216 216 216 216 216 216 216	b 400 400 400 400 400 400 400 400 400 40	SF= Slope 11.59 15.93 18.59 23.99 27.59 31.59 35.59 39.99 47.59 55.99 57.99 77.59 77.59 78.39 83.99 82.8	1273 Sp Cs 359 437 487 548 620 1026 1158 1303 1169 1026 1158 1303 2224 11821 22726 22996 3307 1227	C C C C C C C C C C C C C C C C C C C	45 45 45 45 45 45 45 45 45 45 45 45 45 4	Reserved 100 100 100 100 100 100 100 100 100 10	CONTRACTOR WARREN	or Surface the way T Ne O O O O O O O O O O O O O O O O O O	Normal N	000000000000000000000000000000000000000	739 5 ter Surface N solid wate 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EL 1488	-168 500m 168	76 See 1 No 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N sofid 2652 265 265 265 265 265 265 265 265 26	0.18 (water) 2 3 5 5 5 19 2 22 26 5 39 4 39 43 39 5 5 5 5 19 2 2 2 2 5 3 3 4 4 7 5 5 6 6 7 7 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8	677 100h) moder (U 20h) moder (U 21 29 27 44 52 59 80 67 73 80 80 99 102 103 103 103 104 104 105 105 105 105 105 105 105 105 105 105	Records to the state of the sta	0 0 0 1 1 2 2 2 3 3 4 4 4 4 4 4 4 4 4 5 5 1 5 1 5 1 5 1 5 1	362 Te Te 1 3 4 6 7 8 8 9 10 10 10 10 10 10 10 10 10 10 10 10 10	261 260 259 257 255 255 251 249 243 233 235 220 214 199 190 204 4,656	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Cases No. 10 SSce 1 2 3 4 5 5 6 7 7 8 9 10 11 15 16 17 18 19 20 Res	194 194 194 194 194 194 194 194 194 194	72): Up 74 set 216 218 218 218 218 218 218 218 218 218 218	b 400 400 400 400 400 400 400 400 400 40	SF= Slope 11.59 15.93 18.59 23.99 27.59 31.59 35.59 39.99 47.59 55.99 57.99 77.59 77.59 78.39 83.99 82.8	1273 Sp Cs 359 437 487 548 620 1026 1158 1303 1169 1026 1158 1303 2224 11821 22726 22996 3307 1227	C C C C C C C C C C C C C C C C C C C	45 45 45 45 45 45 45 45 45 45 45 45 45 4	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	or Water Shows N O O O O O O O O O O O O O O O O O O	or Surface of the way	Normal N	000000000000000000000000000000000000000	139 5 ter Surface N sold water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EL 1488	-108 500m 10 10 10 10 10 10 10	76 Series No. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	***	0.18 (water) 2 3 9 9 12 22 26 5 19 22 26 39 43 39 43 47 52 56 62 74 616	677 100h) moder (U 20h) moder (U 21 29 27 44 52 59 80 67 73 80 80 99 102 103 103 103 104 104 105 105 105 105 105 105 105 105 105 105	Records to select the	0 0 0 0 1 1 1 2 2 3 3 3 4 4 4 4 4 4 4 4 4 4 5 5 1 5 1 5 1 5 1 5	362 fety Fact 1	261 260 259 257 256 257 258 251 249 243 239 225 220 225 220 214 290 214 290 201 201 201 201 201 201 201 201 201 20	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Cases No. 1 2 3 4 5 6 7 7 8 9 10 11 12 12 13 14 15 16 17 18 19 20 Res	1 (1) 7 t 1 9 4 1 9 5 1 9 6 1 9 7 1 9	72): Up 7 to 12 216 216 218 218 218 218 218 218 218 218 218 218	b 400 400 400 400 400 400 400 400 400 40	SF = Slope 1 11,59	1273 Sp Cs 359 437 487 548 620 1026 1158 1303 1169 1026 1158 1303 2224 11821 22726 22996 3307 1227	C C C C C C C C C C C C C C C C C C C	45 45 45 45 45 45 45 45 45 45 45 45 45 4	Reserved 100 100 100 100 100 100 100 100 100 10	or Water Shows N O O O O O O O O O O O O O O O O O O	or Surface of the way	Normal N	000000000000000000000000000000000000000	739 5 ter Surface N solid wate 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EL148	500m 500m 100m 10	76 See 1 No 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N N N N N N N N N N N N N N N N N N N	0.18 (water) 2 3 9 9 12 22 26 5 19 22 26 39 43 39 43 47 52 56 62 74 616	677 100h) moder (U 20h) moder (U 21 29 27 44 52 59 80 67 73 80 80 99 102 103 103 103 104 104 105 105 105 105 105 105 105 105 105 105	Records to the state of the sta	0 0 0 1 1 2 2 2 3 3 4 4 4 4 4 4 4 4 4 5 5 1 5 1 5 1 5 1 5 1	362 fety fact 1 3 4 6 6 7 8 9 9 10 10 10 10 10 10 9 8 7 6 5 3 1 1 136 4 ty fact Tety fact Te	261 260 259 257 255 255 251 249 243 233 235 220 214 199 190 204 4,656	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Case No. of Sco. 1 2 3 4 4 5 5 6 7 7 8 9 10 11 12 12 13 14 15 16 17 17 18 19 19 20 Res	7 t 1 2 4 1	72): Up 7 set 216 216 216 216 216 216 216 216 216 21	b 400 400 400 400 400 400 400 400 400 40	SF = Slope 1159 155	1273 Sp Ci y 357 437 437 4487 548 620 1026 11303 116,94 11	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	45 45 45 45 45 45 45 45 45 45 45 45 45 4	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	O O O O O O O O O O O O O O O O O O O	or Surface	Normal N	000000000000000000000000000000000000000	T39 5 ter Surface N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EL148	500m 500m 100m 10	Series Se	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 C C C C C C C C C C C C C C C C C C C	**************************************	0.18 (1 U U U U U U U U U U U U U U U U U U	677 (00%) moder () 20	Recy water -211 -28 -35 -42 -50 -54 -50 -75 -79 -83 -86 -1387 -138	ored Sas surface No 0 0 1 1 1 2 2 2 3 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 5 1 1 1 1 1 1	362 fety Fact 1 1 3 4 6 7 8 9 10 10 10 10 10 10 10 10 10 10 10 10 10	261 260 259 259 255 254 251 223 243 243 223 223 220 214 199 190 199 190 485	8.9 120 CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
Case No. 1 1 2 3 4 5 5 6 7 8 9 100 111 122 133 14 15 16 17 18 19 20 Res	1 (1) 7 t 1 9 4 1 9 5 1 9 6 1 9 7 1 9	72): Up 7 set 2:16 2:16 2:16 2:16 2:16 2:16 2:16 2:1	b 400 400 400 400 400 400 400 400 400 40	SF = Slope 1159 115	1273 Sp Ca 437 437 437 548 620 7.03 199 908 1026 1158 1303 1241 1158 1212 2023 2241 227 227 227 227 227 227 227 22	C C C C C C C C C C C C C C C C C C C	45 45 45 45 45 45 45 45 45 45 45 45 45 4	100 1.00 1.00 1.00 1.00 1.00 1.00 1.00	O O O O O O O O O O O O O O O O O O O	or Surface of the week of the	Normal	000000000000000000000000000000000000000	T39 5 ter Surface N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EL 148 1	500m 50	76 Series No. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Unite Cost 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	***	0.18 (1 0 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 0 1 1 0 0 0 0 1 1 0	677 (1009) (1009	Recommendation of the commendation of the comm	0 0 0 1 1 1 2 2 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 5 5 1 5 1 5 1	362 fety Fact 1 3 4 6 6 7 8 9 9 100 100 100 100 100 100 100 100 100	261 260 259 257 256 254 251 248 248 248 229 225 220 214 207 198 190 204 4.696	8.9 120 CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
Case No. of Sco. 1 2 3 4 4 5 5 6 7 7 8 9 10 11 12 12 13 14 15 16 17 17 18 19 19 20 Res	1 (1) 1 (1) 1 (2) 1	72): Up 74 st. 216 216 216 216 216 216 216 216 216 21	b 400 400 400 400 400 400 400 400 154 50 51 50 5	SF = Slope 1159 115	1273 Sp Ci y 357 437 437 4487 548 620 1026 11303 116,94 11	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	15. 7 45 45 45 45 45 45 45 45 45 45	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	O O O O O O O O O O O O O O O O O O O	or Surface a the way of the way o	Normal	000000000000000000000000000000000000000	T39 5 ter Surface N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	E E 1488	500m 50	Series Se	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 C C C C C C C C C C C C C C C C C C C	**************************************	0.18 (1 U U U U U U U U U U U U U U U U U U	677 (00%) moder () 20	Recy water -211 -28 -35 -42 -50 -54 -50 -75 -79 -83 -86 -1387 -138	ored Sas surface No 0 0 1 1 1 2 2 2 3 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 5 1 1 1 1 1 1	362 fety Fact 1 1 3 4 6 7 8 9 10 10 10 10 10 10 10 10 10 10 10 10 10	261 260 259 259 255 254 251 223 243 243 223 223 220 214 199 190 199 190 485	8.9 120 CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
Case No. of Sco. 1 2 3 4 4 5 5 6 7 7 8 9 10 11 12 12 13 14 15 16 17 17 18 19 19 20 Res	1 (1) 1 24 1 24	72): Up 7 set 216 216 216 216 216 216 216 216 216 21	b 4.60 4.00 4.00 4.00 4.00 4.00 4.00 4.00	SF = Slope 1 11,59	1273 Sp Cs 437 437 437 548 620 7.03 1026 1026 1158 1158 1158 124.75 2221 224 223 2241 24.75 2726 2726 2736 274 274 275 275 275 275 275 275 275 275	C C C C C C C C C C C C C C C C C C C	15. 7 45 45 45 45 45 45 45 45 45 45 45 45 45	Resent tamp 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.	O O O O O O O O O O O O O O O O O O O	or Surface of the week of the surface of the week of the surface o	Normal	000000000000000000000000000000000000000	139 5 ter Surface N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EL 148 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	500m 50	16	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	**************************************	0.18 (1 0 0 1 8 (1 0 0 1 8 (1 0 0 1 8 (1 0 0 1 8 (1 0 0 0 1 8 (1 0 0 0 0 1 8 (1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	677 6070) solid 21 21 27 37 44 45 52 59 67 73 80 80 81 91 95 91 102 103 103 103 103 104 105 105 100 96 67 73 80 96 97 102 96 67 103 104 105 105 105 106 107 106 107 106 107 106 107 106 107 106 107 106 107 106 107 106 107 106 107 106 107 106 107 106 106	Recommended	0 0 0 0 1 1 1 2 2 2 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	362 fety Fact 1	261 260 259 259 257 255 254 243 235 243 223 225 220 225 220 204 465 485 491 495 497	8.9 120 CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
Case No. of Sco. 1 2 3 4 4 5 5 6 7 7 8 9 10 11 12 12 13 14 15 16 17 17 18 19 19 20 Res	7 t 194 194 194 194 194 194 194 194 194 194	72): Up 7 set 216 216 216 216 216 216 216 216 216 21	b 4.60 4.00 4.00 4.00 4.00 4.00 4.00 4.00	SF = Slope 1159 155	1273 Sp C- y 7 437 437 437 437 438 620 1038 1158 1158 1158 1158 12023 2241 1821 2023 2241 1821 2023 2241 1821 2023 2241 1821 2023 2241 3307 1227 y 9 620 433 437 437 437 437 437 437 437	C C C C C C C C C C	45 45 45 45 45 45 45 45 45 45 45 45 45 4	Reserved 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	O O O O O O O O O O O O O O O O O O O	or Surface of the week of the	Normal N	W	139 5 ter Surface N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EL 148 Color Color	500m 500m 100m 10	16 Series 14 O 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Unite Cook 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	100 mm m	0.18 (10 mater) 2 2 3 5 5 15 15 15 15 15 15 15 15 15 15 15 15	67) (00%) solid 21 29 37 44 52 59 66 91 103 103 103 103 105 101 1,540 1,540 66 51 73 66 73 73 73 73 74 75 76 77 76 77 77 78 78 78 78 78	Recy water -211 -28 -35 -42 -48 -50 -70 -75 -83 -86 -1387 -1387 -1387 -1387 -1387 -1387 -34 -34 -34 -34	0 0 0 0 0 0 0 0 0 0	362 fety fact 1 3 4 6 6 7 8 9 9 10 10 10 10 10 10 10 10 10 10 10 10 10	261 260 260 259 257 255 256 251 249 245 246 243 235 220 214 207 1198 190 190 4696	6.9 1.20 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Case No. of Sco. 1 2 3 4 4 5 5 6 7 7 8 9 10 11 12 12 13 14 15 16 17 17 18 19 19 20 Res	1 (1) 1 24 1 24	72): Up 7 set 216 216 216 216 216 216 216 216 216 21	b 4.60 4.00 4.00 4.00 4.00 4.00 4.00 4.00	SF = Slope 1 11,59	1273 Sp Cs 437 437 437 548 620 7.03 1026 1026 1158 1158 1158 124.75 2221 224 223 2241 24.75 2726 2726 2736 274 274 275 275 275 275 275 275 275 275	C C C C C C C C C C C C C C C C C C C	15. 7 45 45 45 45 45 45 45 45 45 45 45 45 45	Resent tamp 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.	O O O O O O O O O O O O O O O O O O O	or Surface at the way of the surface at the way of the surface at	Normal	000000000000000000000000000000000000000	139 5 ter Surface N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EL 148	500m 50	16 Series 16 Ser	Unite Cost 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.18 (1 U u star 10 10 10 10 10 10 10 1	67) 100h) solid 21 21 27 37 44 52 59 80 81 103 100 98 101 1540 0051 1540 454 454 454	Recy water -211 -28 -35 -42 -54 -50 -75 -79 -83 -86 -89 -91 -92 -91 -89 -96 -1387 -75 -1587 -158	wind Sa 1	362 fety fact 1 3 4 6 6 7 8 9 9 10 10 10 10 10 10 10 10 10 10 10 10 10	261 260 259 257 257 258 254 248 248 248 229 220 214 229 221 220 214 485 491 495 497 497 497 497	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Case No. 1 2 3 4 4 5 5 6 6 7 7 8 9 9	1 (1) 1 24 1 24 1 24 1 24 1 24 1 24 1 24 1 24	72): Up 74 st. 216 216 216 216 216 216 216 216 216 21	b 4.60 4.00 4.00 4.00 4.00 4.00 4.00 4.00	SF = Slope 1159 115	359 C3 369 C3 437 437 437 548 620 7.03 199 906 11.59 11.59 11.59 11.59 12.21 20.23 22.41 12.27 20.99 33.07 12.27 7.03 3.07 3.07 3.07 3.07 4.07	C C C C C C C C C C C C C C C C C C C	45 45 45 45 45 45 45 45 45 45 45 45 45 4	Reserved 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	O O O O O O O O O O O O O O O O O O O	or Surface of the way	Normal N	000000000000000000000000000000000000000	739 5 ter Surface N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EL 148	103 500m	16 Series 14 O 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	U 000000000000000000000000000000000000	10 10 10 10 10 10 10 10	0.18 (10 moster) 2 3 5 5 5 7 12 15 5 19 12 22 26 6 30 30 34 43 44 17 5 6 6 2 74 6 16 10 10 10 10 10 10 10 10 10 10 10 10 10	67) 100h) moder U 20 21 29 27 44 52 59 80 80 81 103 103 103 103 105 100 1540 005 11 540 11 1540 11 1540	Recy water 2-21 -23 -35 -42 -48 -50 -65 -65 -70 -75 -79 -83 -86 -75 -138 -86 -138 -86 -138 -138 -138 -138 -138 -138 -138 -138	0 0 0 0 0 0 0 0 0 0	362 fety fact 1 3 4 6 6 7 8 9 9 10 10 10 10 10 10 10 10 10 10 10 10 10	261 260 260 259 257 255 256 251 249 245 246 243 235 220 214 207 1198 190 190 4696	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Case No. 1 2 3 4 4 5 6 6 7 7 8 8 9 9 10 10 10 10 10 10 10 10 10 10 10 10 10	194 194 194 194 194 194 194 194 194 194	72): Up 7 + 14 216 216 216 216 216 216 216 2	b 4.60 4.00 4.00 4.00 4.00 4.00 4.00 4.00	SF = Slope 1159 115	1273 Sp Ca 437 437 437 548 620 7.03 199 908 1026 1158 1303 1221 1158 1303 1221 1227 y 620 722 733 7487	C C C C C C C C C C C C C C C C C C C	5. 7] 45 45 45 45 45 45 45 45 45 45 45 45 45	Reserved 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	O O O O O O O O O O O O O O O O O O O	or Surface of the way	Normal	000000000000000000000000000000000000000	739 5 ter Surface N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EL 148 6 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	500m 50	16	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		**************************************	0.18 (10 0.1	677 100%) solid 21 21 27 37 44 52 59 67 73 80 80 81 91 92 102 103 102 98 101 1540 98 67 71 80 98 102 98 103 104 105 105 106 101 1540 45 51 65 65 66 67 67 68 68 68 68 68 68 68	Record water -211 -28 -355 -30 -255 -30 -38 -38 -38 -38 -38 -38 -38 -38 -38 -38	wind Sales 0 0 0 0 1 1 1 2 2 3 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	362 fety Fact 1	261 261 260 259 259 259 254 255 254 243 243 243 243 225 225 249 244 239 245 247 249 246 247 249 248 249 249 244 249 249 244 249 249 249 249	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Case No. 1 2 3 4 4 5 5 6 6 7 7 8 9 9	1 (1) 1 24 1 24 1 24 1 24 1 24 1 24 1 24 1 24	72): Up 7 set 216 216 216 216 216 216 216 216 216 21	b 4.60 4.00 4.00 4.00 4.00 4.00 4.00 4.00	SF = Slope 1159 115	1273 Sp C- 359 437 437 437 437 548 620 1038 1158 1158 1158 1158 12023 2241 1158 127 2023 2241 127 2023 2241 127 203 204 307 407 407 407 407 407 407 407 4	C C C C C C C C C C C C C C C C C C C	5. 7] 45 45 45 45 45 45 45 45 45 45 45 45 45	Reserved 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	O O O O O O O O O O O O O O O O O O O	or Surface of the week of the	Normal N	000000000000000000000000000000000000000	139 5 ter Surface N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EL 148 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	500m 500m 100m 10	16 Series Series	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		100 mm m	0.18 (U V V V V V V V V V V V V V V V V V V	67) 100%) solid 211 29 37 44 52 59 67 73 80 86 91 102 100 101 1.540 1053 102 106 101 1.540 1053 118 118 1154 118 1154 118 118 118	Recy water -211 -28 -35 -42 -48 -50 -54 -50 -70 -75 -99 -91 -92 -91 -1387 -1387 -105 -125 -143	ored Sar	362 fety fact 1 3 4 6 7 8 9 9 10 10 10 10 10 10 10 10 10 10 10 10 10	261 261 269 259 257 257 257 258 248 243 243 223 223 225 220 225 220 244 27 29 244 29 245 247 249 246 249 249 249 249 249 249 249 249 249 249	6.9 120 CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
Case No. 1 2 3 4 4 5 6 7 7 8 9 9 10 11 12 2 9 10 11 11 12 2 9 10 11 11 12 2 1 13 14 15 15 16 17 7 18 18 19 19 10 11 11 12 11 11 11 11 11 11 11 11 11 11	194 194 194 194 194 194 194 194 194 194	72): Up 7 + 14 216 216 218 218 218 218 218 218	b 400 400 400 400 400 400 400 400 154 600 1.56 7.60 7.60 7.60 7.60 7.60 7.60 7.60 7.6	SF = Slope 1159 1559 1559 1559 1559 1559 1559 15	1273 Sp Ci 359 437 437 548 620 7.03 11.58 13.03 11.58 13.03 124.15 22.21 24.15 24.75 27.26	C C C C C C C C C C C C C C C C C C C	45 45 45 45 45 45 45 45 45 45 45 45 45 4	Reserved 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	O O O O O O O O O O O O O O O O O O O	or Surface of the way	Normal	000000000000000000000000000000000000000	739 5 ter Surface N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EL 148 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	103 500m 103	16	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		**************************************	0.18 (10 0.1	677 100%) solid 21 21 27 37 44 52 59 67 73 80 80 81 91 92 102 103 102 98 101 1540 98 67 71 80 98 102 98 103 104 105 105 106 101 1540 45 51 65 65 66 67 67 68 68 68 68 68 68 68	Record water -211 -28 -355 -30 -255 -30 -38 -38 -38 -38 -38 -38 -38 -38 -38 -38	wind Sales 0 0 0 0 1 1 1 2 2 3 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	362 fety Fact 1	261 261 260 259 259 259 254 255 254 243 243 243 243 225 225 249 244 239 245 247 249 246 247 249 248 249 249 244 249 249 244 249 249 249 249	0.0 CL
Case No. 1 2 3 4 4 5 5 6 7 7 8 8 9 9 10 0 7 8 8 9 9 10 11 12 2 9 9 10 11 12 12 13 14 15 15 15 15 15 15 15 15 15 15 15 15 15	194 194 194 194 194 194 194 194 194 194	72): Up 7 set 216 216 216 216 216 216 216 216 216 21	b 4.60 4.00 4.00 4.00 4.00 4.00 4.00 4.00	SF = Slope 1159 1150 115	1273 Sp Ci 437 437 437 548 620 7.03 7.03 7.09 9.06 11.59 11.59 11.59 11.59 12.21 12.22 12.24 12.27 12.27 5.27 4.37 4.48 4.48 4.78 4	C C C C C C C C C C C C C C C C C C C	45 45 45 45 45 45 45 45 45 45 45 45 45 4	Reserved 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	O O O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Normal N	U 000000000000000000000000000000000000	139 5 ter Surface N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EL 148 Color Color	103 500m water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	16 Series No. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		153 154 155 156	0.18 (10 moster 18 19 0 0 18 11 10 0 0 18 11 11 0 0 0 0 18 11 11 0 0 0 0	677 100h) moder U 201 219 237 444 52 539 102 103 103 103 103 100 1540 101 1540 118 118 118 118 118 118 118 118 118 11	Recy water -211 -28 -35 -42 -48 -50 -70 -75 -83 -86 -99 -90 -91 -92 -91 -92 -91 -92 -91 -92 -91 -92 -91 -91 -91 -91 -91 -91 -91 -91 -91 -91	Ne	362 fety fact 1 3 4 6 6 7 8 9 9 10 10 10 10 10 10 10 10 10 10 10 10 10	261 260 259 259 257 259 246 243 243 243 223 225 220 225 220 225 220 204 485 491 485 497 497 497 497 497 497 497 497 497 497	0.0 CL
Case No. 1 2 3 4 4 5 6 7 7 8 9 9 10 11 12 2 9 10 11 11 12 2 9 10 11 11 12 2 1 13 14 15 15 16 17 7 18 18 19 19 10 11 11 12 11 11 11 11 11 11 11 11 11 11	194 194 194 194 194 194 194 194 194 194	72): Up 7 + 14 2:16 2	b 4.50 4.50 4.00 4.00 4.00 4.00 4.00 4.00	SF = Slope 1159 115	1273 Sp C2 437 437 437 548 620 7.03 1026 1158 1303 1221 1158 1221 224,15 2222 2330 403 403 403 403 403 403 403	2 cle N	45 45 45 45 45 45 45 45 45 45 45 45 45 4	Reserved 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	O O O O O O O O O O O O O O O O O O O	or Surface of the way	Normal	000000000000000000000000000000000000000	739 5 Ter Surface N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0	EL 148	500m 100	16	Unite Cost 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	- C C C C C C C C C C C C C C C C C C C	**************************************	0.18 (10 0.1	67) 607) 1009) 1009) 1009) 1009 1019 102 103 103 103 104 101 1540	Record water -211 -28 -355 -422 -48 -65 -75 -75 -153 -153 -153 -153 -153 -153 -153 -15	0 0 0 0 0 1 1 1 2 2 2 3 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4	362 fety Fact 1 3 4 4 6 7 8 8 9 9 10 10 10 10 10 10 10 10 10 10 10 10 10	261 259 259 259 259 259 259 244 239 245 249 245 290 214 290 214 290 200 214 491 495 497 499 499 488 481 497 499 489 481 487 489 489 489 489 489 489 489 489 489 489	6.9 120 CL CL CL CL CL CL CL C
Case No. 1 2 3 3 4 5 5 6 6 7 7 8 8 9 9 10 12 20 7 8 8 9 9 10 11 12 13 14 15 15 15 15 15 15 15 15 15 15 15 15 15	194 194 194 194 194 194 194 194 194 194	72): Up 7 set 216 218 218 218 218 218 218 218 218 218 218	b 4.50 4.50 4.00 4.00 4.00 4.00 4.00 4.00	SF = Slope 1159 1150 115	1273 Sp Ci 437 437 437 548 620 7.03 7.03 7.09 9.06 11.59 11.59 11.59 11.59 12.21 12.22 12.24 12.27 12.27 5.27 4.37 4.48 4.48 4.78 4	C C C C C C C C C C C C C C C C C C C	45 45 45 45 45 45 45 45 45 45 45 45 45 4	Reserved 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	O O O O O O O O O O O O O O O O O O O	C Surface C Sur	Normal	U 000000000000000000000000000000000000	139 5 ter Surface N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EL 148 Color Color	500m 100	16 Series No. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		153 154 155 156	0.18 (10 0.1	67) 607) 6076 6	Record water -211 -28 -35 -42 -48 -54 -50 -75 -79 -91 -92 -98 -98 -98 -98 -98 -98 -98 -98 -91 -1387 -1387 -1387 -137 -137 -137 -137 -137 -137 -137 -13	Ne	362 fety fact Ta 1 3 4 6 6 7 8 9 9 10 10 10 10 10 10 10 10 10 10 10 10 10	261 259 259 259 259 259 246 243 239 245 229 244 207 204 497 499 499 499 499 499 499 499 499 49	6.9 120 CL CC CC CC CC CC CC C
Cass No. 1 2 3 4 4 5 6 6 7 8 9 9 10 11 12 2 3 4 4 5 6 6 7 7 8 8 9 9 10 11 12 2 13 14 4 15 5 6 6 7 7 8 8 9 9 10 11 12 13 14 15 15 16 17 17 18 15 16 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18	194 194 194 194 194 194 194 194 194 194	72): Up 7 + 14 216 216 218 218 218 218 218 218	b 450 4.00 4.00 4.00 4.00 4.00 4.00 4.00	SF = Slope 115.99 15.99	1273 Sp C2- 437 437 437 437 437 437 437 437	C C C C C C C C C C C C C C C C C C C	5. 7] 45 45 45 45 45 45 45 45 45 4	Reserved 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	O O O O O O O O O O O O O O O O O O O	T Surface a the week of the surface	Normal N	000000000000000000000000000000000000000	139 5 ter Surface N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	E1.148	103 500m 103	16 Series 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		100 100 100 100 100 100 100 100 100 100	0.18 (10 0.1	67) 607) 1009) 1009) 1009) 1009 1019 102 103 103 103 104 101 1540	Record water -211 -28 -355 -422 -48 -65 -75 -75 -153 -153 -153 -153 -153 -153 -153 -15	0 0 0 0 1 1 1 2 2 3 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	362 fety Fact 1 3 4 4 6 7 8 8 9 9 10 10 10 10 10 10 10 10 10 10 10 10 10	261 259 259 259 259 259 259 244 239 245 249 245 290 214 290 214 290 200 214 491 495 497 499 499 488 481 497 499 489 481 487 489 489 489 489 489 489 489 489 489 489	6.9 120 CL CL CL CL CL CL CL C	

SF = 1 (C-L+(N-U-Na)-tan #)

SF: Safety Fector

N: Normal Force Acting on Sip Circle (tf/m)
T: Tangential Force Acting on Sip Circle (tf/m)
No: Normal Force of Earthquista Lood Acting on Sip Circle (tf/m)
To: Tangential Force of Earthquista Lood Acting on Sip Circle (tf/m)
U: Pore Pressure acting on Sip Circle (tf/m)

\$\phi\$: Effective internal Effection Angle on Sip Circle (f)

O: Effective Cohesion on Sip Circle (tf/m2)
L: Arc Length of Sip Circle (m)
y t: Wet Denaity (tf/m3)
y art: Saturated Denaity of Material (tf/m3)
b: Width of Sip Circle (m)
x,y: X or Y Coordinate of Center of Sip Circle (m)

	17(17	2) : U	stream	Sope	Sp C	rcle i	o. 9	Reser						ter Sur	ec e :	EL.145	900m	Se	ismic '	Coeffic	ient	0.15	1004)	Req	Led Sa	ety Fa	ctor	120
No.					,				8004	e the		surfac	•		'n	clude ti	to wate	r surfa	C 0		1		ለ ታ፣ ሁ	a water	\$ # face			
o,	γt	Y ast	ъ	X	Y	0	•	ta 🦸	N	T	Νe	T.	O.	N		1		Na	Ĩ.	U	1	4	``		Na	Te	_Մ	OL.
Ş&c e						L								sofo :	water	6050	water				\$054	WALGE	4566	MECEL				لنحا
1	1.94	2.15	\$ 90	38.58	13.42	0	45	1.00	0	0	. 0	0	0	0	0	0	0	0	0	, (335	2	-28	27	-0	3	32a	0.0
2	1.94	2.16	5.93	44,48	13.05		45	1.00	٥	0	0	0	0	٥	0	٥	0	٥	0		357	1	-14	13	-0	9	330	00
3	1.94	2.15	5.90	50.38	12.95	0	45	1.00	٥	0	0	0	0	٥	0	0	0	0	٥	. (374	0	1	-1	. 0	15	330	0.0
4	1.94	2.16	5 90	56 28	13 09	0	45	1.00	۰	0	Q	0	O.	0	0	0	0	0	0		387	1	18	-15	1	20	330	0.0
5	1.94	2.16	5 90	62.18	13.49	0	45	1.00	٥	Q	0	0	0	٥	0	0	0	0	0		397	3	35	-29	2	24	328	0.0
[6	1.94	2.15	5.90	68.03	14.14	0	45	1.00	0	0	0	0	ા	0	0	٥	. 0	0	0		402	. 6	53	-43	4	27	326	0.0
1 4	1.94	2,15	5 90	7393	15.66	0	45	1.00	0	Ō	0	0	o	0	0	¢	0	0	0		403	10	72	-58	. 5	33	323	0.0
8	1.94	2.18	5.90	79 88	10.24	0	45	1.00	0	0	Q	0	G	0	0	٥	0	0	0		400	15	83	-68	7	. 32	318	0.0
9]	1.94	2.16	5 90	85.78	17.30	٥	45	1.00	٥	0	0	٥	0	0	0	0	0	0	0	C	393	21	106	-79	9	. 34	313]	0.0
10	1.94	2.18	5.90	91,68	19,44	P	45	1.00	0	0	0	0	Q.	0	0	0	0	. 0	0		381	28	122	-89	11	35	305	0.0
11	1.94	2.18	5 93	97.58	21.47	0	45	1.00	0	0	0	Q	0	0	0	0	0	. 0	0	ε	365	35	135	-97	13	35	298	0.0
12	1.94	2.16	5 90	103.48	23.81	٥	45	1,00	0	0	0	9	0	0	0	0	0	0	0		343	44	145	-104	14	34	289	eo
13	1.94	2.16	5.50	109.38	26.48	0	45	1.00	0	۰	Q	0	· 0	•	0	0	0	0	0		322	. 52	155	-108	15	32	278	0.0
14	1.94	2.16	5.90	11528	29.43	٥	45	1,00	9	Q	0	Q	이	0	0	0	0	0	. 0		294	60	159	-111	15	. 30	254	0.0
15	1.94	2.16	5.90	121,18	32.88	٥	45	1.00		0	0	0	이	0	0	٥	0	0	. 0		202	47	159	-110	16	27	249	0.0
16	1.94	2.16	5.90	127.08	36.67	0	45	1.00	•	. 0	Ó	Q	9	0	. 0	0	e,	0	0		228	73	154	-107	16	23	230	0.0
L !!!	1.94	2.15	5.90	13293	40.92		45	1.00	0	0	•	0	0	0	0	0	0	0	0	0	187	76	142	-100	14	19	207	0.0
18	1.94	2.18	5.90	138.68	45.67	. 0	45	1.00	9	0	0	0	9		٥	0	0]	0	0	. 0	145	75	123	-89	12	14	180	0.0
19]	1.94	2.15	5.90	144.78	\$1.00	0	45	1.00		0	0	0	Ŷ	•	0	0	: 0	0	0	. 0	99	10	95	-73	. 7	. 8	145	0.0
_ 20]	1.54	2.15	427	149.66	56.14	. 0	45	1.00	0	_0	- 0	<u> </u>	0	0	0	0	Q	0	0		42	42	45	-40		2	80	0.0
Res	unt of (Perculat	ion	\$F ≠	1.253	>12	9 *** (OK		0	0	0_	0		0	0	0	. 0	0		6,115	682	1,759	1277	165	451	5,454	0.0
				<u> </u>													13 2											

Case	s (1,	/2) . U _i	stream	Slope	Sip C	cie N	o.10	Reserv						ter Sur					ismic (oethc	ent.		100%)		ured Sa		ctor	120
No.									a 60	re the		raunfac	4		6	clude ti	ne wate	ir surfa	6.7				roder th	a water	Carles e			
of	rt	A car	b .	ž	y	0	ø	Lend	א	T	N ₃	Te	Û		ł	1		Ni	Te	U		4	. 1		Na	Ta	U	αL
Sice											•			5360	water	eo#đ	water				\$04.3	water	4051	water	1.0			ı
_	1.94	2.15	10.60	45.41	13.63	0	-45	1.00		_ 0	0	0	0	0	G	0	0	-		- 0	594	84	~233	214	-5	18	629	00
2	1.94	2.15	10.60	\$7,07	9.93	0	45	1.00	•	0	•	Q	0	١٥	C	0	0	- 0	٥	· 0	739	56	-226	183	-15	· 47	654	0.0
3	1.94	2.15	10.60	67.67	7.11	0	45	1.00	.0	0	0	0	0	٥	0	0	. 0	. 0	. 0	. 0	655	33	-198	145	-17	- 75	672	0.0
- 4	1.94	2.15	10.60	78.27	5.12	2.6	42	0.90	0	0	0	0	C	٥	0	0	0	0	0	. 0	972	15	-145	100	-15	102	684	27.8
5]	1.94	2.15	10.60	89 87	3.92	2.6	42	0.90	0	0	0	0	0	0	. 0		0	. 0	0	. 6	1,058	4	-81	52	-9	124	691	27.5
6	1.94	2.15	10.60	99.47	3.50	2.5	42	0.90	0	0	0	0	0	0	. 0	٥	. 0	. 0	. 0	0	1,121	0	-4	. 3	-1	143	693	27.5
7	1.94	2.18	10.60	11007	3.85	2.6	42	0.90	٥	0	0	0	0	Ö	0	0	0	. 0	. 0	0	1,160	3	80	+47	11	158	691	27.5
8	1.94	2.16	10.50	120.67	4.96	2.6	42	0.90	0	0	0	0	0	0	0	0	0	0	. 0	0	1,175	14	187	-96	24	169	635	27,1
9	1.94	2.16	10.60	131.27	5.88	2.6	42	0.90	0	0	0	0	0	0	0	٥	0	0	. 0	0	1,166	31	255	~140	33	176	673	28.1
10	1.94	2.16	10.50	141.87	9.61	2.4	40	0.84	0	0	0	0	0	0	0	0	0	. 0	. 0	0	1,132	54	338	-180	53	178	656	289
- 11	1.94	2.16	10.60	152.47	13.22	2.4	40	0.84	0	0	0	0	(c)	0	0	0	. 0	Ò	0	c	1,073	81	411	-211	67	175	632	27.6
12	1.94	2.15	10.60	163.07	17,77	2.4	40	0.84	0	0	0	0	0	0	0	0	0	0	. 0	0	\$83	111	471	-233	80	167	600	28.5
13	1.94	2.16	10.77	173.75	23.42	2.4	40	0.84	0	Ó	0	0	0	0	0	0	. 0	0	. 0	0	892	144	520	-247	92	157	567	303
14	1.94	2.16	11.83	185.08	30.74	Ó	43	0.93	0	Ó	0	o	0	840	187	599	-262	108	151	554	0	0		: 0	0	0	C	0.0
15	1.94	2.19	4.79	193.42	37.15	0	35	0.10	0	0	0	0	ol	295	80	245	-97	44	53	197		. 0	0	. 6		. 0		0.0
16	2.02	2.23	5.95	198.73	41.82	1	25	0.43	0	Ò	0	0.	0	332	93	303	-108	55	60	217	ō	Õ	ŏ	0	٥	ŏ	- 6	81
- 17	2.08	2.19	7.85	205.69	43.55	1	25	0.47	Ó	ō	ō	ò	ō	329	213	343	-204	62	59	138	ō	ŏ	ŏ	- ŏ	ō	· ŏ	ŏ	11.3
18	1.55	2.16	1.83	21053	53.85	1	25	0.17	Ö	Ó	ō	ō	ō	51	0	62	0	11	10	0	هٔ ا	o	٥		ة ا		ិត	23
19	1.93	2.18	4.85	213.85	57.60	0	35	0.70	o	ő	õ	ŏ	ol	100	ŏ	124	ŏ	22	18	C.	ة ا	ō	ŏ	. 0	٥	. 0		60
20	1.94	2.15	6 50	219.50	65 25	Ó	45	1.00	Ö	ó	ō	ō	o	48	ō	63	ōl	12	9	ă	Ιŏ	. 0	ŏ	. 0	ř	ŏ	اہ	0.0
	u't of	Calcula	tion	SF =	1,315	>12	0 0	ΟК	0	. 0	- 6	0	- 6	1,999	579	1.744	-672	314	350	1,105	12 335	623	1,355	-457	301	1.669	8 527	301.6

		1 (17	2) : U ₂	speau	Slope	Sip Cu	rcte N	0.11	Resen						rer Su					ismic C	oe To	ent		(1004)		wed Sa		tor	1.20
No.				1214	2000	2.00	_	ŧ .	!	800	re the	Pate				į.,	chos ti	ne wate	r turio:	; a		l		under ti	O ME CE	surface		-	
of	Ł	γl	y sat	ъ.	. x	y	С	÷	tang	N.	Ŧ	No	Τe	U		N	. 1		Ne	Te :	ß.		N .		r	Ne	To	ษ	CL
São	L														solid	water	sold	water			,	sold	water	solid	water				l
- 1	ľ	191	2.15	9.90	- 56 21	17.57	0	45	1.00	0	0	0	G	0	0	0	O	0	- 0	0	Ð	518	53,	-172	159	-4	13	531	0.0
2	L	1.94	2.15	9.90	68.11	15.09	0	45	1.00	0	0	0	0	¢	. 0	0	0	6	٥	. 0	0	632	33	-159	130	-10	39	549	0.0
3	1	1.94	2.16	9 90	76.01	12.98	0	45	1.00	.0	0	0	0	. 0	0	0	0	0	0	0	Ò	729	17	-123	95	-11	62	562	0.0
4	ı	1.94	2.15	990	85.91	11.61	0	45	1.00	0	0	0	0	0	0	0	0	0	0	1 0	C	809	6	-82	. 57	-8	85	570	0.0
5	1	1.94	2.15	9.90	95.81	10.96	2.6	42	0.90	0	0	0	0	Q	0	C	0	0]	0	. 0	0	871	. 1	-26	17	-3	100	574	25.7
6	1	1.94	2.15	9.90	105.71	11.01	2.6	42	0.90	0	0	0	0	0	0	0	0	0]	0	. 0	. 0	913	1]	37	-24	5	114	574	25.7
7	ı.	1.54	2.15	9.90	115.81	11.77	2.6	42	0.90	0	0	0	0	0	0	0	0	0]	0	0	0	935	7]	105	~63	14	125	569	25 5
8	1	194	2.15	9.90	125 51	13.25	26	42	0.90]	0	0	0	0	[0]	0	0	0	0]	0	. 0	. 0	937	[19]	175	-101	25	133	\$50	25.3
9	1	1.94	2.18	9.90	135.41	15.48	2.6	42	0.90	0	0	0	0	0	0	0	0	0]	0	0	6	918	35]	242	-135	35	135	547	265
10	1	1.94	2.15	9.90	145 31	18.48	2.6	42	0.90	0	Ó	0	0	0	0	0	0	0	Ó	. 0	. 6	875	58	303	-183	47	135	528	27.1
11	1	1.94	2.16	9.50	155 21	22.32	2.4	43	0.24	0	0	0	0	0]	. 0	e	0	0	0	0	. 0	817	79	353	-183	57	132	502	26.2
12	ı	1.94	2.16	9.90	165.11	27.07	2.4	43	0 64	0	0	0	0	0	0	o o	٥	0]	0	. 0	0	736	103	390	-194]	65	124	459	27.2
13	1	1.94	2.16	9.03	174.60	32.59	٥	43	0.93	0	0	0	0	. 0	0	0	٥	0	0	0	. 0	586	112	372	-177	65	103	331	0.0
14	1	1.94	2.15	14.22	185.25	40,86	0	43	093	0	0	0	0	0	734	193	580	-245	104	132	501	0	0	: 0	ol	0	0	0	0.0
15	1	1.94	2.22	4.94	195.82	49,17	0	35	0.70	Q	Ò	0	0	0	201	64	191	~67	34	33	134	٥	- 0	8	- 0	Ó	ō	· c	0.0
16	1	2 05	2.23	3.47	200,03	53.33	1	25	0.47	Ó	0	0	0	0	123	40	128	-39	23	22	77	. 0	ó	. 0	i of	ō	0	. 0	50
17		2.11	2.19	4.87	204.09	57.73	1	25	0.47	. 0	Ó	0	0	0	128	71	144	-63	25	23	43	o	ō	ō	. of	ŏ	Ö	ŏ	7.0
18	l	2.03	2.16	3.14	207.99	52.32	1	25	0.47	. 0	Ó	O	ē	ō	59	. 0	73	0	13	11	C	. 0	o.	C	ol	Ö	· ō	اة	5.0
19	!	1.93	2.16	4.72	211.92	67.40	٥	35	0.70	0	Ó	0	0	0	47	. 0	63	ol	11	3	0	. 0	o	. 0	6	. 0	· ò	· o	0.0
20	ı	1.94	2.16	1.93	21527	72.14	0	45	1.00	0	ō	0	ō	. 0	4	0	7	0	1	i	0	. 0	ŏ	, o	اه	. 0	. 0	ō	0.0
Re	šu	it cf (alcula	io1 T	ŠF ≃	1276	> 1.2	0	ÖΚ	0	ō	. 0	0	. 0	1,293	368	1,165	-413	213	233	761	10.278	521	1,410	-580	278	1,293	6.925	2273

									* -						<u> </u>	<u>. :</u>												
	1 (1.	/2):Up	stream	Sioce	Shp C2	rcie N	lo.12	Resen						ter Su					smic C	oeffici	ent		(1004)		uired Se		tor	1.20
No.	. ~~	titi tili.						7.1	2000	s the	Marcel	surfac	8		in	cude th	e wate	r surfac	ð			1	under th	o marce	Surface			Г
of	γt	Yest	ь	, I	. У	C	•	tano	N	Ţ	Нe	Te -	U		N	····		Ne	ĪΦ	U.	I	4	,		Na	Te	U] a
Sec e		200	12	<u> 1919 - 1</u>	14_1	J			ŀ		100			\$ OF 1	water	1063	water		100		solid	water	to5d	water			7	
1	1.94	2.15	8.70	79.46	24.52	0	45	1.00	0	0	. 0	. 0	-0	0	0	0	0	Ö	. 0	Ğ	405	21	-95	8.3	-5	9	398	0
2	1.94	2.15	8.70	79.15	22.59	0	45	1.00	.0	0	0	0	0	0	. 0	0	. 0	0	0	. 6	475	11	-78	65	-4	. 25	408	1 0
3	1.94	2.15	8.70	8785	21.47	. 0	45	1.00	٥	0	0	0	0	. 0	. 0	0	0	0	0	. 0	535	4	-51	39	-4	` 4E	414	1 0
4	1.94	2.15	8.70	96.55	20.94	0	45	1.00	0	٥	0	0	O.	. 0	0	0	0	٥	٥	. 0	560	0	-15	11	-1	55	417	
- 5	1.94	2.16	8.70	105.26	21.00	lο	45	1.00	٥	0	0	0	o i	١٥	. 0	٥	o	Ó	0	. 0	413	1	25	-17	3	63	417	1
6	1.94	2.15	8.70	113.95	21.65	1 6	45	1.00	٥	٥	ō	o	o!	. 0	(ō	0	0	0	ō	. 0	166	. 5	89	-44	8	25	413	
. 7	1.94	2.15	8.70	122.65	22.90	ه ا	45	1.00	٥	0	0	0	0	. 0	. 0	0	. 0	0	0	. 0	635	13	113	-70	2.4	81	407	
. 8	1.94	2.15	8.70	131.36	24.76	1 ò	45	1.00	0	ó	ō.	ō	ō	. 6	. 0	i a	Ó	ō	ò	· é	825	23	156	-93	31	9.5	395	
9	1 9 4	216	8 70	140.06		ة ا	15	1.00	ا ہ	ō	ō.	ŏ	o	Ŏ	. 0	a	o	ŏ	ō	ō	600	37	198	-112	24	8.5	381	i i
10	1 94	218	8 70	148.76	30.45	ة ا	45	1.00	ō	á	Ŏ.	ā	ō	7		6	0	ă	ñ	ō	580	52	228	-125	1.1	8.1	351	
iii	194	2.18	8.70		34,39	ŏ	45	1.00	i	ŏ	ŏ.	ŏ	č	ŏ	· ŏ	í	. ŏl	ŏ	ō	. 6	505	65	251	-134	33	70	335	
. 12	144	2.15	8.79		33 13	ة 1	15	1.00	ة	ă	ä	ā	, ä	i n		1 6	. ă	ň	ō	- 6	431	39	251	-133	43	1 13	302	1.
13	191	2.15	8.64	174.82		l ă	- 45	1.00	ه ا	ň	ň	ň	ň	ň	ň	ň	- 1	~	ň	ň	353	4.2	251	-121	11		466	1
14	94		9.00		51.65	ة ا	45	1.00	ة ا	ň	ň	ň		273	85	237	-100	43	50	202	~~		۱ ۲۰۰۰	- **	77		- 230	1
13	1 04	2.16	8 78	192.53	5997	1 .	15	1,00	اة ا	ň	ň.	Ň	· 6	179	5.8	184	-66	33	33	110			ľ	Ň	×	. X	٠, ٢	
14	1.94		0.84		65.19	1	15	0.70	. ۲۰	Ă	Ă	Ä	Ä		- 33	127	-3	37	3		l ×	~		X				1
. 17	2 0 2		2.69	193.11	87.25	۱×	25	0.70	Ι×̈́	Ň	۸	Ň	. 0	1 11		1 23	- 2	5		,	ı ڏ					,		1
131	2.04			201.33		١ ٪	35	0.70	ا ۾ ا	, o	×		- 5	33	• ;	20	-3	' ;			۱ ×	Š	, ,		, v	-: ¥	- 0	Į.
19	411	218	3.65		73.55		25	0.47	١٠٨		×	Ň.		1 ;		20		- 7	3		١×	×			× ×			1 '
	4.11	414	0.62	205.17	16.55	١,	15	A 10	ا ا	٧.	~	×		וֹי וֹ	. ,	۱ 🐪	×		,		" ا		` `		, ,	Ų		ľ
20	2.01	Calcula		SF =		۲.,	0	75.70		`		-	. 0	534			-163			-333	8.954	230	1 11	-#13	133	. 0	. 0	 '
1.6		Contract City	~~,		14/3	, , , ,		Yn	,	v	•		v	333	143	.516	- 07	93	33	323	P.C C.9	395	1,311	-647	22.3	519	4.906	1

SF: Safety Factor

N: Normal Force Acting on Silp Circle (tf/m)

T: Tangential Force Acting on Silp Circle (tf/m)

No: Normal Force of Earthquake Load Acting on Silp Circle (tf/m)

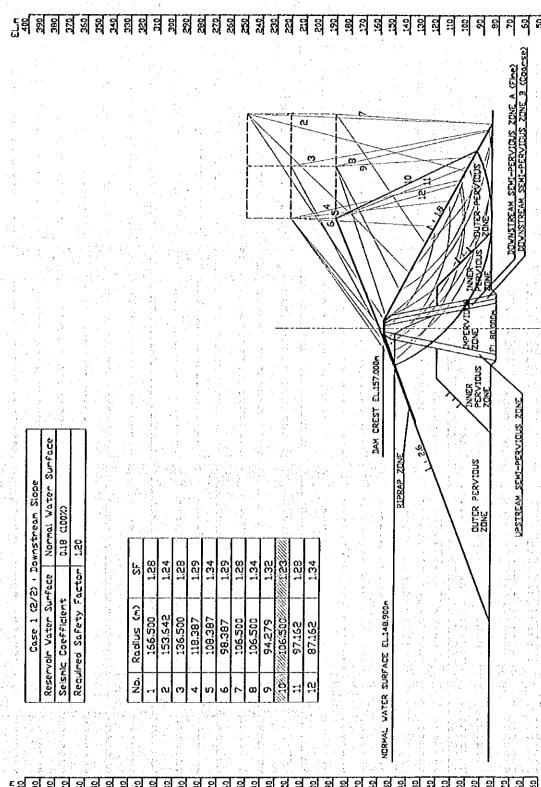
To: Tangential Force of Earthquake Load Acting on Silp Circle (tf/m)

U: Pore Pressure acting on Silp Circle (tf/m)

†: Effective Internal Friction Angle on Silp Circle (*)

C: Effective Cohesion on SSp Circle (tl/m2)
L: Are Length of Sip Circle (m)
y: Wet Density (tl/m3)
y: M: Saturated Density of Material (tl/m3)
b: Width of Sip Circle (m)
1.y: X or Y Coordinate of Center of Sip Circle (m)

	S (1)			2000	SPC	Cle N	10 TI	Reser				ater Surface :				smic Co	emc	ent 0.11	(100%)		يک وه سخ		tor	120
No.	rı	yset	ь		y	¢	•	Land	N 1		r surface Te U		rchude i	the wate	r surfac	te Te	·U	N	under ti	he wate T	r surface Na	Ye	-	a
5/100	154	2.16	950	1425	3 8 4		45	1.00	<u> </u>	0 0	0 0	solid water	1000	water				solid wate	7 solid 1 31	-30				
2	1.94	216	9.50	23.75	4.45	0	45	1.00	ŏ	0 0	ŏ	0 0	6	Ö	ò	ŏ	Č	635 652	4 53	-19	i	17	619 614	0.0
3	1.54		9.50 9.50	33.25 42.75		1 8	45 45	1.00	0	0 0	0 0	0 6		0	0	0	. 0	691 693 1	8 77 2 101		3	27 35	607 598	0.0
	154	2.16	9.50	52.25	8.14	0	45	1.00	0	ė ė	0 0	0 0		0	ŏ	. 0	ŏ	698 1	8 125	-102	8	43	585	0.0
;	1.94	2.16 2.16	9.50 9.50	61.75 71.25		1 8	45 45	1.00	0	0 0	0 0			0 0	0	0	0	695 2 686 3			11	50 55	572 555	0.0
	154		9.50	80.75	14.71	0	45	100	o	0 0	0 0	0 0		0	ō	ō	e	869 4	0 189	-140	16	58	535	0.0
10	1.94		9.50 9.50	\$0.25 \$9.75		l °	45 45	1.00	0	00	0 0) 0	0	0	. 0	644 4 613 5		-149 -154	19	60 61	512 485	0.0
11	1.94		9.50	109.25		٥	45	1,00	0	0 0	0 0	0 0	9	0	ō	. 0	0	574 6	2 228	-156	24	51	455	0.0
13	154		9.50 9.50	118.75 128.25	28.32 32.67	"	45 45	1.00 1.00	0	0 0	0 0	8			0	0	. 0	529 6 476 7		~154 ~149	26	59 55	421 382	0.0
15	1.94		9.50	137.75	37.44	0	45	1.00	0	0 0	0 0	0 0	9) 0	0	0	Ò	416 7	3 218	-139	27	51	338	C.C
16	1.54	2.16 2.16	9.50 9.50	147.25 158.75	42.65 48.32	ő	45 45	1.00	ŏ	0 0	0 0	0 0		, 0	0	0	0	350 7 278 6		-124 -103	26	45 38	287	0.0
17			9.50	165 25	54.49 60 70	0	45 45	1.00	0	0 0	0 0	0 0	0		0	0	0	200 5	2 135	-77	20	29	165	00
19	1 :-:		#.15 6.62	175.07 182.45	66.28	ŏ	45	1.00	0	0 0	0 0	42 8	33	- 1	6	8	22	104 2	9 75	-39	12	17	83	0.0
- 20	1.94 suit of		5.78	188.65 SF *	71.25	7 12	<u> 45</u>	1.00	0	0 0	0 0	11 0 54 8			2		0	0	0 0	0	. 0	0	0	0.0
															8	10	22	9,603 73	21 2,809	-1,563	283	768	8,045	00]
Cas No.	<u>0 1 (1)</u>	/2): U	sveen	Stope	Sip C	rcio N	o. 2	Reserv			Normal W.	iter Surface :		900m he wate		sraic Co	effici	ont 0.18	(100%) under ti			fety Fac	tor	1.20
of	yt	rist	ь	T.	y	0	•	tens			To U	N	T	Y	Ne	Te .	U	N	Ť	1	Ne	Ta	$\neg \sigma$	α
Sica	155	2.16	5.00	53.41	20.04	-	45	1.00	0	0 0	0 0	solid water	solid	water	0	- 6	- ,	solid water	r solid 8 45	water		 -	249	0.0
1 2	154	2.16	500	59.41	21.04	ě	45	1.00	0	0 0	0 0	ŏã	j	ő	ŏ	· ŏ	ŏ	242 1		-49	4 1	3	244	0.0
3	1.94	2.16 2.15	5.00 5.00	63.41 63.41	22.14	1 %	45 45	1.00	0	0 0 0 0	0 0	0 0			0	. 0	0	241 1 238 1		-52 -55	1	4	240 235	0.0
5	194	2.15	5.00	73,41	24.61	0	45	1.00	0	o o	0 0	0 0	١	إة إ	ŏ	Ö	. c	234 1	5 62	-57	2	, ,	229	0.0
;	1.54	2.16 2.16	5.00 5.00	78.41 83.41	25.59 27.47	8	45 45	1.00	0	00	0 0	0 0			0	.0	0	229 1 224 1		-59 -61	2	8	223	0.0
	1.94	2.16	5.00	88.41	29.05	ŏ	45	1.00	0	0 0	0 0	0 0	İ	إ	ō	. 0	ŏ	, 217 2	71	-62	, š	9	210	0.0
10	1.94 1.94	2.16 2.18	5.00 5.00	93.41 98.41	30.74 32.52	ŏ	45 45	1.00	0	0 0	0 0	0 0			0	ô	C	209 2		-63 -63	. 3	10	202 194	0.0
1 !!	1.54 1.94		5.00 5.00	103.41	34,42	0	45 45	1.00	0	0 0	0 0	0 0	0	0	0	0	e	190 Z	74	-63		10	165	0.0
13	154	2.18	500	113.41	38.42 38.53	ŏ	45	1.00	ŏ	ŏŏ	0 0			Ö	ŏ	0	. 0	179 2 163 2		-62 -60	1	. 9	176	0.0
14	1.54 1.54	2.18 2.16	5 00 5 00	118,43 123,43	40.76 43.10	0	45 45	1.00	0	Ó 0	0 0	0 0	0		0	0	0	153 2	70	-58	1,	8	155	0.0
16	194		5.00	128 41	45.56	ŏ	45	1,00	ŏ	ŏŏ	ŏŏ	ŏŏ	0	0	ŏ	ŏ	c	139 2 124 2		-56 -53	3	, ,	143	0.0
17	1.94 1.94		5.00 5.00	133.41	48.15 50.86	0	45 45	1.60 1.60	0	0 0	0 0	0 0	0		0	0	0	108 2 \$1 2		-49	3	, 5	117	0.0
19	1.94	2.16	500	143.41	53.70	ŏ	45	1.00	ŏ	Ö Ö	0 0	0 0	ő	ŏ	ŏ	Ö	ŏ	\$1 2 73 2		-44 -38	- 1	2	103 88	0.0
- 20 Re	1.94 sult of		422	148.02 SF =	56.45	> 1.2	45	1.00 CK	0	0 0	0 0	0 0			0	0	- 0	47 1 3,545 40		-27 -1,075	49	129	61 3,567	0.0
								***															3.30	~ ~ ~ .
[7 		755.33			1802 PC		- 51		- 144 -	<u> </u>														
Cas Ro.	<u>e 1 (1/</u>	/2) : U	stream	Slope	Sip C	rcie N					Normal W	der Surface :		900m he wate		smic Co	efficie		(100%)	Req	uired Sal	fety Fact	tor	1.20
No.		72) : U; y int	b b	Slope	Sip C	c C		Resen		the wate		N F	clude t	he wate			efficie U	ont 0.18	(100%) under th	Req e water	uired Sal	fety Fact	U	1.20 CL
No.	yt 194	y sat 2:16	b 13.50	22.70	y 5.19	C	45	tané 1.00	above N T	the wate No O O	r surface Te U		clude t	he water water	rsurisc	•		nt] 0.18	(100%) under th	Req	uired Sal	lety Fact		
No.	γŧ	7 sat 2.15 2.15	b	,	y	¢	•	1.00 1.00	evode T N	the wate No	r surface Te U	N F	solide t	he water water	rsurisc	•		N solid water 909 1 1,032	(100%) under th solid 3 -113 3 -64	Req e Hater Hater	uired Sa surface No -2 -3	Te Te 18 52	85) 879	CL 0.0 0.0
No.	71 194 194 194	7 sat 2.15 2.15 2.15 2.16	13.50 13.50 13.50 13.50	22.70 35.20 49.70 63.20	5.19 3.93 3.50 3.89	0000	45 45 45 45	1.00 1.00 1.00 1.00	N T	the wate No O O	7 surface 7 s U 0 0 0 0 0 0 0 0	N F	solide t	water 0 0	Ne 0 0 0 0	0 0 0	0	N solid water 909 1:1,032 1,127 1,195	(100%) under th solid 3 -113 -64 0 -2 1 71	Recommender water 106 55 1	uired Sal surface No -2 -3 -0 6	Te 18 52 82 107	867 879 893 879	0.0 0.0 0.0 0.0
No.	7 t 194 194 194	215 216 216 216 216 216	b 13.50 13.50 13.50	22.70 35.20 49.70	5.19 3.93 3.50	0 0 0 0 2.6	45 45 45	1.00 1.00 1.00	N T	the wate No O O	r surface Te U 0 0 0 0	N F	solid solid	water 0 0	rsurisc	T•	0	N solid water 909 1.1,032 1,127	(100%) under th 100%) 100%	Rec water 106 55 1 -52 -104	uired Sal surface No -2 -3 -0 6 15	Te 18 52 82 107 127	85) 879 833 879 867	0.0 0.0 0.0
No.	7 t 194 194 194 194 194 194	216 216 216 216 216 216 216 216	13.50 13.50 13.50 13.50 13.50 13.50 13.50	22.70 35.20 49.70 63.20 78.70 90.20 103.70	5.19 3.93 3.50 3.89 5.11 7.18 10.11	0 0 0 0 28 28 28	45 45 45 45 42 42 42	100 100 100 100 100 100 100 100 100 100	N T	Ne Ne O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	505d water 0 0 0 0 0 0 0 0 0 0	solide t	water 0 0	Ne 0 0 0 0 0 0 0	0 0 0	0	nt 0.18 N solid water 909 1. 1,032 1,127 1. 1,127 1. 1,234 1: 1,243 2: 1,243 2: 1,242 4:	(100%) under the solid 3 -113 -44 0 -2 3 71 150 3 229 3 305	Receive water 106 55 1 -52 -104 -151 -192	uired Sal surface No -2 -3 -0 6 15 28	Te 18 52 82 107 127 142 152	867 879 893 879 867 847 818	0.0 0.0 0.0 0.0 35.2 35.6 35.0
No.	78 194 194 194 194 194 154	216 216 216 216 216 216 216 216	1350 1350 1350 1350 1350 1350 1350 1350	22.70 35.20 49.70 63.20 76.70 90.20 103.70 117.20 130.70	5.19 3.93 3.50 3.89 5.11 7.18 10.11 13.94 18.72	0 0 0 0 28 28 28	45 45 45 45 42 42	100 100 100 100 100 000 000	N I	No 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	solide t	water 0 0	Na 0 0 0 0 0	0 0 0 0	0000	N solid meter 909 1 1,127 1,195 1,234 1 1,243 2	100% 100%	Receivator 106 55 1 -52 -104 -151	-2 -3 -0 8 15 28	Te 18 52 82 107 127 142	86) 879 833 879 867 841 818 779	0.0 0.0 0.0 0.0 35.2 35.6
No.	71 194 194 194 194 194 194 194	2.16 2.16 2.16 2.16 2.16 2.16 2.16 2.16	1350 1350 1350 1350 1350 1350 1350 1350	22.70 35.20 49.70 63.20 76.70 90.20 103.70 117.20 130.70 144.20	5.19 3.93 3.50 3.89 5.11 7.18 10.11 13.94 18.72 24.53	0 0 0 0 28 28 26 26	45 45 45 45 42 42 42 42 42 45	100 00 00 00 00 00 00 00 00 00 00 00 00	N I	No 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	solide t	water 0 0	Na 0 0 0 0 0	0 0 0 0 0	000000000000000000000000000000000000000	not 0.18 Solid brates 1,032 1,127 1,195 1,243 2,1243 1,172 1,172 1,172 1,172 1,091 9,91 1,091 9,991 1,244 1,091 9,991 1,091 9,991 1,091 9,991 1,091 9,991 1,091 9,991 1,091 9,991 1,091 9,991 1,091 9,991 1,091 9,991 1,091 9,991 1,091 9,991 1,091 9,991 1,091 9,991 1,091 9,991 1,091 9,991 1,091 9,991 1,091 9,991 1,091 9,991 1,091 9,991 1,0	(100%) Under th Londer th	Rece water 106 55 1 -104 -151 -192 -225 -247 -255	20 -2 -3 -0 6 15 28 38 50 60 69	18 52 82 107 127 142 152 156 154 147	867 879 833 879 867 847 818 779 727 662	0.0 0.0 0.0 0.0 35.2 35.6 35.0 35.7 37.5 6.0
Ro. of Sicce 1 2 3 4 5 6 6 7 7 8 9 10 11 12	7 t 1 9 t 1 9 t 1 9 t 1 9 t 1 9 t 1 9 t 1 9 t 1 9 t 1 9 t 1 9 t 1 9 t	7 4 st 2.15 2.15 2.16 2.16 2.16 2.15 2.16 2.16 2.18 2.18	b 13.50 13.50 13.50 13.50 13.50 13.50 13.50 13.50 13.50 14.69	22.70 38.20 49.70 63.20 76.70 90.20 103.70 117.20 120.70 144.20 157.70	5.19 3.93 3.50 3.89 5.11 7.18 10.11 13.94 18.72 24.53 31.44 39.99	0 0 0 0 2.8 2.6 2.6 2.6 0 0	45 45 45 42 42 42 42 45 45 45	00 00 00 00 00 00 00 00 00 00 00 00 00	8 sbows 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	No 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N	schde t schd 0 0 0 0 0 0 0 0	water 0 0 0 0 0 0 0	Ne O O O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	N sold water 909 1. 1,127 1,195 1,234 1. 1,243 2. 1,122 4. 1,122 4. 1,172 7. 1,091 9	(100%) Under Und	Rece water 106 55 1 -52 -104 -151 -192 -225 -247	-2 -3 -0 6 15 28 38 50 60	18 52 82 107 127 142 152 156 154	867 879 833 879 867 847 818 779 721	0.0 0.0 0.0 0.0 35.2 35.6 35.0 35.7 37.5
No.	7 t 1 9 t 1 9 t 1 9 t 1 9 t 1 9 t 1 9 t 1 9 t 1 9 t 1 9 t 1 9 t	7 4 st 2 16 2 16 2 16 2 16 2 16 2 16 2 16 2 16	b 1350 1350 1350 1350 1350 1350 1350 1350	22.70 35.20 49.70 63.20 76.70 90.20 103.70 117.20 130.70 144.20 157.70 171.79	5.19 3.93 3.50 3.89 5.11 7.18 10.11 13.94 18.72 24.53 31.44 39.99 47.47	0 0 0 0 28 28 26 26	45 45 45 45 42 42 42 42 45 45 45 45	00 00 00 00 00 00 00 00 00 00 00 00 00	N I	Ne Water Ne O O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	schde t 60 00 00 00 00 00 00 00 00 00	water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N solid water 909 1 1,032 1,127 1,195 1234 121222 411,722 711,091 981 122 842 13726 150 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(100%) under th under th 1556d 3 -113 3 -64 0 -2 11 3 150 3 229 3 305 2 313 4 461 4 68 4 478	Rece water 106 55 1 -52 -104 -151 -192 -225 -247 -255 -248	-2 -3 -0 6 15 28 33 50 60 69 75 82	Te 18 52 82 107 127 142 156 154 147 134	857 879 833 879 867 841 818 779 721 662 579	0.0 0.0 0.0 0.0 35.2 35.6 35.0 35.7 37.5 6.0 0.0 0.0
No. of Sice 1 2 3 4 4 5 6 7 8 9 100 11 1 12 13 14 15	74 194 194 194 194 194 194 194 194 194 19	2.16 2.18 2.18 2.16 2.16 2.16 2.16 2.16 2.18 2.18 2.18 2.18 2.18	b 1350 1350 1350 1350 1350 1350 1350 1350	22.70 38.20 49.70 63.20 76.70 90.20 103.70 117.20 130.70 144.20 157.70 171.73 182.46 190.89	5.19 3.50 3.89 5.11 7.18 10.11 13.94 18.72 24.53 31.44 39.99 47.47 53.92 80.23	0 0 0 0 2.8 2.6 2.6 2.6 0 0 0 0 0	45 45 45 45 42 42 42 42 45 45 45 45 45 45 45 45 45 45 45 45 45	00010000000000000000000000000000000000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00000000000000000000000000000000000000	water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 177 189 57	mt 0.18 sold weter 909 1. 1,032 1. 1,122 1.195 1.243 2. 1,222 4. 1,172 7. 1,1091 9. 981 124 842 1.3 728 1.5 0 0 0	(100%) Under U solid 5 -113 5 -143 5 -42 5 3 305 7 313 7 427 7 468 478 6 478 6 0 0	Recommended in the second seco	-2 -3 -0 6 15 28 38 50 69 75 82 0	18 52 82 107 142 152 154 147 134 124 0 0 0	867 879 833 879 867 847 818 779 727 662 579 0 0	GL 00 00 00 00 352 356 350 357 37.5 00 00 00 00
Ro. of Sice 1 2 3 4 4 5 6 7 8 9 10 11 12 13 14	74 194 194 194 194 194 194 194 194 199 209	2.16 2.18 2.18 2.16 2.16 2.16 2.16 2.16 2.18 2.18 2.18 2.18 2.18	b 1350 1350 1350 1350 1350 1350 1350 1350	22 70 38 29 49 70 63 20 78 70 90 20 103 70 117 20 130 70 144 20 157 70 171 79 182 48 190 89	5.19 5.93 3.50 3.89 5.11 7.18 10.11 13.54 18.72 24.53 31.44 39.99 47.47 53.92 60.23 63.05	0 0 0 0 2.6 2.6 2.6 2.6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	45 45 45 45 42 42 42 42 45 45 45 45 45 45 45 45 45 45 45 45 45	200 200 200 200 200 200 200 200 200 200	N T	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000 00 00 00 00 00 00 00 00 00 00 00 00	water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 177 189 57	N sold water 1,022 1,122 1,125 1,125 1,124 1,127 1,125 1,124 1,124 1,124 1,127	(100%) Under U solid sol	Rece water 106 55 1 -52 -104 -151 -192 -225 -247 -255 -248	2 -2 -0 6 15 28 50 60 69 75 82 0 0 0 0	Te 18 52 82 107 127 142 156 154 147 134	867 879 833 879 847 848 779 727 662 579 0 0	00 00 00 00 00 352 356 357 357 37,5 00 00 00 00 00
Ro. of Sice 3 4 4 5 6 6 7 8 9 10 11 12 13 14 15 16 17 18	74 194 194 194 194 194 194 194 194 199 209	7 4 st. 2.16 2.16 2.16 2.16 2.16 2.16 2.16 2.16	1350 1350 1350 1350 1350 1350 1350 1350	22.70 35.20 49.70 63.20 76.70 90.20 103.70 117.20 130.70 144.20 157.70 111.72 182.46 190.69 199.03 201.12 202.78 208.10	5.19 3.93 3.50 3.89 5.11 7.18 10.11 13.94 24.53 31.44 39.99 47.47 53.92 80.23 63.66 64.63 67.85	0 0 0 0 2 8 2 8 2 6 2 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	45 45 45 45 42 42 42 42 45 45 45 45 45 45 45 45 45 45 45 45 45	1.00 1.00 1.00 1.00 0.90 0.90 0.90 1.00 1.0	N T	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	16 U	N sold water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000 00 00 00 00 00 00 00 00 00 00 00 00	veter 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 177 189 57 7	N sold water 699 1 1,032 1,127 1,125 1,123 1,1234 1,1243 2,1,122 44 1,172 7,18 15 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(100%) Under Und	Rece water 106 55 1 -52 -104 -151 -192 -225 -247 -255 -246 0 0 0	-2 -3 -0 6 15 28 28 0 0 0 0 0 0 0 0 0	Te 18 52 82 107 1142 152 156 154 147 134 124 0 0 0 0 0 0 0 0	857 879 893 879 867 847 818 779 727 662 579 0 0 0	CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
No. of Sice 11 2 3 4 4 5 6 6 7 8 9 10 11 11 12 13 14 15 15 17	74 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.9	7 4 st 2.16 2.16 2.16 2.16 2.16 2.16 2.16 2.18 2.18 2.18 2.18 2.18 2.18 2.18 2.18	1350 1350 1350 1350 1350 1350 1350 1350	22.70 35.20 49.70 63.20 78.70 90.20 103.70 117.20 157.70 154.70 151.79 182.45 190.69 199.03 201.12 202.78 206.10 210.23 212.65	5.19 9.93 3.50 3.89 5.11 7.18 10.11 13.94 24.53 31.44 39.99 47.47 53.92 80.23 83.05 64.63 67.85 72.07 74.66	0 0 0 0 2.8 2.8 2.8 2.6 0 0 0 0 0 0 0 1 1 1 1 0 0 0 0 0 0 0 0	45 45 45 42 42 42 42 43 45 45 45 45 45 45 45 45 45 45 45 45 45	1.00 1.00 1.00 0.90 0.90 0.90 0.90 1.00 1.0	N T	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	16 U	N tolker water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000 00 00 00 00 00 00 00 00 00 00 00 00	weter 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 177 189 57,	Noted bestern 1,022 1,123 1,125 1,124 1,12	(100%) Under U 100% Under U 100% 100% 100% 100% 100% 100% 100% 10	Recommended Water	-2 -3 -0 6 15 28 38 50 60 69 75 82 0 0	Te 18 52 82 107 1142 1552 1564 147 134 124 0 0 0 0 0 0	85) 879 893 879 867 847 818 779 727 692 579 0 0	CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
Ro. of Sice 3 3 4 4 5 6 7 8 9 10 11 1 12 13 14 4 15 16 17 18 19 20	74 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.9	7 4 st 2.16 2.16 2.16 2.16 2.16 2.16 2.16 2.16 2.18	13.50 13.50 13.50 13.50 13.50 13.50 13.50 13.50 13.50 14.69 6.64 9.81 129 2.04 4.58 1.19	22.70 35.20 49.70 63.20 78.70 90.20 103.70 117.20 157.70 154.70 151.79 182.45 190.69 199.03 201.12 202.78 206.10 210.23 212.65	5.19 3.93 3.50 3.89 5.11 7.18 10.11 13.72 24.53 31.44 39.99 47.47 53.92 80.23 63.65 64.83 67.25 72.07	0 0 0 0 2.8 2.8 2.8 2.6 0 0 0 0 0 0 0 1 1 1 1 0 0 0 0 0 0 0 0	45 45 45 42 42 42 42 43 45 45 45 45 45 45 45 45 45 45 45 45 45	1.00 1.00 1.00 0.90 0.90 0.90 0.90 1.00 1.0	N T	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	7 surface 0	N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0000 0000 0000 0000 0000 0000 0000 0000 0000	weter 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Ne Ne Ne Ne Ne Ne Ne Ne Ne Ne Ne Ne Ne N	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 177 189 57,	N Sold water 1,023 1,022 1,125 1,125 1,125 1,124	(100%) Under Und	Rece or water 106 55 1 -52 -104 -155 -192 -225 -247 -255 -246 -234 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	### Sale #### ###############################	18 52 82 107 127 142 156 154 147 0 0 0 0 0 0 0 0 0 0	867 879 893 879 867 847 818 779 727 662 579 0 0 0 0	CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
Ro. of Sice 1 2 3 3 4 4 5 6 6 7 7 8 8 9 10 11 12 13 14 15 16 17 18 19 20 Re	71 194 194 194 194 194 194 194 194 198 199 209 209 211 209 193 194	2.16 2.16 2.16 2.16 2.16 2.16 2.16 2.16	13.50 13.50 13.50 13.50 13.50 13.50 13.50 13.50 13.50 14.69 6.64 9.81 1.29 2.04 4.58 3.68 1.19	22 70 35 20 49 70 63 20 76 70 90 20 103 70 117 20 130 70 144 20 157 70 171 78 190 69 199 63 201 12 202 78 205 10 210 23 212 64	5.19 3.93 3.89 5.11 7.18 10.11 13.94 18.72 24.53 31.44 39.99 47.47 53.92 60.23 63.05 64.63 67.25 74.66 1.256	0 0 0 0 2.8 2.8 2.6 2.6 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 0	45 45 45 42 42 42 42 45 45 45 45 45 45 45 45 45 45 45 45 45	1.00 1.00 1.00 1.00 0.90 0.90 0.90 0.90	N I	Ne Ne Ne Ne Ne Ne Ne Ne Ne Ne Ne Ne Ne N	7	N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	clude t clud	water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	7 surface Ne 0 0 0 0 0 0 0 0 0 0 0 0 0 128	Te 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 177 189 57 10 7	0.18	(100%) Under Und	Rec harter 106 55 1 1 -52 -104 -151 -192 2 2 5 -247 -255 -243 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	### 5 5 5 5 5 5 5 6 5 6 5 6 5 6 6 6 6 6	18 52 82 107 127 152 156 154 147 134 124 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	867 879 883 879 887 887 847 818 777 662 579 0 0 0 0 0 0 0 9 9	CL 0.0 0.0 0.0 0.0 35.2 35.6 35.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Ro. of Since 1 2 3 4 4 5 6 6 7 8 9 10 1 1 1 1 2 1 3 1 4 4 1 5 1 6 1 7 7 1 1 5 1 6 1 7 7 8 1 9 2 0 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	71 194 194 194 194 194 194 194 194 194 19	216 216 216 216 216 216 216 216 218 218 218 218 218 218 218 218 218 218	13.50 13.50 13.50 13.50 13.50 13.50 13.50 13.50 13.50 13.50 14.69 48.8 1.29 4.59 3.68 4.59 3.68 4.59 3.68 4.59	22.70 38.20 49.70 63.20 78.70 90.20 103.70 117.20 130.70 144.20 157.70 171.79 182.46 190.69 199.03 201.12 202.78 2	5.15 3.93 3.50 3.89 5.11 7.18 10.11 13.94 18.72 24.53 31.44 39.99 47.47 53.99 47.47 53.99 64.63 67.85 72.07 74.96 1.256	0 0 0 0 2.8 2.8 2.8 2.8 2.8 2.8 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	45 45 45 45 42 42 42 42 45 45 45 45 45 45 45 45 45 45 45 45 45	1.00 1.00 1.00 1.00 0.90 0.90 0.90 1.00 1.0	N I	Ne	7 surface 1	N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	clude t clud	water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Te 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.18 0.18	(100%) Under Und	Reco	-2 -3 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0	18 52 82 107 127 142 152 155 154 147 134 124 0 0 0 0 0 0 1,395	867 879 883 879 887 887 887 887 887 871 9727 682 579 0 0 0 0 0 0 0 0	CL 0.0 0.0 0.0 0.0 352 35.6 35.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Ro. of Sice 1 2 3 3 4 4 5 5 6 6 7 7 8 9 10 11 12 15 16 17 18 19 20 Re Case Ro. Ro. Case Ro. Ro. Case Ro. Ro. Case Ro. Ro. Case Ro. Ro. Ro. Ro. Ro. Ro. Ro. Ro. Ro. Ro.	194 194 194 194 194 194 194 194 194 194	216 216 216 216 216 216 216 216 216 216	1350 1350 1350 1350 1350 1350 1350 1350	22.70 49.70 63.20 76.70 76	9 5.15 3.93 3.59 5.11 10.11 13.54 10.11 13.54 13.59 47.47 53.99 47.47 53.99 47.47 53.99 47.47 13.99 47.47 13.99 13.99 13.99 14.97 12	0 0 0 0 2.8 2.8 2.6 0 0 0 0 0 0 0 0 0 1 1 1 1 0 0 0 0 0 0	45 45 45 42 42 42 42 42 45 45 45 45 45 45 45 45 45 45 45 45 45	1.00 1.00 1.00 1.00 1.00 0.90 0.90 0.90	N I	Ne	7 surface	N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	BoFid O O O O O O O O O	water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Te 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 177 189 57 10 7	0.18 0.18	100% 100%	Reco	### S### S### S### S### S#### S#### S##### S######	18 52 82 107 127 152 156 154 147 134 124 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	867 879 883 879 887 887 847 818 777 662 579 0 0 0 0 0 0 0 9 9	CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
Ro. of Sice 1 2 3 4 4 5 5 6 6 7 7 8 5 9 10 11 1 2 13 14 1 5 5 18 19 20 Re	71 191 194 194 194 194 194 194 194 194 19	216 216 216 216 216 216 216 216 218 218 218 218 218 218 218 218 218 218	b 1350 1350 1350 1350 1350 1350 1350 1350	22,70 3523 49,70 6320 99,20 103,70 103,70 117,20 157,70 171,79 190,69 199,03 201,12 202,78 202,78 201,62 202,78 20	9 5.19 3.59 3.59 3.59 5.11 7.18 10.11 7.18 13.72 24.53 3.1.44 7.47 53.92 60.23 67.85 64.83 67.85 64.83 67.85 64.83 67.85 64.83 67.85 64.83 67.85 64.83 67.85 64.83 67.85 64.83 67.85 64.83 67.85 64.83 67.85 64.83 67.85 64.83 67.85 64.83 67.85	0 0 0 0 0 2.8 2.8 2.8 2.6 0 0 0 0 0 0 1 1 1 1 0 0 0 0 0 0 0 0 0	45 45 45 45 42 42 42 42 45 45 45 45 45 45 45 45 45 45 45 45 45	1.00 1.00 1.00 1.00 0.90 0.90 0.90 0.90	N T N N N N N N N N N N N N N N N N N N	Ne	7 surface 16 U 0	N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Solida S		7 surface Ne 0 0 0 0 0 0 0 0 0 0 0 0 0 0 128 Salarian	Te Te O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.18 0.18	100% 100%	Rece water water water water 55	-2 -3 -3 -5 -6 -6 -6 -6 -6 -6 -6 -6 -6 -6 -6 -6 -6	(ety Feet Te 18 52 82 107 127 142 155 154 147 0 0 0 0 0 1.395 149 159 159 159 159 159 159 159 159 159 15	867 879 883 887 887 887 841 841 841 877 90 00 00 00 00 00 00 00 00 00 00 00 00	CL 00 00 00 00 00 00 00 00 00 00 00 00 00
No. of Sice 1 2 3 4 4 5 5 6 7 7 8 9 100 111 12 13 13 14 15 18 19 20 Re Cas No. of Sice 1 1	7 t 194 1.54 1.54 1.54 1.54 1.54 1.54 1.54 1.5	7 set 2.16 2.18 2.18 2.18 2.18 2.18 2.18 2.18 2.18	b 1350 1350 1350 1350 1350 1350 1350 1350	22,70 30,20 49,70 63,20 90,20 103,70 117,20 113,70 117,70 10,70	9 5.19 5.11 7.18 10.11 13.54 47.47 53.92 60.23 50.06 64.63 12.56 71.25 7	0 0 0 0 2.8 2.8 2.8 0 0 0 0 0 0 1 1 1 0 0 0 0 1 1 1 Cle N	45 45 45 45 42 42 42 42 45 45 45 45 45 25 25 25 25 35 45 45 45 45 45 45 45 45 45 45 45 45 45	1.00 1.00 1.00 1.00 0.90 0.90 0.90 1.00 1.0	N I	Ne	7 surface	N solid water Surface: 1 179	Solida S	Name	7 surface Ne 0 0 0 0 0 0 0 0 0 0 0 0 0 0 128 Sealer surface Ne	Te Te O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.18 0.18		Recco water 100 SS 1 1 -52 2 1 100 SS 1 1 -52 2 100 SS 1 1 -52 2 100 SS 1 1 -192 SS 1 1 100 SS 1 100 S	-2 -3 -3 -60 -60 -60 -60 -60 -60 -60 -60 -60 -60	(ety Feet 18 18 52 82 107 142 155 155 154 143 134 124 0 0 0 1,395 154 17 18 18 18 18 18 18 18 18 18 18 18 18 18	86) 879 883 879 883 879 8847 818 8779 7727 602 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
Ro. of of Sice 2 3 3 4 4 5 5 6 6 7 7 8 8 9 10 11 12 12 13 13 14 15 15 18 17 18 18 17 18 18 17 18 18 17 18 18 17 18 18 17 18 18 17 18 18 17 18 18 17 18 18 17 18 18 17 18 18 18 18 18 18 18 18 18 18 18 18 18	7 t 194 1.54 1.54 1.54 1.54 1.54 1.54 1.54 1.5	7 set 2.16 2.18 2.18 2.18 2.18 2.18 2.18 2.18 2.18	b 1350 1350 1350 1350 1350 1350 1350 1350	22,70 30,20 49,70 63,20 90,20 90,20 103,70 117,20 157,70 157,70 117,79 182,46 199,63 201,12 202,78 204,70 55,41 55,41 55,41	y 5.19 3.93 3.59 3.59 3.59 5.11 7.18 18.72 24.53 31.44 7.37 5.39 9.44.47 5.39 9.23 63.06 7.25 7.20 7.12 7.16 1.25 6 7.25 7.16 1.25 6 7.25 7.16 1.25 6 7.25 7.16 1.25 6 7.25 7.16 1.25 6 7.25 7.20 7.16 1.25 6 7.25 7.20 7.20 7.20 7.20 7.20 7.20 7.20 7.20	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	45 45 45 45 42 42 42 42 42 45 45 45 45 45 45 45 45 45 45 45 45 45	1.00 1.00 1.00 0.90 0.90 0.90 0.90 0.90	N I O O O O O O O O O O O O O O O O O O	No	Table Tabl	N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Solida S		7 aurisc Ne 0 0 0 0 0 0 0 0 0 0 0 0 0	Te Te O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.18 0.18	100% 50%	Recommended in the second of t		(ety Feet Te 18 52 82 107 127 142 152 154 147 0 0 0 0 1.396 Te	86) 879 883 879 887 887 888 779 682 519 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00 00 00 00 00 00 352 355 557 375 60 00 00 00 01 18 65 00 00 00 00 00 00 00 00 00 00 00 00 00
Ro. of Sice Sice Sice Sice Sice Sice Sice Sice	7 t 194 1.94 1.94 1.94 1.94 1.94 1.94 1.94	216 216 216 216 216 216 216 216 216 216	1350 1350 1350 1350 1350 1350 1350 1350	2270 3523 4970 5524 1103 70 11720 552 1103 70 11720 5020 70 11720	y 5.19 39.3 35.9 38.9 5.11 7.18 10.11 13.54 47.47 53.92 49.23 64.63 64.63 67.25 72.07 11.56 Cy y 19.87 18.14 15.16 15.16 15.16 11.16.11	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	45 45 45 45 42 42 42 42 42 42 45 45 45 45 45 45 45 45 45 45 45 45 45	1.00 1.00 1.00 0.90 0.90 0.90 1.00 0.10 0.47 0.47 0.47 0.47 1.00 0.70 0.70 0.70 0.70 0.70 0.70 0.7	N I	Ne		N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Local Loca		Ne	Te 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.18 0.18	100m3 100m	Rece water 106 SS 1 1 -52 2 -104 -151 -192 -225 -2247 -234 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	-2 -3 -3 -5 -4 -0 5	(ety Feet 18 18 52 82 107 127 142 155 154 143 124 0 0 0 1,396 154 17 18 17 18 18 18 18 18 18 18 18 18 18 18 18 18	85) 879 833 879 883 887 881 818 777 727 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	CL
Ro. Case 1 2 2 3 3 4 4 5 5 6 6 7 7 8 9 10 11 12 13 14 4 17 18 18 19 10 Re Case 1 2 2 3 3 4 4 5 5 6 6 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	7 t 194 1.54 1.54 1.54 1.54 1.54 1.54 1.54 1.5	7 set 216 216 216 216 216 216 216 216 216 216	1350 1350 1350 1350 1350 1350 1350 1350	22,70 30,20 49,70 63,20 90,20 90,20 103,70 117,20 113,70 117,179 118,246 199,03 201,12 202,78 202,78 202,78 203,78 204,78 205,78	y 5.19 5.39 3.59 3.59 5.11 7.18 11.354 11.354 11.354 62.33 63.65 64.63 71.65 67.25 71.96 71.55 92 71.56 91 11.56 11.56 11.56 91 115.16 115.56	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	45 45 45 45 42 42 42 42 42 42 42 43 45 45 45 45 45 45 45 45 45 45 45 45 45	1.00 1.00 1.00 1.00 0.90 0.90 0.90 0.90	N O O O O O O O O O O O O O O O O O O O	Ne	7 surface	N solid water Surface: N solid water Surface: N solid water Surface: N solid water Surface: N solid water Surface:	scFd scFd	To writer To water 7 aurisc Ne 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 128 Salar surface Ne 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Te Te O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.18 0.18	100% 100%	Rece water 100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	-2 -3 -0 -6 -6 -6 -6 -6 -6 -6 -6 -6 -6 -6 -6 -6	(ety Feet 18 18 18 18 18 18 18 18 18 19 10 11 11 15 10 11 10 0 0 0 0 0 1 1396 11 11 11 11 11 11 11 11 11 11 11 11 1	85) 879 833 879 883 887 847 841 818 867 727 90 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	
Ro. of Sice 2 3 4 4 5 5 6 6 7 7 8 8 9 9 10 112 12 12 12 12 12 12 12 12 12 12 12 12	7 t 194 1.94 1.94 1.94 1.94 1.94 1.94 1.94	216 216 216 216 216 216 216 216 216 216	1350 1350 1350 1350 1350 1350 1350 1350	2270 3323 4970 5320 5320 5320 5020 5020 10370 10370 11720 15730 10370 11720 15730 10370 11720 15730 15	y 5.19 3.93 3.59 3.59 3.59 3.59 3.51 1.7.18 11.13.54 2.2.53 3.1.44 2.7.25 2.53 2.20 1.20 7.20 7.18.14 18.91 15.50 Cr	0 0 0 2.8 2.8 2.8 2.8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	45 45 45 42 42 42 42 42 45 45 45 45 45 45 45 45 45 45 45 45 45	1.00 1.00 1.00 1.00 0.90 0.90 0.90 1.00 0.10 0.47 0.47 0.47 0.47 0.47 0.47 0.47 0.4	N I O O O O O O O O O O O O O O O O O O	No	Table Tabl	N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	solid soli		7 aurisc Ne 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 128 50 128 50 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Te 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.18	1000 1000	Reco water 100 SS 1 1 -52 2 -104 -225 -247 -245 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	-2 -3 -3 -5 -5 -5 -1 1 17 25	(ety Feet 18 52 82 107 127 142 152 155 154 147 0 0 0 0 0 1.395 11 33 71 87 101 113 122	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
Roc. of Sice Sice Sice Sice Sice Sice Sice Sice	7 t 194 1.94 1.94 1.94 1.94 1.94 1.94 1.94	7 1-16 2.16 2.16 2.16 2.16 2.16 2.16 2.16 2.	b 13.50 13.5	22.70 30.20 49.70 63.20 90.20 103.70 117.20 113.79 117.79	y 5.19 5.93 3.59 3.59 3.59 5.11 7.18 13.54 43.47 53.92 60.23 50.64 63.55 72.07 12.55 72.07 15.15 16.16 11.15 16.11 16.16 11.16	C C C C C C C C C C C C C C C C C C C	45 45 45 42 42 42 42 45 45 45 45 45 45 45 45 45 45 45 45 45	100 100 100 100 0.90 0.90 1.00 1.00 1.00	N I O O O O O O O O O O O O O O O O O O	Ne		N soft water Surface: N soft water Surface: N soft Surf	STATE STAT		7 aurisc Ne 0 0 0 0 0 0 0 0 0 0 0 0 0	Te 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N Solid Solid	1000 1000	Recco water 100 55 11 -522 -245 -245 -245 -245 -255 -245 151 27 27 27 255 -245 -245 -245 -245 -245 -245 -245	-2 -3 -5 -5 -5 -1 17 25 3 3 3 3	(ety Feet 18 18 52 52 107 142 155 155 154 134 124 0 0 0 0 1,396 11 11 11 11 11 12 12 130 11 131 122 130 135	86) 879 833 879 887 887 887 887 777 00 0 0 0 0 0 0 0 0	CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
Roc. of Sice 2 3 4 4 5 5 6 7 8 8 9 9 100 11 12 2 3 3 4 4 5 5 6 6 7 8 8 9 9 10 11 12 12 12 12 12 12 12 12 12 12 12 12	7 t 194 1.94 1.94 1.94 1.99 1.99 2.09 1.93 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.94	7 1-10 21.6 21.6 21.6 21.6 21.6 21.6 21.6 21.6	1350 1350 1350 1350 1350 1350 1350 1350	22,70 30,20 49,70 50,20 50,20 103,70 103,70 117,20 157,70	y 5.19 5.39 3.59 3.59 3.59 5.11 7.18 1	0 0 0 0 0 2.8 2.8 2.6 2.6 2.6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	45 45 45 45 42 42 42 42 45 45 45 45 45 45 45 45 45 45 45 45 45	1.00 1.00 1.00 1.00 0.90 0.90 0.90 0.90	N O O O O O O O O O O O O O O O O O O O	No		N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	STATE STAT	To write To write	7 aurisc Ne 0 0 0 0 0 0 0 0 0 0 0 0 0	Te 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.18 0.18	100% 100%	Recco water 100 55 11 -52 24 100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	-2 -2 -3 -3 -3 -3 -4 -3 -3 -3 -4 -3 -3 -3 -4 -3 -3 -4 -3 -3 -3 -4 -3 -3 -3 -3 -3 -3 -3 -3 -3 -3 -3 -3 -3	(ety Feet 18 18 25 25 21 107 142 152 153 154 134 124 0 0 0 0 0 1 396 15 133 133 132 133 133 135 137 1396	UU 86) 879 833 879 887 887 887 779 90 00 00 00 00 00 00 00 00 00 00 00 00	CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
Roc. of Sice Sice Sice Sice Sice Sice Sice Sice	7 t 1914 1944 1944 1944 1944 1944 1944 194	216 216 216 216 216 216 216 216 216 216	1350 1350 1350 1350 1350 1350 1350 1350	22.70 30.20 49.70 90.20 73.70 90.20 117.20 117.20 117.20 117.20 117.20 120.21 20.11	y 5.19 5.39 3.59 3.59 3.59 5.11 7.18 11 13.54 18.72 24.53 31.44 17.47 17.55 9.22 17.20 7.18 14.47 18.91 18.91 18.14 18.91 18.91 18.94 18.91 19.54 24.52 22.91 19.54 34.06 34.06 34.06 34.06	0 0 0 0 2.8 2.8 2.6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	45 45 45 42 42 42 42 45 45 45 45 45 45 45 45 45 45 45 45 45	100 100 100 100 100 100 100 100 100 100	N I O O O O O O O O O O O O O O O O O O	Ne		N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Lord Lord	Na writer	7 aurisc Ne 0 0 0 0 0 0 0 0 0	Te 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.18 0.18	1000 1000	Recc. water 106 SS 1 1 -52 2 104 SS 1 1 -52 2 104 SS 1 1 -52 2 104 SS 1 1 -52 2 104 SS 1 1 105 SS 1 10	-2 -3 -3 -5 -4 -0 -5 -11 -2 -5 -3 -4 -11 -2 -5 -3 -4 -11 -11 -11 -11 -11 -11 -11 -11 -11	(ety Feet 18 18 52 82 107 127 142 155 154 143 124 0 0 0 1.396 15 17 11 33 71 11 37 112 120 130 135 131	867 879 833 879 833 877 847 847 727 662 577 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
Ro. Cast 11 12 13 14 15 16 17 18 18 19 10 11 12 13 14 15 16 17 17 18 18 19 10 11 12 13 14 15 16 17 17 18 18 19 10 11 12 13 14 15 16 17 18 18 19 10 11 12 13 14 15 15 16 17 17 18 18 19 10 11 12 13 14 15 15 16 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18	7 t 1914 1944 1944 1944 1944 1944 1944 194	7 1-10 216 216 216 216 216 216 216 216 216 216	13.50 10.00 10.00	22,70 30,20 49,70 63,20 90,20 103,70 117,20 113,70 117,20 113,70 117,129 112,46 117,139 117,13	7 5.19 5.39 3.59 3.59 3.59 5.11 7.18 11.71 11.554 11.7.18 11.7	0 0 0 0 2 8 2 8 2 8 2 8 2 8 2 8 2 8 2 8	45 45 45 42 42 42 42 42 43 45 45 45 45 45 45 45 45 45 45 45 45 45	1.00 1.00 1.00 1.00 0.90 0.90 0.90 0.90	N I O O O O O O O O O O O O O O O O O O	Ne		N	STATE STAT	Name	Ne Ne 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Te Te O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N Solid water	100% 100%	Recce to water 100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	-2 -3 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0	(ety Feet 18 18 52 52 107 142 155 154 154 134 124 0 0 0 0 0 1,396 11 13 33 53 71 101 135 197 190 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	86) 883 879 883 879 887 887 727 662 579 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
Roc. of Sice 2 3 4 4 5 5 6 6 7 7 8 8 9 9 10 11 2 2 3 3 4 4 5 5 6 6 7 8 8 6 7 7 8 8 6 7 7 8 8 6 7 7 8 8 6 7 7 8 8 6 7 7 8 8 6 7 7 8 8 8 7 7 8 8 8 7 7 8 8 8 7 7 8 8 8 7 8 7 8 8 8 8 7 8	7 t 194 1.94 1.94 1.94 1.94 1.94 1.94 1.94	215 216 216 216 216 216 216 216 216 216 216	1350 1350 1350 1350 1350 1350 1350 1350	22,70 30,20 49,70 90,20 103,70 103,70 117,20 157,70 157,70 162,45 190,89 201,12 202,78 204,10	y 5.19 5.39 3.59 3.59 3.59 5.11 13.54 18.72 24.53 31.44 67.25 24.51 16.80 17.25 17.80 17.87 18.74 16.81 16.80 17.97 18.74 16.81 16.80 17.97 19.87 24.51 16.80 17.97 19.87 24.51 16.80 17.97 19.87 24.51 16.80 17.97 19.87 24.51 16.80 17.97 19.87 24.51 16.80 17.97 19.87 24.51 16.80 17.97 19.8	0 0 0 0 0 0 2.6 2.6 2.6 2.6 2.6 2.6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	45 45 45 45 42 42 42 42 42 43 45 45 45 45 45 45 45 45 45 45 45 45 45	1.00 1.00 1.00 0.90 0.90 0.90 0.90 0.90	N O O O O O O O O O O O O O O O O O O O	No	Table Tabl	N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Solid Soli		Ne Ne Ne Ne Ne Ne Ne Ne Ne Ne Ne Ne Ne N	Te 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.18 0.18	1000 1000	Rece water 106 SS 11 -52 2-104 -225 -247 -234 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	-2 -3 -3 -5 -5 -4 -0 -5 -11 -17 -25 -33 -4 1 -0 -1 -10 -10 -10 -10 -10 -10 -10 -10	(ety Feet 18 52 82 107 127 142 155 154 147 134 124 0 0 0 1.396 11 33 71 87 11 113 122 130 135 137 96 105	UU 86) 879 833 879 881 881 877 777 777 509 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00 00 00 00 00 352 355 557 315 00 00 00 00 18 28 65 00 00 00 00 00 00 00 00 00 00 00 00 00
Ro. of Sice 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 9 9 10 11 12 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9 10 11 12 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9 10 10 11 12 2 13 14 15 16 17 18 18 19 18 19 18 18 19 18 19 18 18 19 18 18 18 19 18 18 18 18 18 18 18 18 18 18 18 18 18	7 t 194 1.94 1.94 1.94 1.94 1.94 1.94 1.94	7 4-st 2.16 2.16 2.16 2.16 2.16 2.16 2.16 2.16	b 1350 1350 1350 1350 1350 1350 1350 1350	22,70 32,20 49,70 63,20 90,20 90,20 103,70 117,20 117,129	y 5.19 5.39 3.59 3.59 3.59 5.11 1.554 15.71 15.54 15.71 15.54 15.71 15.59 15.59 0.10 16.11 16.59 16.11 16.11 16.59 16.11 16.11 16.59 16.11 16.11 16.59 16.11 16.11 16.59 16.11 16.11 16.59 16.11 16.11 16.59 16.11 16.11 16.59 16.11 16.11 16.59 16.11 16.11 16.59 16.11 16.11 16.59 16.11 16.11 16.59 16.11	0 0 0 0 0 0 0 2.8 2.8 2.8 2.8 2.8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	45 45 45 45 45 42 42 42 42 42 42 43 45 45 45 45 45 45 45 45 45 45 45 45 45	1.00 1.00 1.00 1.00 0.90 0.90 0.90 0.90	N I O O O O O O O O O O O O O O O O O O	Ne		N sold water Surface: N sold water Surface:	Lord Lord	Name	Ne Ne	Te Te O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N O.18	1000 1000	Recco water 100 SS 11 -522 -244 -235 -245 -246 -4 water 95 7 1 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	-2 -3 -3 -5 -5 -4 -4 -9 -5 -5 -5 -1 17 -2 -5 -5 -1 17 -2 -5 -5 -1 17 -2 -5 -5 -1 17 -2 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -1 17 -2 -5 -5 -1 17 -2 -5 -5 -1 17 -2 -5 -5 -1 17 -2 -5 -5 -1 17 -2 -5 -5 -1 17 -2 -5 -5 -1 17 -2 -5 -5 -1 17 -2 -5 -5 -1 17 -2 -5 -5 -1 17 -2 -5 -5 -1 17 -2 -5 -5 -1 17 -2 -5 -5 -1 17 -2 -5 -5 -1 17 -2 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -5 -1 17 -2 -5 -5 -5 -5 -1 17 -2 -5 -5 -5 -5 -1 17 -2 -5 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -1 17 -2 -5 -5 -5 -5 -1 17 -2 -5 -5 -5 -5 -5 -5 -1 17 -2 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5	(ety Feet 18 18 52 107 142 152 155 154 147 134 124 0 0 0 0 0 1.395 15 15 33 33 33 33 31 122 130 130 105 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	UU 86) 883 879 883 879 887 887 887 727 727 90 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0
Roc. of Stee 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9 10 11 12 13 14 5 15 16 17 18 15 16 17 18 15 16 17 18 15 16 17 18 18 19 10 11 12 12 13 14 15 16 17 18 18 19 10 10 11 12 12 13 14 15 16 17 18 18 19 10 10 10 10 10 10 10 10 10 10 10 10 10	7 t 194 1.94 1.94 1.94 1.94 1.94 1.94 1.94	7 4-st 216 216 216 216 216 216 216 216 216 216	13.50 10.00 10.00	22,70 30,20 49,70 90,20 103,70 103,70 117,20 157,70 157,70 162,45 190,89 201,12 202,78 204,10	7 5.19 5.39 3.59 3.59 5.11 7.18 18.72 24.53 31.44 18.71 3.59 47.47 53.92 47.47 19.87 11.56	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	45 45 45 45 45 42 42 42 42 42 42 43 45 45 45 45 45 45 45 45 45 45 45 45 45	1.00 1.00 1.00 1.00 0.90 0.90 0.90 0.90	Property of the control of the contr	Ne		N solid water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	solid soli	Na writer	7 aurisc Ne 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Te Te O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.18 0.18	1000 1000	Rece to water 100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	-2 -3 -5 -5 -5 -1 17 25 -3 33 41 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(ety Feet 18 18 52 107 142 155 154 154 134 124 0 0 0 0 0 1,396 11 13 33 53 71 101 135 122 130 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	UU 86) 889 883 879 883 879 887 7727 727 727 727 727 727 727 727 72	CL 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.



Case 1 (2/2): Downstream Slope

SF = 1 (C-L+(N-U-Ne) tun 6)

0: Effective Cohesion on Sip Circle (tf/m2)

1: Arc Length of Sip Circle (m)

	2+ ≖		Σ((+Te)		_		T:	Tanger	tial F	orce.	Acting on S	So Circle	(tf/m)			Ł:	Arc Leng	th of	Stip Cin	cle (m)				
								Ne:	Normal	Fort	e of f	arthquakel	Load Acti	ng on	Sto Circle (t	(m)	r	1:	Wat Dens	ity (t	(/m3)					
		SF:	Se'ety i	factor				To:	Tanger	λÚ≱ F	orce.	of Earthqua	te Load /	ctic	on Sho Circle	(t/n)	74	R:	Saturates	d Den	sity of I	Material	(tf/m3)		
								U:	Pore P	ress.	/6 AC	ting on Sip	Citie (t)	/m) "				ь:	Width of	Sto C	ircle (m	ð				
												Friction An			¼ (°)		1	γ:	XOTE	oordin	ate of (Denter (√ \$5o (irela (n	•	
			1.		100			•					· • •			5					13 - 3		100	2.3		
Cas	s 1 (2/	2): Dow	istre ar	Sope	Sio Ci	rc e N	0.1	Reser	voir Wat	er Su	afa. e	Normal W	ater Surf	sca;	EL 148 900m	S.	smic Coe	ffic i	ent	0.18	1005)	Reg	red 5	ety F.	ector	120
No.	Τ								abox	e the	wate	e surface	T	in	kide the wat						inder ti	a nate	EUrfac	0		11
٥ŧ	γt	YES	ь	g.	y	C	•	tanò	N	7-	Ne	Te U	N		T	No	10	ו־ט	N			T	Ne	Te	U	1 a l
Sice	1 -					Į.	- 1	•	ŀ				\$05d 1	rater	sold water			- 1	\$00d •	21.61	solo	water				1 1
1	7.90	2.16	6.60	9.83	3,79	- 0	45	1.00	0	0	0	0 (21	ė	1 0	0	4	- 0	0	- 0	0	0	0	- 0		0.01
	151		6.60	15.43	4.31	٥	45		٥	ō	ō	0 (61	Ö	8 0	1 1	11	- 61	ō	0	Ġ	Ö	0		,	
1 3	1.94		6.60	23.03	5.10	٥	45	1.00	ò	ò	6	0 (58	ō	14 0	1 2	18	0	0	0	à	Ö	0		, ,	0.0
1 4	124		6 60	29.63	6.16		45			ō	ō	0 (Ö	23 0	4	23	0	Ō	0	Ö		Ó	ď	, (
	154	2.18	6 60	3523	7.49		45	1.00	Ō	ō	ō	0 (158	o o	35 0		28	0	Ó	0	Ó	0	٥			0.0
	1 1 94	2.18	8.60	42.83	9.10	ا ا	45	1.00	ه ا	ò	ō	0 (182	٥	48 0	ء ا	3.3	0	Ó	0	ò	Ö	ہ ا		, (0.0
li	150		6 60	49.43	11.01		42		ة	ō	ō	0 6	201	ŏ	63 C	l ii	36	ō	ō	ō	ō		ة ا			أؤزد
١ .	150	****	6 60	55 03	13.21	2.6	42	0.90	١٠	· o	ō	ŏ		ŏ	77 0		39	ō	. 0	ŏ	Ď	ň		Ō	, ,	10.2
1	190		6.60	62 63	15.73	2.6	42	0.90	ة ا	ő	ŏ	ŏ	228	اه	92 0		41	ŏ	0	ō	ŏ	ŏ	! 6	ă	, ,	18.4
1 10	134		8.60	69.23	18.58	2.6	42	0.90	١٠	ō	ő	ŏ	232	0	106 0		42	ŏ	ō	0	ŏ	ō	ĭŏ	ŏ		18.8
l ii	150		6.60	75 83	21,77	2.6	42	0.50		ŏ	ŏ	ŏòò		ŏ	119 0		42	ŏ	ŏ	ŏ	ň	ň	ة ا	ĭ		192
1 ;;	1.54		6 60	82.43	25.34	2.6	42	0.90	ň	ō	ŏ	ň	228	ام	130 0		41	- 6	ŏ	0		ň	ň	č		10.7
13	1.50		6.60	89.03	29.30		45	1.00	١٠	ň	ŏ	ň	218		138 0	1	39	7	ň	ň		ň			i	
1 ::	1.94		6.60	\$5.63	33.70		45	1.00		ŏ	ŏ	ě		ŏ	143 0		37	ŏ	ň	õ	٠,	Ň	Ĭ			0.01
1 15	1.24		6.50		38.58	Ĭ	45	1.00	۱ŏ	ň	ŏ	ŏòò	184	ŏ	143 0		33	Ň	ň	ŏ	×	· š	ŏ	ž		
16	134		6.60	108 83	43.99	ŏ	45	1.00	-	Ň	ŏ	0 0	160	ŏ	138 0		29	č	Ň	ŏ			١ ،	,		
1 17	134		6.60	115.43	50.01	ľ	45	1.00		×	ŏ	0 0		č	125 0		23	្ដ	Š	,		·				
			6.60	122.03	56.73	ŏ			l ŏ	×	ŏ	0 0		ď	104 0		17	ŏ	~	ŏ			ľ			
18	1.54		6.60	128.63	64.28	ŏ	45 45	1.00	Ĭ	ŏ	ŏ	ŏ	58	ő	71 0		ii	ŏ		o.		ŏ	ŏ	6		
1 13																										
																		- 1	Ā	-					. 7	
20	1.94	2.16	5.28	134.87	72.37	Ö	45	1,00	0	Ó	ō	òò	ii j	0	24 0	1	3	0		Ō	ò		0	0		0.0
	1.94		5.28		72.37		45	1,00					17		24 0	1		- 1	0	-	0			0		0.0
Re	1.94	216 Calculat	5 £ 8	134.87 SF =	72.37 1.281))12	45	1.00 OK -	0	0	0	0 0	3,952	0	24 0 1,600 0	288	3 549	0		0	0		0	0		1122
Cas	1.94	216 Calculat	5 £ 8	134.87 SF =	72.37 1.281))12	45	1.00 OK -	O O roir Wat	0 0 er S.	0 O	0 (0 (Normal W	3,952	0 0 ce:	24 0 1,600 0 L148 900m	288 Se	3 549 smic Coel	0		0 0 0 18 (1005)	Req	o ired S	of ety F		0.0
Cas No.	1.94 10% of	2.16 (decide 2) : Dow	5 £ 8	134.87 SF =	72.37 1.281	0 >12 cle N	45 0 · · ·	1.00 OK - Resen	0 O roir Wat	0 0 er S.	O office wate	0 (0 (Normal W	13 3,952 ster Surfa	0 0 ce:	24 0 1,600 0	288 Se	3 549 amic Coal	O G Fficie	0 ont (0 0 0 18 (1005)		o vired S	of ety F	ctor	1122
Cas No. of	1.94 10% of	216 Calculat	5 £ 8	134.87 SF =	72.37 1.281))12	45 0 · · ·	1.00 OK -	O O roir Wat	0 0 er S.	0 O	0 (0 (Normal W	3,952 Rer Surfi	0 0 0	24 0 1,600 0 L.148 900m lude the year	288 Se	3 549 smic Cost	0	0 oct 1	0 0 0 18 (0 100%) 36r U	Req	o ired S	of ety F		1122
Cas No.	1.94 suit of e 1 (2/ y t	2 16 Calculate 2): Down	5.88 ion rstream b	134.87 SF = 1 Slope	72.37 1.281 \$40 Cs	O >12 Cle N	45 0 ····	1.00 OK - Resen tanà	0 0 roir Wat abov N	or Su	O offece wate	0 (0 (Normal W rsurface Te U	3,952 eter Surfi N solid v	0 0 0	24 0 1,600 0 L,148,900m Note the wat solid water	288 Se er surfa He	3 549 amic Coal	O G Fficie	0 ont (0 0 0 18 (0 100%) endor U solid	Req Water	0 uired S surfac Ne	of ety F	ictor U	120 0.
Cas No. of	194 suit of 7 t 194	216 Calcular 2): Down year 216	5 £8 ion stream b	134.87 SF = 1 Stope 1 39.82	72.37 1.281 \$40 Cs Y 21.61	O >12 C O	45 0 ···· • 2 • 45	1.00 OK - Resen tank	0 0 voir Wat abov N	o o er Sc o the	O O rface wate No	0 (0 (Normal W rsurface Te U	17 3,052 eter Surfa N solid v	ce:	24 0 1,600 0 L.148 900m lude the year	288 Se	3 549 amic Coal	O G Fficie	0 oct 1	0 0 0 18 (0 100%) 36r U	Req Water	o vired S	of ety F	ictor U	0 00 7 1122 120 0 00
Cas No. of	194 10k of 1(2/ yt 194 194	216 Calculat 2): Down 7 8 at 216 216	5 28 ion stream b 3 50 3 50	134.87 SF = 1 Stope 2 39.82 43.32	72.37 1.281 54p Cs y 21.61 22.59	O D O O	45 0 ··· 0 · 2 4 45 45	1.00 OK - Resent tamp 1.00 1.00	O O O O Wat Abov N	or Su	O offece water Ne	0 (0 (Normal W r surface Te U	17 3,952 eter Surfa N solid v 3 10	ce:[ce:rater	24 0 1,600 0 L 148,900m lude the wat solid water 1 0 3 0	288 Se er surfa He	3 549 amic Coal	O G Fficie	0 oct 1	0 0 0 18 (0 100%) endor U solid	Req Water	0 uired S surfac Ne	of ety F	ictor U	0 00 1122 120 CL 0 00 0 00
Cas No. of	134 suit of 1 (2/ y t 134 134 134	2.16 Calculate 2): Down 7.84 2.16 2.16 2.16	5 £8 jon nstream b 3 50 3 50 3 50	15487 SF = 1 Stope 1 39.82 43.32 45.82	72.37 1.281 \$560 Cs Y 21.61 22.59 23.66	O D O O	45 0 0 2 4 45 45 45	1.00 OK - Resen 1.00 1.00 1.00	O O O Skory N O O	o o er Sc o the	O offece water No.	Normal W r surface Te U	17 3,952 wher Surfa 8 oSid v 3 10 15	ce:	24 0 1,600 0 L,148,900m Note the wat solid water	288 Se er surfa He	3 549 amic Coal	O G Fficie	0 oct 1	0 0 0 18 (0 100%) endor U solid	Req Water	0 uired S surfac Ne	of ety F	ictor U	120 CL 0 00 0 00
Cas No. of	134 suit of 1 (2/ yt. 134 134 134	2.16 Calcular 2): Down 7 saft 2.16 2.16 2.16 2.16	5 £8 50n 1 50n 5 50 3 50 3 50 3 50	15487 SF = 1 Stope 1 33 82 43 32 45 82 50 32	72.37 1.261 \$5p Cs 7 21.61 22.59 23.66 24.83	0 >1.2 rcle N	45 0 0 2 4 45 45 45 45	1.00 OK - Resent 1.00 1.00 1.00	or Wat abov N	o o er Sc o the	O O O O O O	Normal W r surface Te U	17 3.982 eter Surfi 10 15 20	ce:[ce:rater	24 0 1,600 0 L 148,900m lude the wat solid water 1 0 3 0	288 Se er surfa He	3 549 amic Coal	O G Fficie	0 oct 1	0 0 0 18 (0 100%) endor U solid	Req Water	0 uired S surfac Ne	of ety F	ictor U	00 7 1122 120 01 00 00 00 00 00
Cas No. of	194 194 194 194 194 194 194	2.16 Calcular 2): Dow 7 ant 2.16 2.16 2.16 2.16 2.16 2.16	5 £8 50n stream b 350 350 350 350 350	13487 SF = 1 Slope 2 39.82 43.32 45.82 50.32 50.32 50.32	72.37 1.261 \$50 Cs Y 21.61 22.59 23.66 24.83 26.09	0 >1.2 rcle N	45 0 0 -2 4 45 45 45 45 45	1,00 OK - Resent 1,00 1,00 1,00 1,00 1,00	O O Wat abov	o o er Sc o the	o o o o o o o o o o o o o o o o o o o	Normal W r surface Te U	3,952 ster Surfi R solid v 3 10 15 20 24	ce:[ce:rater	24 0 1,600 0 L148,900m Jude the wat 1 0 3 0 5 0 9 0	288 Se er surfa He	3 549 amic Coal	O G Fficie	0 oct 1	0 0 0 18 (0 100%) endor U solid	Req Water	0 uired S surfac Ne	of ety F	ictor U	00 7 1122 120 01 00 00 00 00 00 00 00
Cas No. of	194 194 194 194 194 194 194	216 Calcular 2): Dow yast 216 216 216 216 216 216 216	5 £8 500 150 3 50 3 50 3 50 3 50 3 50 3 50	15487 SF = 1 5004 1 39.82 43.32 45.82 50.32 53.82 57.32	72.37 1.281 \$56 Cs 7 21.61 22.59 23.66 24.83 26.09 27.45	0 >1.2 C 0 0 0	45 45 45 45 45 45 45	1.00 OK - Resent 1.00 1.00 1.00 1.00 1.00	O O O O O O O O O O O O O O O O O O O	o o er Sc o U e	o o o o o o o o o o o o o o o o o o o	Normal W r surface 0 0 0 0 0 0 0 0 0 0 0 0	17 3,952 ster Surfi N 4,05d v 10 15 20 24 28	ce:[ce:rater	24 0 1,600 0 L148,900m kide the wat 1 0 3 0 5 0 7 0 9 0	288 Se er surfa He	3 549 amic Coal	O G Fficie	0 oct 1	0 18 (0 100%) endor U solid	Req Peter O O O O	0 uired S surfac Ne	of ety F	ictor U	00 00 1122 120 00 00 00 00 00 00 00 00 00 00 00 00 0
Cas No. of	194 194 194 194 194 194 194 194 194	216 Caccian 2): Down 7 set 216 216 216 216 216 216 216 216	5 £8 500 150 3 50	15487 SF = 15000 1 39.82 43.32 45.82 50.32 50.32 57.32 60.82	72.37 1.281 \$40 Cs 7 21.61 22.59 23.66 24.83 26.09 27.45 28.91	0 > 1.2 C C C C C C C C C C C C C C C C C C C	45 45 45 45 45 45 45 45	1,00 OK - Cardo 1,00 1,00 1,00 1,00 1,00 1,00 1,00 1,0	O O O O O O O O O O O O O O O O O O O	o o er Sc o U e	O O O O O O O	Normal W r surface Te U	17 3,952 rter Surfi N 405d v 3 10 15 20 24 28 30	ce:[ce:rater	24 0 1.600 0 L148 900m 2.00 Un water 1 0 3 0 5 0 7 0 9 0 11 0 13 0	288 Se er surfa He	3 549 amic Coal	O G Fficie	0 oct 1	0 18 (0 100%) endor U solid	Req Pater 0 0 0 0	0 uired S surfac Ne	of ety F	ictor U	00 2 1122 120 CL 0 00 0 00 0 00 0 00 0 00 0 00
Cas No. of	194 194 194 194 194 194 194 194 194	216 Calcular 2): Down 7 set 216 216 216 216 216 216 216 216 216 216	5 £ 8 500 5 150 3 50	15487 SF = 15000 1 39.82 43.32 43.32 50.32 50.32 57.32 60.82 64.32	72.37 1281 \$50 Co 7 21.61 22.50 23.60 24.83 26.03 27.45 28.91 30.47	C C C C C C C C C C C C C C C C C C C	45 45 45 45 45 45 45 45	1,00 OK - Cardo 1,00 1,00 1,00 1,00 1,00 1,00 1,00 1,0	O O O O O O O O O O O O O O O O O O O	o o er Sc o U e	O O O O O O O O O O O O O O O O O O O	Normal W r surface Te U 0 0 0 0 0 0 0 0 0 0 0 0	17 3,052 wter Soft N 6,05d v 3 10 15 20 24 28 30 32	ce::	24 0 1,600 0 1,148,500m k,de the wat 1 0 3 0 5 0 9 0 11 0 13 0 15 0	288 Se er surfa He	3 549 amic Coal	O G Fficie	0 oct 1	0 18 (0 100%) endor U solid	Req Peter O O O O	0 uired S surfac Ne	of ety F	ictor U	00 1122 120 00 00 00 00 00 00 00 00 00 00 00
Cas No. of S5ce	194 194 194 194 194 194 194 194 194	216 Cacular 2): Dow y and 216 216 216 216 216 216 216 216 216 216	5 £ 8 500 5 150 3 50	15487 5F = 15004 1 39.82 43.32 45.82 50.32 50.32 50.82 60.82 64.32 67.82	72.37 1281 550 Co 7 21.61 22.59 23.60 24.83 26.03 27.45 28.91 30.47 32.14	C C C C C C C C C C C C C C C C C C C	45 45 45 45 45 45 45 45 45 45 45	1.00 OK - 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	O O O O O O O O O O O O O O O O O O O	o o er Sc o U e	O O O O O O O O O O O O O O O O O O O	Normal W r surface Te U	17 3,052 nter Soft N 6,05d y 10 15 20 24 24 28 30 32	ce::	24 0 1,600 0 L148,900m loce Use wal 1 0 3 0 5 0 7 0 9 0 11 0 13 0 13 0 13 0 11 0	288 Se er surfa He	3 549 amic Coal	O G Fficie	0 oct 1	0 18 (0 100%) endor U solid	Req Pater 0 0 0 0	0 uired S surfac Ne	of ety F	ictor U	00 1122 00 00 00 00 00 00 00 00 00 00 00 00 0
Cas No. of S5ce 3 3 4 5 5	194 sult of 1 (2/ yt 194 194 194 194 194 194	216 Cacular 2): Dow 7 and 216 216 216 216 216 216 216 216 216 216	5 £8 500 1 5	13487 SF = 1 Stope 1 39.82 43.32 45.82 50.32 53.82 57.32 60.82 11.32	72.37 1.281 \$56 Cs 21.61 22.59 23.66 24.83 26.09 27.45 28.91 30.47 32.14 33.91	C C C C C C C C C C C C C C C C C C C	45 45 45 45 45 45 45 45 45 45 45 45	1.00 OK	O O O O O O O O O O O O O O O O O O O	o o er Sc o U e	O O O O O O O O O O O O O O O O O O O	Normal W r surface Ye U O C O C O C O C O C O C O C O C O C O	17 3,952 rter Scrib N so5d y 10 15 20 24 28 30 32 32 34	ster oo oo oo oo oo	24 0 1,600 0 1,148,900m kode the water 1 0 3 0 5 0 7 0 9 0 13 0 13 0 13 0 15 0 18 0	288 Se er surfa He	3 549 amic Coal	O G Fficie	0 oct 1	0 18 (0 18 (0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 100%) endor U solid	Req Pater 0 0 0 0	0 uired S surfac Ne	of ety F	ictor U	00 1122 120 CL 00 00 00 00 00 00 00 00 00 00 00 00 00
Cas No. of S5ce 3 4 5 6 7 8 8 10	194 194 194 194 194 194 194 194 194 194	216 21: Dow 7 set 216 216 216 216 216 216 216 216 216 216	5 £ 8 500 1 500 3	13487 SF = 1 39 62 43 32 45 82 50 32 50 32 57 32 60 82 67 82 11 32 14 82	72.37 1281 \$50 Co 21.61 22.59 23.66 24.83 26.09 27.45 28.91 30.41 30.21 30.391 35.81	C C C C C C C C C C C C C C C C C C C	45 45 45 45 45 45 45 45 45 45 45 45 45 4	1.00 OK - Care 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	O O O O O O O O O O O O O O O O O O O	o o er Sc o U e	o o o o o o o o o o o o o o o o o o o	Normal W restricted to 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	17 3,952 eter Surfi N 4,05d v 10 15 20 24 28 30 32 34 34 34	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	24 0 1,600 0 1,600 0 1,600 0 1,000 University of the water of the	288 Se er surfa He	3 549 amic Coal	O G Fficie	0 oct 1	0 18 (0 100%) endor U solid	Req Pater 0 0 0 0	0 uired S surfac Ne	of ety F	ictor U	00 7 1122 00 00 00 00 00 00 00 00 00 00 00 00 0
Cas No. of S5ce 1 2 3 4 5 6 8 10 11 12	194 194 194 194 194 194 194 194 194 194	216 Calcular 2): Down 7 and 216 216 216 216 216 216 216 216 216 216	5 £8 500 1 3 50 3 50 3 50 3 50 3 50 3 50 3 50 3 50	13487 SF = 1 Stope 1 39.82 43.32 45.82 50.32 57.32 57.82 67.62 11.32 14.82 78.32	72.37 1.261 \$50 Cs 7 21.61 22.59 23.66 24.83 26.09 27.45 28.91 30.47 32.14 33.91 35.81 37.82	C C C C C C C C C C C C C C C C C C C	45 45 45 45 45 45 45 45 45 45 45 45 45 4	1.00 OK - Comp 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	O O O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	office of the control	0 (0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	17 3,952 pter Scrip N 4,05d y 10 15 20 24 28 30 32 34 34 34 33	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	24 0 1.600 0 1.600 0 0 1.600 0 0 1.600 0 0 1.000 0 1.0	288 Se er surfa He	3 549 amic Coal	O G Fficie	0 oct 1	0 18 (0 18 (0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 100%) endor U solid	Req Pater 0 0 0 0	0 uired S surfac Ne	of ety F	ictor U	00 7 1122 120 CL 00 00 00 00 00 00 00 00 00 00 00 00 00
Cas No. of S5ce 3 4 5 6 7 8 8 10	194 194 194 194 194 194 194 194 194 194	216 Calcular 2): Down 216 216 216 216 216 216 216 216 216 216	5 £8 500 500 3 50 3	13487 SF = 1 Stope 1 39.82 43.32 43.82 50.32 53.82 57.82 64.32 67.82 78.32 78.32 78.32 78.32 81.82	72.37 1.261 \$50 Cs 21.61 22.59 23.66 24.83 26.09 27.45 28.91 30.47 32.14 33.91 35.91 37.82 39.96	0 2 12 C C C C C C C C C C C C C C C C C	45 0 ···· 0 · 2 45 45 45 45 45 45 45 45 45 45 45 45 45	1.00 OK - 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	O O O O O O O O O O O O O O O O O O O	o o er Sc o U e	of or or or or or or or or or or or or or	0 (0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	17 3.0552 wher Such 10 15 20 20 30 32 34 34 34 34 34 33 32	ce: E	24 0 1.600 0 1.600 0 1.600 0 0 1.600 0 0 1.000	288 Se er surfa He	3 549 amic Coal	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 oct 1	0 18 (0 18 (0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 100%) endor U solid	Req Pater 0 0 0 0	0 uired S surfac Ne	of ety F	ictor U	00 7 1122 1 120 00 00 00 00 00 00 00 00 00 00 00 00 0
Cass No. of S5ca 23 34 55 66 11 12 13 14	194 194 194 194 194 194 194 194 194 194	216 Calcular 2): Down 7 ast 216 216 216 216 216 216 216 216 216 216	5 £8 500 500 3 50 3	13487 SF = 1 Stope 1 39 82 43 32 45 82 50 32 57 32 60 82 67 82 71 32 78 32 81 82 81 82 85 32	72.37 1.261 \$5p Cs 21.61 22.56 24.83 26.09 27.45 28.91 30.47 32.14 33.91 35.81 37.82 39.96 42.22	0 2 12 12 12 12 12 12 12 12 12 12 12 12 1	45 0 ···· 0 · 2 45 45 45 45 45 45 45 45 45 45 45 45 45	1.00 OK	O O O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	of or or or or or or or or or or or or or	0 (0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	17 3.052 rter Scriv 8 8 10 15 15 20 24 28 30 32 34 34 34 33 29	C C C C C C C C C C	24 0 1,600 0	288 Se er surfa He	3 549 amic Coal	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 oct 1	0 18 (0 18 (0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 100%) endor U solid	Req Pater 0 0 0 0	0 orred S surfac Ne	of ety F	ictor U	00 00 1122 120 CL 00 00 00 00 00 00 00 00 00 00 00 00 00
Cas No. of S5ce 3 4 5 6 7 7 8 9 10 11 12 13	194 194 194 194 194 194 194 194 194 194	216 Calcular 2): Down 7 and 216 216 216 216 216 216 216 216 216 216	5 £8 500 1 500 350 350 350 350 350 350 350 350 350	13487 SF = 1 Stope 1 39.82 43.32 45.82 50.32 50.32 57.32 64.32 64.32 64.32 61.32 11.32 81.32 85.32 85.32 85.32 88.32	72.37 1.261 \$50 Co 21.61 22.59 23.66 24.83 26.09 27.45 28.91 30.47 32.14 33.91 35.81 37.82 39.96 42.22 44.63	0 12 12 N	45 45 45 45 45 45 45 45 45 45 45 45 45 4	1.00 OK	O O O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 marce 1 marce 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Normal Warface Te U O CO O CO O CO O CO O CO O CO O CO O	17 3.052 eter Surfi N 605d v 10 15 20 24 28 30 30 32 34 34 34 33 32 29 26	C C C C C C C C C C C C C C C C C C C	24 0 1.600 0 1.600 0 0 1.600 0 0 1.600 0 0 1.000 0 1.0	288 Se er surfa	3 549 amic Coal	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 oct 1	0 18 (0 18 (0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 100%) endor U solid	Req Pater 0 0 0 0	0 orred S surfac Ne	of ety F	ictor U	120 CL 000 000 000 000 000 000 000 000 000
Cass No. of S50e 12 2 3 4 4 5 5 6 6 10 11 12 12 13 14 15 16 16 15 16 16 16 16 16 16 16 16 16 16 16 16 16	194 194 194 194 194 194 194 194 194 194	216 216 216 216 216 216 216 216 216 216	\$50 \$50 \$50 \$50 \$50 \$50 \$50 \$50 \$50 \$50	13487 SF = 1 Slope 2 39.82 43.32 43.32 45.82 50.32 57.32 67.82 71.82 71.82 71.82 71.82 71.82 81.82 81.82 83.82 83.82 84.82 85.92 85.92 85.92 86.92 87.92 87.92 87.92 88.93 88.93	72.37 1.261 \$50 Co 21.61 22.59 23.66 24.83 26.09 27.45 30.47 32.14 33.91 35.81 37.82 39.96 42.22 44.63 47.19	0 2 12 12 14 N	45 45 45 45 45 45 45 45 45 45 45 45 45 4	1.00 OK - 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	O O O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 C C C C C C C C C C C C C C C C C C C	17 3,952 Peer Surfi N 4,05d , 3 10 15 20 24 28 30 32 34 34 34 34 33 32 29 29 29 22	**************************************	24 0 1,600 0	288 Se er surfa	3 549 amic Coal	00000000000000000000000000000000000000	0 oct 1	0 18 (0 18 (0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 100%) endor U solid	Req Pater 0 0 0 0	0 orred S surfac Ne	of ety F	ictor U	00 00 00 00 00 00 00 00 00 00 00 00 00
Cas No. of S5ce 3 4 5 6 7 7 8 9 10 11 12 13	194 194 194 194 194 194 194 194 194 194	216 216 216 216 216 216 216 216 216 216	\$250 350 350 350 350 350 350 350 350 350 3	13487 SF = 1 Stope 1 39 82 43 32 45 82 50 32 57 32 64 32 67 82 78 32 81 82 78 32 83 82 92 32 95 82 95 82 95 82 95 82	72.37 1.261 \$50 Cs 7 21.61 22.59 23.66 24.83 26.09 27.45 28.91 30.214 33.91 35.81 37.82 39.96 42.22 44.63 47.19 49.90	0 2 12 14 N	45 0 ··· · · · · · · · · · · · · · · · ·	1.00 OK - 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	O O O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 C C C C C C C C C C C C C C C C C C C	17 3,052 ster Sorf: N 6,05d y 15 20 24 28 30 32 34 34 34 33 32 29 26 22 28	\$ 000000000000000000000000000000000000	24 0 1,600 0 1,600 0 1,600 0 0 1,600 0 0 1,600 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 0 1 1 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 1 1 0 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 0 0 0 0 1 1 0 0 0 0 1 1 0 0 0 0 1 1 0 0 0 0 1 1 0	288 Se er surfa	3 549 amic Coal	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 oct 1	0 18 (0 18 (0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 100%) endor U solid	Req Pater 0 0 0 0	0 orred S surfac Ne	of ety F	ictor U	00 00 00 00 00 00 00 00 00 00 00 00 00
Cass Na. of S5ce 1 2 2 3 4 4 5 5 6 6 10 11 12 12 13 14 15 16 17 18	194 194 194 194 194 194 194 194 194 194	216 Calcular 2): Dow 7 1st 216 216 216 216 216 216 216 216 216 216	5 & 8 & 8 & 9 & 9 & 9 & 9 & 9 & 9 & 9 & 9	13487 SF = 1 Stope 1 Stope 1 39 82 43 32 45 82 50 32 57 32 60 82 67 32 67 82 11 32 14 82 85 38 81 82 85 38 81 82 85 38 85 38 87 32 88 32 97 32 98 38 99 32	72.37 1.261 \$50 Cs 21.61 22.59 23.60 24.83 26.09 27.45 28.91 30.47 32.14 33.91 35.81 37.82 39.96 42.22 44.63 47.19 43.90 52.77	0 2 12 1 N C C C C C C C C C C C C C C C C C C	45 0 0 2 45 45 45 45 45 45 45 45 45 45 45 45 45	1.00 CC - Case - 1.00	O O O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	17 3,052 ster Soft N solid v 15 20 24 28 30 32 24 34 34 33 32 22 28 22 24 28 24 34 34 34 32 22 24 28 28 30 20 20 20 20 20 20 20 20 20 20 20 20 20		24 0 1,600 0	288 Se er surfa	3 549 amic Coal	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	0 oct 1	0 18 (0 18 (0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 100%) endor U solid	Req Pater 0 0 0 0	0 orred S surfac Ne	of ety F	ictor U	0 00 00 00 00 00 00 00 00 00 00 00 00 0
Cass of S5ce 5 2 2 3 3 4 4 5 5 6 6 10 11 12 12 12 12 12 12 12 12 12 12 12 12	194 194 194 194 194 194 194 194 194 194	216 Cacular 2): Dow y 1 of 216 216 216 216 216 216 216 216 216 216	5 £8 3500 3500 3500 3500 3500 3500 3500 350	13487 SF = 1 3982 4332 4582 5032 5732 6082 67,82 11,32	72.37 1.261 550 Cs 21.61 22.59 23.66 24.83 26.09 27.45 26.09 27.45 26.09 27.45 28.13 33.91 33.91 42.22 44.63 47.19 43.90 52.71 52.71 52.71 52.71 52.71 52.71 52.71 52.71	0 12 12 14 N	45 0 0 0 2 45 45 45 45 45 45 45 45 45 45 45 45 45	1.00 6.00 1.00	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 C C C C C C C C C C C C C C C C C C C	17 3,052 rter Scrf. N 6,05d v 10 15 20 24 28 30 32 34 34 34 33 29 26 27	Company Comp	24 0 1,600 0 1,600 0 1,600 0 0 1,600 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4 288 See suffer He	3 549 barrier Cook e Th 1 2 3 4 4 5 5 6 6 6 6 6 6 6 6 6 7 8		0 oct 1	0 18 (0 18 (0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 100%) endor U solid	Req Pater 0 0 0 0	0 orred S surfac Ne	of ety F	ictor U	00 00 00 00 00 00 00 00 00 00 00 00 00
Cass No. of S5ce 1 2 2 3 4 4 5 5 6 6 10 11 1 1 2 2 1 3 1 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	194 194 194 194 194 194 194 194 194 194	216 Cacular 2): Dow y 1 of 216 216 216 216 216 216 216 216 216 216	\$ £8 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	13487 SF = 1 Stope 1 1 Stope 1	72.37 1.261 550 Cs 21.61 22.59 23.66 24.83 26.09 27.45 26.09 27.45 26.09 27.45 28.13 33.91 33.91 42.22 44.63 47.19 43.90 52.71 52.71 52.71 52.71 52.71 52.71 52.71 52.71	0 2 12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	45 45 45 45 45 45 45 45 45 45 45 45 45 4	1.00 GK - 1.00	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	17 3,0052 ster Scrit N 4,056 y 10 15 20 24 28 30 32 34 34 34 33 32 29 26 22 18 12 17		24 0 1,600 0 1,600 0 1,600 0 0 1,600 0 0 1,600 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 0 1 1 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 1 1 0 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 0 0 0 0 1 1 0 0 0 0 1 1 0 0 0 0 1 1 0 0 0 0 1 1 0	288 See Surfee He	3 549 amic Coal	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	0 oct 1	0 18 (0 18 (0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 100%) endor U solid	Req Pater 0 0 0 0	0 orred S surfac Ne	of ety F	ictor U	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Case	1 (2/2	2) : Dow	TIS COLUMN	Sope	São Ci	c e N	o. 3	Resen						ker Su					ismic C	oeffici	erst		(100%)			Sefety	actor	120
No.				1.5					800	ve the	wat,e	surfac			in	chico U	* WK	N BUTS	58				under l	ne water	LUTIO	C6		1
ď	γt	2 2 2 t	ъ.	1	¥	0	•	t = 4	И	1	N.	Te:	σ	J J	1		,)\fe	Te	U		N		1	Ne	T.	U	α
Sce				100					1.1		- 1			sond.	water	\$054	weter	i	10.0		ಾನ್	worker.	sofd.	water	- 4	100		1
- 1]	1.24	2.16	9.30	14.99	4.91	0	45	1.00	0	0	Ó	0	0	60	0	-9	. 0	-2	11	¢	O	0	1) 0		0	0	0
2	1.54	215	9.30	24.29	3.92	0	45	1.00	0	G	Ó	0	•	172	0	-14	. 0	-2	31	. 0	0) 0		ο .	0	0.
3]	1.94	216	9.30	33 59	3.51	2.6	42	0.90	0	Q	0	0	0	273	6	-3	0	-1	43	. 0	0	0	1 () 0	` ,	6 P	o	24.
- 4	1.54	2.16	9.30	42.89	3.73	2.8	42	0.90	0	0	0	0	0	352	0	21	. 0	4	65	0	۱ ۵	. 0		0	5. (ο .	0	24
5	1.94	2.15	9.30	52.19	4.59	2.6	42	0.90	0	٥	Ó	0	ė	437	0	55	Ö	10	79	. 6		0	1 (0	٠,	ė i	0	24.
ŧ	1.94	2.18	9.30	61.49	6.10	2.6	42	0.90	0	0	0	0	e	497	0	53	0	18	89	. 0			1 6	Ò	4.0	ō :	o i	24
7	1.94	2.18	9.30	70.79	8.28	2.6	42	0.90	0	٥	Ò	0	0	541	C	147	. 0	26	97	ō			. (Ò	5. (ō	Ō	25
8	1.94	218	9,30	80.09	11.16	2.6	42	0.90	٥	٥	Ð	0	Ð	588	0	199	. 0	33	102	. 6		· c	1 6	ò		o :	o .	25.
٠	1.94	2.18	9.30	89,39	14.81	2.6	42	0.90	e.	٥	0	0	0	577	0	251	∵ 6	45	104	Č			Ιć	Ō		6	ō .	26
10	1.84	218	9.30	\$8.69	1927	2.4	40	0.84	Ó	Ó	Ó	Ö	0	567	0	299	. 0	54	102		0	. 0	1 6	0		o :	Č :	25
11	1.94	2.18	9.30	107.99	24.66	2.4	40	0.84	0	0	o	0	0	539	o'	341	. 0	61	97	. 0	: 0	0				ō	0	26.
12	1.54	2.15	9.30	117.29	31.10	24	40	0.54	ō	ō	ó	Õ	ē	490	o'	371	· ŏ	87	8.6	ŏ	: 0	Ò				ň:	ŏ	29
13	1.94	2.18	6.55	125 22	37.56	2.4	40	0.84	ó	ō	õ	ŏ	ō	305	o'	289	: 0	48	55	. 0	ا ا	Ō		ŏ		, o	ŏ	21
14	1.93	2.16	7.53	132.25	44.22	0	35	0.70	ō	ō	ō	ō	6	298	o'	303	. 0	55	5.4		١٠٥	Ö	1 6		2.	ā :	ň.	6
15	1.95	2.18	2.35	137.19	49.51	li	25	0.43	ň	ň	ŏ	ň	ŏ	1	i o	92		1 14	15	. 9	آ ا	Ň	1 : 2			ň	ň	
16	2.07	2.19	8 87	142.70		i	25	0.47	ŏ	ŏ	ŏ	ŏ	ō	232	-19	298	14	1 54	4.9	, ě	ň	ň	1 2	Ň	-	ň :	× .	1
17	2.10	2.22	1.06	147.57	62.80	l i	25	0.47	à	ŏ	ŏ	ă	ď	1		22			4	- 11			1 7	` `			ň .	1 .
iel	2 03	2.27	3.05	149.63	85.89	ا ا	35	0.70	ة ا	ŏ	ň	ŏ	ŏ	1 37	15	1 6	- 8	1 10	š	18	ľ	Ň	1 2			Ň .	ň	3 6
19	194	216	0.38	151.34	88.80	ة ا	45	1.00	ň	ň	ŏ	ŏ	ŏ	ذ ا		٠,٠	å	١ ،	7 i		liñ	ň	1 7			Ň .	× .	
20	1.54	2.18	3 30	153.17	71.67	ة ا	45	1.00	ŏ	ŏ	٥	ŏ	ŏ	ن ا		20		نأا		ŏ	۱ ۱		1 ' ?			3		1
		Calcula		SF =		150	3			<u> </u>	- 0	ŏ	— <u>÷</u>	6,069		2.027	<u>`</u>	1 2/2	1,093	- 17		-	- 	5 6	 	ŏ	<u>^</u>	295.

Č.	и	(2/2) : Dev	matream	1 Slope	São Cá	rcle N	0.4	Reser	roir Wa	ter \$	a Taca	Norm	í W	ter Su	face :	1.148	COm.	S	emic C	os/fic	erit	0.181	100-}	Rec	ared S	dety	actor	11201
No.													r surfac						I BUTTO			<u> </u>			THE PHOTON				
ď	1	γt	y sal	ъ	2	y	C	٠	teré	N.	T	N.	Ye	v		N .			No	To	0		N	7	T	Na.	Te	-0	1 a. I
Sice	ıL.	11.	:		7.77			-					- 2		1066	water	solid	r-pler				solid	water	solid	rater				1 1
1	ı]	1.94	2.16	6.50	47.38	23.80	0	45	1.00	9	0	0	0	Ć	32	. 0	-6	. 0	-1	. 8	. 0	0	0		0) .	0 (0.0
1 3	1	1,94	2.18	5.60	53.98		0	45	1.00	0	0	0	٥	Ò	92	0	-13	0	-2	17	¢	0	0	. () 0	7. (•	0 : 0	0.0
1	1	1.54	2.16	6.60	80.58		٥	45	1.00	0	Ó	0	0	0	149	C	-12	٥	-2	27	٥	. 0	0	. () 0		; :	0 . 0	0.0
	4	1,54	2.10	8.60	67.18		2.6	42	0.90	0	٥	0	٥	0	201	0	-5	0	+1	36	. 0	. 0	. 0	. (. 6	. (•	Ó C	17.1
	4	1.94	2.10	6 80	73.78		2.6	42	0.90	0	0	0	0	٥	247	0	. 8	0	1	44	0	٥	0) Þ	. (•	0 (17.1
	1	1,94	2.10	8.60	80.38		28	42	0.90	•	0	0	0	0	288	0	25	. 0	5	52	. 0	. 0	. 0	[. () 0		•	0 0	172
1	1	1.94	2.16	8.80	88.98	22.84	2.6	42	0.90	٥	0	0	0	0	323	0	47	. 0	8	58	· 0	. 0	0	. () (. (0	0 0	17.3
1	1	1.94	2.16	8.60	93.58	23,98		42	0.90	•	. 0	0	0	0	351	. 0	71	0	13	63	. 0	. 0	. 0	. () 0	- (D (0 (17.4
	1	1.94	2.16	6.80	100.18	25.52		42	0.90	0	٥	۰	0	0	373	0	58	.0	18	67	, O	٥	٥) 0	: ₹)	0.0	17.7
10	7	1.94	2.18	8.80	106.78	27.47	2.4	40	0.84	0	٥	0	0	0	388	0	123	. 0	23	70	0		. 0	. (•	(٥	0 0	16.9
11	1	1.54	2.18	8.60	113.38	29.85	2.4	40	0.84	٥	٥	0	. 0	0	395	٥	155	0	28	71	0	0	0) (0	10) :	0 (172
17	1	154	2.15	8.60	119.98	32.58	2.4	40	0.84	o	0	0	Ģ	•	394	. 0	184	ಿ	33	71	· c		•	. () ¢)	0 0	17.7
13	ľ	1.94	2.18	4.43	125.49	35.42	2.4	40	0.84	0	0	0	0	0	280	Q.	138	0	25	47	0	, 0	0) : 0	1) ·	0 0	12.2
13	4	1.94	216	6.82	131.12	39.61	9	35	0.70	0	0	0	0	0	388	0	234	e	42	70	. 0	. 0	0	() (. () ;	0 . 0	1 00
1 13	1	1.92	2.19	0.38	134.71	40.86	!!	25	0.47	0	0	. 0	0	0	.₹º	-1	13	1	2	4	0	0		. () . 0			0 . 0	9.4
11	4	2.02	2.19	12.15	140.98	45.24	!!	25	0.47	0	. 0	0	0	0	841	-105	4 7 7	140	86	115	154	. 0	. 0	1	9 0			0 0	15.2
L !!!	1	2.06	2.23	3.19	148.83	51.50	1 !	52	0.47	2.	. 0	0	. 0 :	.0	132	33		+37	- 21	5 24	74	0	0		9	9		0 .0	4.3
1 3	7	1.95	223	3.36	151.91	54.52	l 🖁	33	0.70	0		9	0	0	110	32	105	-33	19	20	87		. 0			1		0 0	1 99
"	1	1,94	2.15	11.07	159.12	82.07	, ×	43	1.00	,		ò	0	0	165	6 1	198	-53	34	30	107		. 0	1 5	2			0 0	1 ?!
		1.84	Carcula			89.64 1.288	212		1.00	- 7	⊹	- ×		×	4,950	- 40	1,957	- 0	374	864	403	0	- 0	 3	, 0		?	0 0	1 39
	***			~··	 _	7.400	111	y	<u>~</u>		<u> </u>				7.750	20	1,731	18]	352	891	+03		U	`	, 0			<u>, , , , , , , , , , , , , , , , , , , </u>	197.6

SF: Safety Factor

N: Normal Force Acting on Sip Circle (tf/m)

T: Tangential Force Acting on Sip Circle (tf/m)

Re: Normal Force of Earthqueke Load Acting on Sip Circle (tf/m)

Te: Tangential Force of Earthqueke Load Acting on Sip Circle (tf/m)

U: Porce Pressure acting on Sip Circle (tf/m)

\$\delta\$: Effective Internal Friction Angle on Sip Circle (f)

O: Effective Cohesion on Sip Circle (tf/m2)
L: Arc Length of Sip Circle (m)
y t: Wat Danaity (tf/m3)
y sat: Saturated Density of Meterial (tf/m3)
b: Width of Sip Circle (m)
x.y: X or Y Coordinate of Center of Sip Circle (m)

[Čas :	1/2/2): 0o-	กลใกรล	n Siope	Soc	rcia N	3. \$	Reser	or Wat	er Su	face	Norma	Į W	ter Sur					ienic C	ceffici	ent	0.18	(1001)	Re	puired S.	z'ety Fa	ctor	1 20
- [No.									80 0			r surfac	•		in	chess t	ia mate	r surfa	C#		r		inder t		r surfac			1
- 1	of	γŧ	Y sat	ъ	, X	y	O	•	tro	N	T	Кa	T•	U			, ·		No.	Te	. 0 -		N	T	1	K ₀	_Y•	ŢŪ.	1 a 1
ı	Sece							·		ļ					4054	water	10/14	water	L			solid	* 25.45	1001	क और ह	ŀ			1 1
1	- 4	1.94	2.15	5 60	60.99	3199	0	45	1.00	, ,	Ģ	0	0	0	[21	0	-5	0	-0	4	. 0	. 0	. 0	1 0		0	0	0	[0.0]
1	2	1.94	2.16	5.80	66.79	*****	0	45	1.00		0	0	0	C	81	0	-2	0	-0	11	. 0	. 0	0	. 0		: 0	0	. 0	0.0
ł	3	1.94	5.16	5 80	72 59		0	45	1.00		0	0	0	0	98	. 0	2	e,	0	18	. 0	0	٥	0		0	0	. 0	0.0
- 1	- 41	1.94	2.16	5.80	78 39		. 0	45	1.00	0	0	0	0	Ç	130	. 0	10	0	2	53	; 0	. 0	0] 0	- 0	. 0	. 0	٥	00
١.	2	1.94	2.18	5 80	84.19		2.6	42	0.90		0	0	Q.	0	153	0	21	인	4	29	. 0	. 0	0	0			- 0	0	15.2
- 1	2	1.54	2.15	5.80	89.99		7.4	42	0.90	9	0	0	0	0	183	0	34	0	6	33	: 0	0	e	0] . 0	. 0	٥	15.3
٠.	- :1	1.94	2.15	5 60	95.79		2.6	47	0.90	0	0	9	0	G	505	. 0	49	. 0	9	38	. 0	. 0	ę	[0		. 0	- 0	. 0	15.5
- 1	. !	1.94	2.10	5 80	101.59		2.0	42	0.50		0	0	0	Ģ	217	. 0	63	9	12	33	c	0	0	Į o	•	0	. 0	. 0	15.7
Į	.:1	1.94	Z.15	5 60	107.39		2.5	42	0.90	2	9	0	0	0	559	0	83	9	15	41	0	0	0	0	. 0	. 0	. 0	0	15.0
1	. !!!	1.94	2.16	5.80	113.19	40.59	2.6	42	0.90	0	0		0	0	230		100	9	18	41	C	0	0	0	. 0	0	0	0	15.4
İ	- !!!	1.94	2.16	5 80	118.99		2.6	**	0.90	9	0	Ü	Ų	0	223	0	116	el	21	41		0	. 0	0	Ç	0	. 0	. 0	15.8
ł	??	1.94	2.16	5.80	124.79		2.6	42	0.90		0	0	9	0	555	0	130	9	23	40	. 0	. 0	. 0	0	0	1 0	. 0	. 0	17.4
-1		1.94	2.15	2.69	129.03		2.6	14	0.90			Ÿ	0	0	99	. 0	64	9	12	15	. 0	0	0	1 0	0	1 0	0	0	8.3
-1		1.93	2.15	7.03	133 89			33	0.70	ŭ	v	. 0	0	0	240	. 0	175	9	32	43		Q	0	0	0		. 0	. 0	0.0
-1	13	2.00	2.16	423	139.52		! !	23	0.47		v	Ÿ	ů	0	131	0	109		20	24	· · · · ·	0	. 0	0	0		∴ 0	0	5.5
-1		2.11	2.19	5.40	144.34	61.12	!	53	0.47		.0	7	•	Ų,	133	-9	125	10]	55	24	19	0	0	. 0	. 0	. 0	0	0	7.4
1	!:	2.11	223	0.85	147,47	64.19	١,	43	0.47	Ž	Ň	Ň	Ň		10	- 3	11/	-3	3	3		0	0	9	0	0	0	. 0	1.2
1	:31	2 03	218	3 29	151.50	65.37	,	32			v	v		V	**	٠,	25	-6	,	3	12	0	. 0		. 0	º	. 9	(P	0.0
-1	19	1.94		0.63		63 54	, v	+3	1.00	ı X	Ň	V	v		.:	. 0		-0		1	C	0	ે ગ	! ?	. Q	. 0	. 9	9	0.0
}	201	1.94	2.16 Calculat		153.94 SF =		>12	45	1.00	- %	- 6	- X -	 -	×	2.668	- 0	23			420		- 3		<u>پ</u>	0	1 0	~~ <u>°</u>		0.0
Ł	- 15.0	rat of	Car, Utar	·~!!		1,3,19	4.4		~	<u></u>					2,008		1,180		515	480	37		º	<u>o</u>	0	<u>∟ ∘</u>		0	150.7
r	Cara	1/2/2) - Down	netré an	Slope	Sin Cir	Tie No	. 6 [Resec	or Wat	er Sir	/acal	Magne	w.	the Sur	20 4 5	51 140	20100		ismic C			A 1 4 7	1004	· ·	2.30		· · · · · ·	
	Ka. T	• ••••	,			~~~	~~~~						surface		CGI OUT		ud U				OF ITTER	EINE -		1004)		uired St		CEOF	1.20

	1 (5/	2): Dow	retriar	Slope	Sto Ci	rcie N	0. 6	Resen						ter Su					ismic (<i>o</i> effici	ent		(1004)		uirod S		actor	1.2
П			1.0						8000			auria	ce.			ciude U	ne wate		ce_		1		nuder ()	io wate	r a aria			1-
1	7 %	y sal	ъ	1	У	Ç	P	ung	N	Τ.	No	T.	U		4	1.0	F .	Ne	Te	. 0 .	[Ν.		7	Na	Te	-	~] a
•														sond	water	colid	water				8050	water	\$35d	water	1			1
1]	1.94	2.15	3.60	76.95	41.88	0	45	1.00	0	0	0	0	0	6	. 0	٥	. 0	0	- 1	. 0	0	. 0	0	0	1	, 	0	0
2]	1.94	2.15	3.50	80.55	42.18	0	45	1.00	0	0	0	0	0	16	0	2	0		- 3	C] 0	Ó	۰ ا	. 0	i ()	0	ol
3]	1.94	2.13	3.60	84.15	42.64	0	45	1.00	0	0	Ó	0	0	28	. 0	4	0	1	. 5	: 0	10	٥	1 0	. 0	1. (•	0	ol
4]	1.94	2.16	3.60	87.75	43.23	0	45	1.00	0	0	0	0	0	38	. 0	7	0	1	7	. 0	1 0	. 0		. 0	1 6	5	Ď	ėl –
5	1.94	2.18	3.60	91.35	43.95	0	45	1.00	0	0	0	0	0	45	. 0	l 10	. 0	2	. 8	. 0	ة ا	Ó	ة ا	· č	1		ň .:	15
6	1.94	2.16	3.50	94.95	44.83	Ó	45	1.00	۰	•	0	0	٥	54	0	14	o	3	10	· e	1 ň	Ŏ	ة ا		1		ň	ĭ
и	1.94	2.16	3.50	98.55	45.85	٥	45	1.00	0	0	Ó	0	0	60	. 0	18	6	3	11		ة ا		آم ا	Ň	1		ň :	٦,
á	1.94	2.15	3.60	102.15	47.01	o	45	1.00	ō	ō	ō	ō	ō	64	ò	22	· č	1 4	19	ň	ľň		يّ ا	×	1	,		ĽJ.
ál.	194	2.15	3 60	105 75	48.34	i	45	1.00	ň	ŏ	ň	ň		AR	ň	28	- 6		12		1 .		۱ ,		(')		× .	<u>"</u>
ă.	194	216	3.60	109,35	49.82	וֹ וֹ	45	1.00	ñ	ň	ň	ň		70	ő	31	Ň	Š	13		ľ		l ,		$(\cdot \cdot)$			<u> </u>
П	194	2.18	3.60	112.95	51.48	ľŇ	15	1.00	ň	ň	ň	ň	Ň	11		34			- 13				1 ,		1 1		•	"
31	194	216	3.60	116.55	53 32	ľ	45	1.00	š	ň	×	×	Š	70	Š	38				ž	١ ٢		, ,		()	3.7		91
#	1 44	2.18	3.60	120.15	55 35	١ 🕺	45	1.00	×	ž	×		×			300	, i		13	v	١ ،		1 0	U	1 1	,	U	ᅄ
31	1.34	2.18	3.60	123.75	57.59	l X	72	-7.	, v	Ž	×			68		11			12	·	1 3	. 0	! !	. 0	1 - 9	<u>'</u>	0 .	인
4						· ¥	13	1.00		Ÿ		Ų		93		4.3			14	U,		. 0	! ?	0	1	•	0 : '	이
21	1.94	2.15	3.60	127.35	60.05		43	1,00	0	0	Ų	.: 0	0	81	. 0	41	9	8	11	0	0	. 0	0	∴ 0	; () /	0	이
9	1.94	2.15	4.17	131.23	62.53	9	-13	1.00	0	0	0	0	0	83	Q.	50	ા	9	11	0	0	. 0	0	O	į ()	0	이
71	1.94	2.16	3,64	135.14	65.27	0	35	0.70	•	0	0	0	o,	47	0	41	이	7		0	0	. 0	0	0) ()	0 - 1	ᅃ
8	1.93	2.15	3,73	138 83	69.70	0	35	0.70	0	0	0	0	0	38	0	37	. 0	7	. 7	C	0	O	[0	0) (• •	0 . •	0]
9	2.08	2.15	4.12	142.75	73.77	1	25	0.47	0	0	0	0	. 0	19	0]	20	이	4	3	6	0	0	0	. 0) , (0	٥
0	2.11	2.15	0.76	145.19	76.55	0	35	0.70	0	0	0	. 0.	0	0	0	. 1	0]	0	0	0	. 0	. 0	0	0	0)	0. (0
es	of of	Calculat	.00	- \$F =	288	>12	· · · ·	ŌΚ T	- 0	0	0	. 0	0	954	. 0	483	O	87	172	Q	0	Ö	O	ō	T 0	,	0	gt –

Case	1 (2/	2): Dow	пафтап	Sloce	Sio C	rcle N	0.7	Resen	roir Wa	ter Su	fece	Norm	al W	rter Su	face :	EL 148	900m	Se	smic C	oeffic	ent	0.18	(100%)	Re	uired S	afety	Factor	1 20
No.	· ·								ab∞	/S Ure	wate	rsurfaq	: 4	Ι	N1	clude ti	to wat	er curried					unvier L	ha wate				
of	γt	yest	ъ	X .	y	C	•	tarq	N	T	Ne	Te	Ŧ				·	Ne	Ta.	U		N	Т	1	Na	Ta	Ų	1 a i
Sice													2	solid.	water	solid	water	1		,	to5đ	water	1054	water	ļ			1 1
f = 1	1.94	2.15	4.00	8.63	3.85	0	45	1.00	0	0	0	0	Ó	7	. 0	1	. 0	Ó	1	0	0	. 0	. 0	0	(, ,	0	0 00
[2]	1.94	2.16	4.00	12 63	4.25	0	45	1,00	0	0	0	0	0	21	. 0	- 3	0	0	4	0] 0	. 0	. 0	. 0	1 () i	o	0.0
3	1.94	2.16	4.00	16.63	4 8 1	0	45	1.00	0	Φ.	0	0	- 0	34	~ 0	. 5	0	1	. 6	. 0] 0) . 0	0	. 0) .	0 -	ol acl
1 4	1.94	2.16	4.00	20.63	5.53		45	1.00	0	0	0	0	0	45	. 0	9	0	2	. 8	0	1 0	. 0	. 0	. 0) }	0 .	0 00
5	1.94	2.16	4.00	24.68	6.40	0	45	1.00	٥	٥	0	0	0	55	. 0	13	0	5	10	0	1 0	, 0	0	. 0		1 (Ó ., I	0.0
- 6	1.94	2.16	4.00	23.63	7.43	0	45	1.00	0	0	0	. 0	0	64	: O	18	0	3	- 11	0	1 0	. 0	∫ o	. 0	i d		0 .	0.0
7	1.94	2.15	4.00	32.63	8.64	0	45	1.00	0	0	0	0	. 0	70	. 0	23	0	4	13	0		0	. o	. 0	ic	, .	0 1	0.01
8	1.94	2.15	4.00	35.63	10.01	٥	45	1.00	0	٥	0	0	0	75	. 0	28	0	5	14	0		. 0	l o	0	l c	1	0	0.0
ş	1.94	2.15	4.00	40,63	11.57	0	45	1.00	0	0	0	0	0	79	. 0	33	0	6	14	Ð	i o	. 0	1 0	. 0	lo	1 3	0 1	0.6
10	1.94	2.15	4.00	44.68	13.32	0	45	1,00	0	0	0	0	0	81	. 0	37	. 0	7	15	0	10	. 0	i o	0	١٥		0 . (0 0 0
11	1.94	2.16	400	43.68	1523	0	45	1.00	Q	0	0	0	0	81	0	42	0	8	15	. 0	I٥	. 0	İο	0	١		0	0.0
12	1.94	2.15	4.00	52.68	17.44	0	45	1,00]	0	0	0	0	0	80	· 0	45	0	8	14	. 0	lο	. 0	0	. 0	la		Ď .	1 00
13	1.94	2.16	4.00	56.68	19.83	0	45	1.06]	Ó	0	0	0	0	77	. 0	43	Q	9	14	0	1 0	. 0	1 0	0			0 .	0.0
14	1.94	2.15	4.00	60.68	22.48	ď	45	1.00	0	0	. 0	0	. 0	- 72	. 0	50	0	9	13	. 0	Ιo	. 0	ه ا	Ö	Ì	i Ž	0	0.0
15	1.94	2.18	4.00	64.63	25.33	0	45	1.00	0	0	0	0	. 6	65	- 0	50	0	9	12	0	Ιó	. 0		0	Ì	i	0 1	0.0
16	1.94	2.16	4.00	68.63	23.60	0	45	1.00	0	0	٥	0	0	57	. 0	43	. 0	9	10	0	ا ا	. 0		ò			0 1	0.01
17]	1.94	2.18	4.00	72.68	32.15	0	45	1.00	. 0	0	0	0	G	47	. 0	44	. 0	8	8	0	ا ا	ं०	ة ا	0	ā		0 1	0.0
1 18	1,94	2.16	4.00	75.68	36 09	٥	45	1.00	0	ō	ō	. 0	O	35	- 0	35	Ö	l i	ě	Č	lä	Ō	Liō	õ				0.0
19	1.94		4.00	60.68	40.43	Ó	45	1.00	0	0	ō	· •	. 0	22	· o	25	ō	. 5	4	: c	l.ă		ا ہ	ŏ		- (0	0.0
20	1.94	2.15	4.04	84.70	45.44	0	45	1.00	0	0	0	ō	0	8	· 0	. 10	Ö	2	1	0	ة ا	ō	1 0	ō	a a	- 5		0.0
Re	suit of	Casculat	.001	SF≔	1280	>12	g	OK :	0	0	0	0	0	1,075	Ó	567	0	192	194	0	ō	0	<u>-</u>	- 0	Ö		ŏ	1 66

No. of 71 S6cs 1 1.94 2 1.94 3 1.94 4 1.94 5 1.94 6 1.94	4 2.16 4 2.16 4 2.16 4 2.16 4 2.16	6.30 14.3 8.30 20.6 6.30 26.9 6.30 33.2 6.30 33.5	1 3.81 1 3.51	0 0	45 45 45	1.00 1.00 1.00	0		water Ne O	surface To U			in: rater			r surface Na	Y	·0		1	F	e water	Ne	10	U	α
\$6c4 1 1.94 2 1.94 3 1.94 4 1.94 5 1.94 6 1.94 7 1.94	4 2.16 4 2.16 4 2.16 4 2.16 4 2.16	6.30 26.9 6.30 33.2	1 4.43 1 3.81 1 3.51	0 0 0	45 45 45	1.00 1.00	0	0	0	T			rater	solid		Ne	Ta	_O		1	Γ			T•	Ū-	α
1 1.94 2 1.94 3 1.94 4 1.94 5 1.94 6 1.94 7 1.94	4 2.16 4 2.16 4 2.16 4 2.16	6.30 26.9 6.30 33.2	1 4.43 1 3.81 1 3.51	0 0	45 45 45	1,00	0	0	0	0	6		rater	solid.								- 1	1			1 1
2 194 3 194 4 194 5 194 6 194 7 194	4 2.16 4 2.16 4 2.16 4 2.16	6.30 26.9 6.30 33.2	1 4.43 1 3.81 1 3.51	0 0	45 45 45	1,00	00	ō	0	0	71				HILL			- 1	1050	Marce.	\$010	water.				1 1
3 1.94 4 1.94 5 1.94 6 1.94	4 2.16 4 2.16 4 2.18	6.30 26.9 6.30 33.2	1 3.81 1 3.51	0	45 45		•				~	29	0	-8	0	-1	5	Ô	0	.,. O	Ō	. 0	. 0		5 (0.0
4 1.94 5 1.94 6 1.94 7 1.94	4 2.15 4 2.15	6.30 33.2	1 3.51	.0	45	* ^ 1		U	0	0	0]	84	. 0	~12	· 0	-2	15	. 0	0	. 0	6.0	- 0	. 0	- î 4		0.0
7 1.94				2 4		1.37	0	0	0.	0	0	36	· 0	-10	0	-2	24	0	. 0	0	`` o	0	. 0) (0.0
7 1.94		,8 30 33.5		E. 0	42	0.90	٥	٥	0	. 0	0	183	. 0	`` -3	: 0	-1	33	0	٥	. 0	l •			. 1) (18.3
7 1.94	4 2.15		1 3,60	2.6	42	0.90	0.	0	0	0	G :	24	. 0	10	. 0	z	40	0	. 0	0		0	Ō	1		18.3
		6.30 45.8	1 4.05	2.6	42	0.90	0	0	0	0	0	50	. 0	27	. 0	5	43	i e	0	: 0	1 0	0	` 0	- 1	5	16.4
	4 2.16	6.30 52.1	1 4.68	26	42	0.90	0	0	0	0	0	290	. 0	47	. 0	9	52	. 0	0	٠ ،		- 6	. 0		i i	18.5
8 1.94	4 2.15	8.30 58.4	6.11	2.6	42	0.90	0.	0	0	0 -	ol .	114	0	71	0	13	57	. 0	. 0	. 0	! 6	اه	0			14.7
9 1.94	4 2.15	6.30 61.7		2.6	42	0.90	0	0	0	o	ol :	131	. 0	95	´ 0	17	60	- 0	0	0	هٔ ا	اه ا	Ġ			170
10 1.94	1 2.16	8.30 71.0	1 9.77	2.6		0.90	o	0	ò	0		МI	. ol	123	. 0	. 22	61		. 0	. 0	ة	- 6	ì	- 6	,	123
11 1.94	4 2.18	8.30 77.3	1 12.27	2.5	42	0.90	0	٥	0	0	0	144		149	0	27	62	ō	ò	0	ة ا	اه				178
12 1.94	4 2.15	8.30 83.8	1524	2.8	42	0.90	ŏ.	. ò	ō.	ŏ.		139	. 6	174	O	31	65	: 6	ŏ	ò	ة ا	اة			Š . r	183
13 1.94	4 2.16	6.30 89.9	18.75	2.6	42	0.90	9	0	Ò	0	6	27	- 0	197		35	59	ò	ŏ	0	! .	- 61		- 1		190
14 194		8 30 95 2		2.5		0.90	ò	ò	o	ò		36		215	. 0	39	55		ň			اه			, ,	199
15 1.94		8 30 102 5	27.63	2.5		0.90	Ö	õ	ō.	Ď.	- 1	177		227		41	50			Č	ř		l ă			3.3
15 194	1 1 1 1	530 103 8		l Ti	1.0	0.93		ō.	ñ	ň.	- 1	12		231		42	ii		ň	Ň	1.1.3	: 51			()	3 23
17 194			39.83	اة		0.93	ő	ŏ	ō	0	- 1	94		222		40	35			۸	, A			1	()	0.0
18 1.94		8.30 121.4		هٔ ا	45	1.00		ŏ	ő	ő	٠١٥	41	´ ŏ	195	ŏ	35	25	ň	×	ň		Ň			()	0.0
19 1.94	1 1 2 3 2	630 1277	57.59	Ιš	45	100	ŏ	ŏ	ň	ŏ	۱	80		143		54	iž		Ľ Ă	: ă	1 7				()	0.01
20 1 14	4 216	485 1332		ŏ١	45	1.00	ŏ	o.	ń	0	٠ اه	18	- 0	- 44		ě	- 1	ň		Ö					()	1 00
Result of	f Calculat		1.338	312) · · C		ŏ	-	ō	ă	0 4.	150		2,138	`	385	803		o	- 0	- ×		-			4 00

SF = I [C-L+(N-U-Ne)-tan 6] _______

SF: Safety Factor

N: Normal Force Acting on Sip Circle (tf/m)

T: Tangential Force Acting on Sip Circle (tf/m)

No: Normal Force of Earthquake Load Acting on Sip Circle (tf/m)

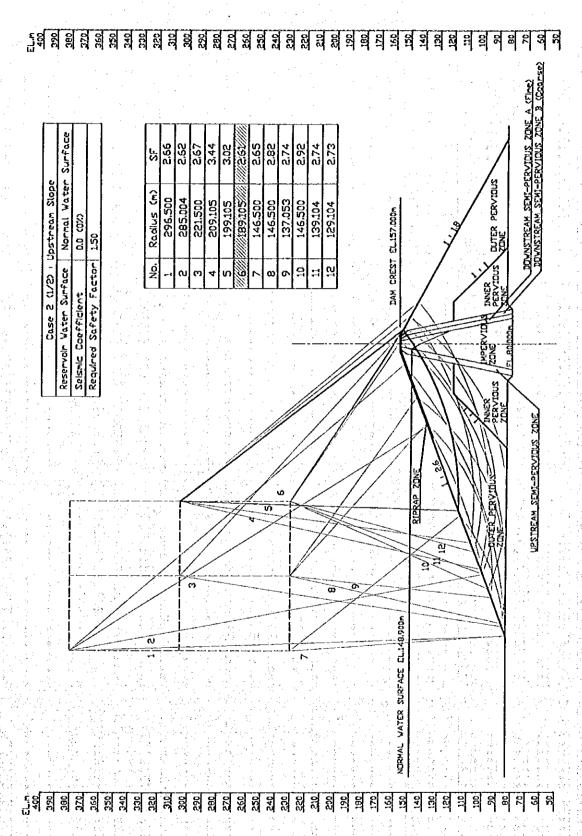
To: Tangential Force of Earthquake Load Acting on Sip Circle (tf/m)

U: Pore Pressure acting on Sip Circle (tf/m)

or : Effective Internal Friction Angle on Sip Circle (*)

O: Effective Cohesion on Sip Circle (II/m2)
L: Are Length of Sip Circle (m)
y t: Wet Density (II/m3)
y at: Saturated Density of Material (II/m3)
b: Width of Sip Circle (m)
z.y: X or Y Coordnate of Center of Sip Circle (m)

								٠.	Cireco	WE MYELL!	RIINGGIN	ige on Stp C	rs:0 () ···	·	• •	r.y:	XorY	Coorton	MILE CE	Cetter .	or sup o	Circle (m)	
Car	e 1 (2/	2): Oo	matrea	n Sloce	Stip C	ercle N	io. 9	Resen	yor Wa	ter Surfac	e Normal V	rater Surface	: EL.148.90	Om	Selsmic (Coeffic	ient.	018	(1005)	Red	wired 5	afety F	actor	120
No.		yist		1		c		terá			ter surface		ne kode tha	Nater &	wisca	11				he wate	rsurfac	c e		1
S5ce	, "	7110	•		y	ľ		1370	"	1 10	10 0	soEd wat	r sold w		io Te	·	solid	N Water	selid	l water	Na Na	Te	0] ^Q .
	1.94		4.50	30.93		0		1.00	0	-	0 0	15	0 -1	0	-0 2	C	0	0	7	0	() (0 0	0.0
	1.94		4.50 4.50	35.43 39.93			45 45				0 0	35 55	0 3		0 6	. 0	:	•	;) 0			0 : 0	0.0
1 4	1.94		4.50	44.43			45	1.00	ō	-	Ďŏ		ol i	ŏ	i iš	ŏ	ŏ	ŏ	1 6	> 0	1 6		0 0	0.0
1 :	124		4.50	48 93			45	1.00	٥		0 0		0 13	0	2 16	. 0	0	0	9) i o	İ) : (0 : 0	0.0
1 3	1.54		4.50 4.50	53.43 57.53			45 45	1.00 1.00		•			0 21		4 19 5 21	. 0	. 8	. 0	1 2) 0] :		0 0	0.0
6	1.94		4.50	62.43			45	1.00	ŏ		0 0		0 38	Ö,	7 22	ě	ŏ	ŏ	1 - 6	Ö	1 6	ö	0 0	0.0
ا .	1,94	2.15 2.18	4.50	6593			45	1.00	ļ ,				0 47	이	8 23	. 0	٥	9	- 9) 0	0) (0 0	0.0
Lii	134	2.18	4.50 4.50	71.43 75.93			45 45	1.003 1.00	0	-		134	0! 55 0 65	0	10 24	. 0	l °	. 0	9	9 0) (0 0	0.0
12	1.54		4.50	80.43		0	45	1.00	0	0 1	0 0		0 73	0	13 24	: 0	ŏ	ě	• 6	. 0	1 0	6 : 6	o ŏ	0.0
113	1.94		4.50 4.50	84.93 E9.43		1 8	45 45	1,00	,	0 1			0] 79 0] 84	0	14 23 15 21	0	٥	. 0	•	. 0	0). (0 6	0.0
15	1.94	216	4.50	9393		ŏ	45	1.00	ŏ		Ò		85	ŏ	15 19	. 0	0	e e		. 0	٥	, (0 0	6.0
15	1.94	2.16	4.50	\$8.43		0	45	1.00	0		0 (1	0 85	0	15 17	. 0	. 0	e.	0	` ŏ	0	Ò	Ď į õ	0.0
1 17	1.94	216 218	4.50 4.50	102.93		! :	45	1.00	8	0 1			0 79	윘	14 14	: 0	. 0	٥	9	0	٥) (20
19			4.50	111.93	55.50	ō	45	1.00	ŏ	ō	-	1	0 48	ŏ	9 6	č	ŏ	č		O	Ö			0.0
30		2.16 Calcula		116.19		0	45	1.00	- 0	0 '		<u> </u>	0 17	이	3 2	0	. 0	. 0	0	0	0			0.0
L_0:	Table Of	0000			1.320	1/12		٠	L <u>°</u>	0 1	0 0	1,763	0] 895	0 1	161 317	0	. 0	0			0		0	0.0
Cas	+ 1 (2/)	2): Do-	ารธาวิชาก	1 Sloce	Sto Ci	cle No	5.10	Resen	roir Wat	er Surfac	Normal W	eter Surface	EL148.900	en.	Seismic C	ceffici	orst	0.18 (slety F	actor	1.20
No.	yt	yut	ь	k	y	c	٠	tine	N CCC	ve the wat	er surfaça Te U	l N	nclude the t	raterat N				·	ander ti	he water	r surfac	t Ta	U	α
SSco	L						- 1	,	<u> </u>	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	<u> </u>	sold water		ter	<u> </u>		solid	wøler	solid	water	<u> </u>			_~_
;	1.54 1.54	2.16 2.16	7.90 7.90	28.55 38.45		8	45 45	1,00	0	_		55 165	0 -24 0 -55	0	-4 10 -10 30	0	0	0	, 0	0	0		-	0.0
1 3	1.54	2.16	7.90	44.35	8.64	2.6	42		ŏ	-	ŏ		0 -56	7.6	-12 48	: 6	ŏ	o	> 0	0	0		5 8	21.1
1 :	1.54 1.54	216	7.90 7.90	52.25 69.15			42	0.90	٥		0 0	363	0 -61	0 -	-11 65	. 0	0	o	0	0	0	Ċ	ه د	20.8
1 6	1.94	2.16	1.90	68.05		2.6 11.6	42 37	0.90	°	- 1			0 -42 0 -10		-8 81 -2 95	. 0	0		. 0	. 0	ļ °		? : 임	20.5 93.6
1	1.54	2.16	7.90	75.95	3.57	11.8	37	0.75	0	0 (0 0	590	0 33	0	6 106	č	Ö	ŏ	- 0	ŏ	ة 🖟		0	93.7
:	1.94 1.94	2.16 2.16	7.90 7.90	83.85 \$1.75		11.2	35 35	0.70	0				D 84 D 142		15 115 25 122	ó	0	. 0	: 0	0	0	0	્રો	89.1
10	1.94		7.90	99.65		11.2	35	0.70	ŏ		0 0		203		37 126	Č	· ŏ	أة	٠, ٥	ŏ	0			92.0
1 !!	1.94	2.15	7.50	107.55			35	0.70	0	-	0 (267	- 1	48 128	. 0	. 0	0	0	. 0	0	0	0	84.4
13	1.84 1.84	216 216	7,90 4.63	115.45 121.71		112	35 35	0.70 0.70	ő	0 (0 0 0		0 330 0 221	- 31	59 126 40 72	0	0	읽	. 0	. 0	0			97.7 59.2
14	1.79	2.16	6.88	127.47	20.33	0	35	0.70	ŏ		0 0		0 338		60 94	o	0	ŏ	ŏ	Ö	· ŏ	0	ő	0.0
1 15	1.93		3.98 12.15	132.90 140.98		1:	25 25	0.47	0	-					42 57	42	. 0	. 0	. 0	0	0	0		4.9
1 17	2 02		529	149.69	39.34	i	25	0.47	ŏ	ö					143 160 59 51	403 235			. 0	. 6	0	0		18.3 8.0
18	1		3.18	153.92		9	35	0.70	0		0 (1 1 1 1 1		-61	30 23	156	0	0	. 0	C	ō	; ŏ	i i	0.0
19	1 54 1 5 4	2.18 2.16	6.43 6.53	158.72 165.18	51.08 62.22	8	45 45	1,00	0	0 (45 30	203	0	: 0]	. 0	0]	0	. 0	0	0.0
										0 () 0 (10 9	69		· ^1		- 67				
Re	tul of	Calcula			1.233			0K	Ö	0	<u> </u>	· · · · · · · · · · · · · · · · · · ·	2 103 · 4 3,220		19 8 80 1,548	92 1,101	0	0	- 0	0	0	0		601.3
			ion		1,233) 12	0	0K	Ó	0	0 0	8,600 8	1 3,220	93 5	80 1,548	1,101	0		0		Ö			801.3
Csa No.	1 (2/	2):0o=	matrean	SF =	1.233 55p Cir	> 1.2	0	Resen	O Cor Wat	0 ler Surfac	Normal W	8,600 8	1 3,220	93 5 m	Seismic C	1,101	0 srit	0.18	0	0 0 Req	o sired Sa	of oily F	otor	120
C _M	1 (2/		ion	ŞF =	1,233) 12	0	0K	0 oir Wat	0 (er Surfac	O (8,600 8 star Surface	EL 143.900 nolude Uni 1	93 5	Seismic C	1,101	o srit li	018(0 1025) rider U	Req	o sired Sa	of oily F		801.3
Csa No. of	7 t	7 sat 2.18	matream b	\$F = \$tope 38.58	1,233 SSp Ca y 18.07	>12 c k k c	2 11 4 45	Resen tanp	o Wat	O Les Surfac ve Une wat T No	Normal W or surface Te U	8,600 8 ster Surface N solid wate	EL 143.900 nobde the r r solid was 0 -15	93 5 m vater su	Seismic C aface • Te	1,101	0 srit	0.18	0	Req	0 pired Si surfec	of oily F	otor	120
Csa No. of	yt 194 194	2): 0on 7 sat 2.18 2.18	b 130 130	SF = Stope 38.55 45.88	1.233 Sup Co y 18.07 15.68	>12 cle No C	± 111	8esen tanp 1.00 1.00	O Wat Wat abov	0 ter Surfac	Normal Wer surface Te U	8,600 8 ster Surface N solid wate 45 132	EL 143 900 reliefe than 1 reliefe than 1 reliefe than 1 reliefe than 1 reliefe than 1 reliefe than 1 reliefe than 1	93 5 water su ter	Seismic O xface • Te -3 8 -6 24	1,101	o srit bolid o	018(0 1025) rider U	Req	O surface Na	of oily F	otor	120 OL 0.0
Csa No. of	7 t	218 218 218 218 218 218	7.30 7.30 7.30 7.30	\$F = \$tope 38.58	1,233 SSp Ca y 18.07	> 1.2 cle No C	2 11 4 45	Resen tanp	o Wat	O Les Surfac ve Une wat T No	Normal Wersurface Te U	8,600 8 star Surface N solid wate 45 132 212	EL 143.900 nobde the r r solid was 0 -15	m veter su Noter of O	Seismic C aface • Te	1,101	o ent h solid	018(0 1025) rider U	Req	O sered Si surface No	of oily F	otor	0.0 0.0 19.2
Csa No. of	1 (2/) 7 t 1.94 1.94 1.94 1.94 1.94	218 218 218 218 218 218 216 216	7.30 7.30 7.30 7.30 7.30	SF = 38.58 45.88 53.16 50.48 67.76	1.233 SSp Co y 18.07 15.68 14.31 13.31 12.86	C C C C C C C C C C C C C C C C C C C	45 45 45 42 42 42	0K Resen 1.00 1.00 0.90 0.90 0.90	O Water Wate	O CO CO CO CO CO CO CO CO CO CO CO CO CO	Normal West Surface Te U	8.600 8 stor Surfacs N solid wate 45 132 212 288 351	EL 145,900 nokodo Uha 1 r solid wa 0 -154 0 -37 0 -28 0 -8	water su ter	Seismic O wface • Te -3 8 -5 24 -7 38 -5 51 -1 63	1,101	o srit solid o o o	018(0 (924) inder U solid 0 0	Req	O sered Si surface No	of oily F	otor	120 OL 0.0
Csa No. of	194 194 194 194 194	218 218 218 218 218 218	7.30 7.30 7.30 7.30	SF = Store 38.58 45.88 53.18 60.48	1.233 Sup Co y 18.07 15.82 14.31 13.31	> 1.2 Cle No C O O 2.6 2.6 2.6 2.8	45 45 45 42 42	0K tan¢ 1.00 1.00 0.90	O Water Water No.	O (Normal Weer surface Te U	8.600 8 ster Surface N solid wate 45 132 212 286 351 408	EL 145 900 nekide than r solid wa 0 -15 0 -34 0 -37 -28 0 -8 0 21	yeter eu	Seismic C wface -3 8 -6 24 -7 38 -5 51 -1 63 4 73	1,101	o srit bolid o	018(0 IO25) Inder U Bolid O O	Req	O sered Si surface No	of oily F	otor	601.3 120 OL 0.0 19.2 19.0 18.9
Csa No. of	71 194 194 194 194 194 194 194 194	7 1-2k 2.18 2.18 2.18 2.18 2.16 2.16 2.18 2.16 2.16	130 130 130 130 130 130 130 130 130	SF = 38.56 45.88 53.16 80.48 67.76 75.08 82.36 89.88	1.233 Sup Co y 18.07 15.88 14.31 12.88 12.97 13.63 14.85	D 12 Clo No C O 2.6 2.6 2.8 2.8 2.8 2.8	45 45 45 42 42 42 42 42 42	Resentant 1.00 1.00 0.90 0.90 0.90 0.84	O Water Wate	O CO CO CO CO CO CO CO CO CO CO CO CO CO	Normal West Surface Te U O O O O O O O O O O O O O O O O O O	8,600 8 ster Surface N solid wate 45 132 212 286 351 408 451 485	EL 145,900 nokodo Uha 1 r solid wa 0 -15 0 -31 0 -28 0 -8	yeter eu	Seismic O wface • Te -3 8 -5 24 -7 38 -5 51 -1 63	1,101	solid solid 0 0 0	018(0 (924) inder U solid 0 0	Req	O sered Si surface No	of oily F	otor	00 00 00 192 19.0 18.9
Csa No. of	71 194 194 194 194 194 194 194	7 1-2k 2.18 2.18 2.18 2.18 2.16 2.16 2.18 2.18	130 130 130 130 130 130 130 130	SF = 38.58 45.88 53.18 60.48 67.76 75.08 82.36	1.233 SSp Co y 18.07 15.62 14.31 12.86 12.97 13.63 14.85 16.65	D 12 Clo No C O 28 26 28 28 28 28 24 112	45 45 45 42 42 42 42 42	Resen 1.00 1.00 0.90 0.90 0.90 0.90 0.90 0.90	O Water Wate	O CO CO CO CO CO CO CO CO CO CO CO CO CO	Normal West Surface Te U O O O O O O O O O O O O O O O O O O	8.600 8 stor Surfacs N solid wate 45 132 212 286 351 408 451 485 508	EL 145,900 EL 145,900 F Aolid wa -15 -31 -28 -8 10 100 146	93 5 m veter ell er 0 0 0 0 0 0 0 0	Seismic C xface e	1,101	solid solid 0 0 0	018(0 (924) inder U solid 0 0	Req	O sered Si surface No	of oily F	otor	601.3 120 Ct. 0.0 0.0 19.2 19.0 18.9 19.1 18.1 84.9
Csec No. of Since 1 2 3 4 5 6 6 7 8 9	1 (2// 71 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.9	218 218 218 218 218 218 218 218 218 218	730 730 730 730 730 730 730 730 730 730	SF = 38.56 45.88 53.18 60.48 67.76 75.08 82.08 82.08 83.08 55.95 104.28 111.56	1233 SSp Co y 18.07 15.62 14.31 12.86 12.97 13.63 14.85 16.65 19.09 22.18	C C C C C C C C C C C C C C C C C C C	45 45 42 42 42 42 42 40 35 40	Resent 1.00 1.00 0.90 0.90 0.90 0.90 0.84 0.70 0.84 0.84	O Water Wate	O CO CO CO CO CO CO CO CO CO CO CO CO CO	Normal Were surface Te U	8,600 8 stor Surfaces N solid wate 45 132 212 288 351 408 451 485 508 515	EL 145,900 nekde than r solid wa 0 -15 0 -34 0 -37 0 -28 0 21 53 100	93 5	Seismic C wface e Te -3 8 -5 24 -7 38 -5 51 -1 63 4 73 10 81 18 87	1,101	solid solid 0 0 0	018(0 (924) inder U solid 0 0	Req	O sered Si surface No	of oily F	otor	601.3 120 Ct. 0.0 0.0 19.0 18.9 19.1 18.1
Csec No. of Since 1 2 3 4 5 6 7 1 8 9 10 11	194 194 194 194 194 194 194 194 194 194	218 218 218 218 218 218 218 216 216 216 216 216 216 216 216	130 130 130 130 130 130 130 130 130 130	SF = 38.55 45.88 53.16 60.426 82.36 82.36 82.36 82.36 111.56 111.56 118.86	1233 Sup Co Y 18.07 15.88 14.31 12.88 12.97 13.63 14.85 16.65 19.06 22.18 28.02	O C C C C C C C C C C C C C C C C C C C	45 45 45 42 42 42 42 42 40 40 40	Resent 1.00 1.00 0.90 0.90 0.90 0.90 0.90 0.90	over Water above N	O CO CO CO CO CO CO CO CO CO CO CO CO CO	Normal Were surface Te U	8,600 8 star Surface N solid wate 45 132 212 286 351 406 451 485 508 515 510 490	EL 143 900 molude that a solution to the solution that a solution to the solut	93 5 water surveter of the control o	Science C afface • Fe -3 8 -6 24 73 8 -5 51 10 81 18 87 26 91 35 93 44 92 51 88	1,101	solid solid 0 0 0	018(0 (924) inder U solid 0 0	Req	O sered Si surface No	of oily F	otor	601,3 1,20 CL 0,0 19,2 19,0 18,9 18,9 19,1 18,1 84,9 19,0
Csec No. of Since 1 2 3 4 5 6 6 7 8 9	194 194 194 194 194 194 194 194 194 194	7 1-21 2.18 2.18 2.18 2.18 2.18 2.16 2.16 2.16 2.16 2.16 2.18 2.18 2.18 2.18	130 730 730 730 730 730 730 730 730 730 7	SF = 38.56 45.88 53.18 60.48 67.76 75.08 82.08 82.08 83.08 55.95 104.28 111.56	1233 SSp Co y 18.07 15.62 14.31 12.86 12.97 13.63 14.85 16.65 19.09 22.18	O C C C C C C C C C C C C C C C C C C C	45 45 45 42 42 42 42 42 40 40 40 40	Resent 1.00 1.00 0.90 0.90 0.90 0.90 0.84 0.70 0.84 0.84	over Water above N	O CO CO CO CO CO CO CO CO CO CO CO CO CO	el Normal Were surface Te U O C O C O C O C O C O C O C O	8,600 8 ster Surface N solid water \$45 132 212 286 351 451 455 506 515 510 259 259	EL 143,900 EL 143,900 nolido tha 1 1 4-fid na 2 1 -5 2 -37 -28 3 2 100 100 104 241	93 5	Seismic C Africe - 3 8 -5 51 -1 63 4 73 10 81 18 87 226 91 33 92 43 92	1,101	solid solid 0 0 0	018(0 (924) inder U solid 0 0	Recommender	O O O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	601.3 1.20 CL 0.0 0.0 19.2 19.0 18.9 18.1 84.9 19.0 19.0 19.1 18.1 84.9 19.0 19.0 19.0
Css4 No. of Sfice 2 3 4 5 6 7 10 11 12 12 14 15	1 (2/2 7 t 1 9 4 1 9 6 1 9 6 1 9 6 1 9 6 1 9 6 1 9 7 1 9	218 218 218 218 218 218 216 216 216 216 216 218 218 218 218 218 218	7.30 7.30 7.30 7.30 7.30 7.30 7.30 7.30	SF = 38.56 45.88 53.18 60.46 67.50 82.36 89.86 98.86 98.86 111.56 111.56 118.96 124.55 118.96 124.55 130.15 130.15	18.07 18.07 15.68 14.31 13.31 12.86 12.97 13.63 14.65 19.09 22.18 28.02 29.59 33.69 37.18	D 12 Th No C C C 28 2.6 2.6 2.6 2.6 2.4 11.2 2.4 2.4 2.4 2.4	45 45 42 42 42 42 43 44 40 40 35 25	1.00 1.00 0.90 0.90 0.90 0.90 0.90 0.84 0.70 0.84 0.84 0.84 0.84 0.84 0.84	O O O O O O O O O O O O O O O O O O O	0	Normal Were surface Te U O C O C O C O C O C O C O C O	8.600 6 ster Surface N solid wate 45 132 212 286 351 405 405 505 515 510 259 419 64 64	EL (45 900 molde that the state of the state	93 5 TO STATE OF THE STATE OF T	Seismic C aface -3 8 -6 24 -7 38 -5 51 -1 63 47 35 93 47 35 93 43 92 551 88 32 47 559 75 10 12	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	60 00 00 00 00 00 00 00 00 00 00 00 00 0	0 18 (0 profer U solid 0 0 0 0 0 0 0 0	Resonant vector	or od Si surface No 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	601.3 1.20 Ct. 0.0 0.0 19.0 18.9 18.9 19.1 84.9 19.0 19.0
Csec No. of Sica 2 2 2 3 4 5 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 (2/) 71 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.94	218 218 218 218 218 218 218 216 216 216 216 218 218 218 218 218 218 218 218	730 730 730 730 730 730 730 730 730 730	38.56 45.88 53.16 60.46 75.08 82.36 82.36 83.86 93.86 104.28 111.58 118.86 118.	1233 \$5p Co 7 18.07 15.86 14.31 12.86 12.87 13.63 14.85 16.65 19.00 22.18 28.02 29.59 33.69 37.16 43.83	D12 The No.	45 45 42 42 42 42 42 42 42 42 42 42 42 42 42	Reserved 1.00 1.00 0.90 0.90 0.90 0.90 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.8	O O O O O O O O O O O O O O O O O O O	0 C C C C C C C C C	Normal Week of Surface Te U	8.600 8 star Surfaces N solid wate 451 132 212 288 351 408 451 508 505 510 490 259 419 64 578 -318	EL 143,900 nobide the 1 clied we 2 clied we 2 clied we 3 clied we	93 5 m vester su vester ou 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Seismic C rise C	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 18 (0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Respondent violent vio	O O O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	6013 120 0.0 19.2 19.0 18.9 18.9 19.1 18.1 84.9 19.0 19.0 19.0 19.0 19.0 19.0 19.0 19
Cm. No. of Sica 1 2 3 4 5 6 1 10 11 12 13 14 15 18 17 18	1 (2/) 71 194 194 194 194 194 194 194 194 194 19	218 218 218 218 218 218 216 218 216 216 218 218 218 218 218 218 218 218 218 218	130 130 130 130 130 130 130 130 130 130	38.58 45.88 53.18 60.48 67.76 75.06 82.36 82.36 82.36 111.56 111.56 118.86 112.55 124.50 124.55 124.55 124.56 148.48 151.41	1233 \$5p Co y 18.07 15.88 14.31 12.87 13.63 14.85 16.65 19.06 22.18 28.02 29.59 33.69 37.16 43.63 52.69 58.97	712 Tle No C C C C C C C C C C C C C C C C C C C	45 45 45 42 42 42 42 42 40 35 40 40 40 40 25 25 25 35	Reserving 1,000 1,000 0,900 0,	O O O O O O O O O O O O O O O O O O O	0 C C C C C C C C C C C C C C C C C C C	Normal W er surface	8.600 6 star Surface N solid wate 132 212 285 351 405 405 506 490 490 515 510 490 516 517 518 518 518 518 518 518 518 518 518 518	EL 143,900 moked was part to the control of the con	93 5 m vester survey 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Seismic C aface -3 8 -6 24 -7 38 -5 51 -1 63 47 35 93 47 35 93 43 92 551 88 32 47 559 75 10 12	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	60 00 00 00 00 00 00 00 00 00 00 00 00 0	0 18 (0 profer U solid 0 0 0 0 0 0 0 0	Resonant vector	or od Si surface No 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	601.3 1.20 CL 0.0 19.2 19.0 18.9 19.1 18.1 84.9 19.0 19.5 20.5 12.0 0.0
Case No. 6 Since 2 2 3 5 6 6 7 7 8 8 9 10 11 12 2 14 15 16 17 18 19 19	1 (2/) 71 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.9	218 218 218 218 218 216 216 216 216 218 218 218 218 218 219 223 23	730 730 730 730 730 730 730 730 730 730	38.55 45.88 53.16 60.48 67.76 75.08 82.36 82.36 82.36 111.56 111.56 111.59 124.55 130.15 124.55 134.30 124.55 134.30 140.98 144.84 151.44	1233 \$5p Co 18.07 15.82 14.31 13.31 12.86 12.97 13.63 14.85 16.65 19.06 22.18 28.02 29.59 37.16 43.63 52.69 58.97 58.97 63.83	712 clo No C 0 0 2.8 2.8 2.8 2.4 2.4 2.4 2.4 2.4 2.4	45 45 42 42 42 42 42 42 40 40 40 55 25 25 25 45	Reserving 1,000 1,000 0,900 0,	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0	Normal West Surface Te U O C C	8.600 8 star Surface N solid wate 132 212 286 351 408 451 485 506 515 510 490 259 491 84 578 -11 89 5 68 4 52 4 4 52 4 52 4 52 68 4 52 68 53 68 54 57 68 57 68 57 68 57 68 58 58 58 58 58 58 58 58 58 58 58 58 58	EL 143 900 rokids that 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	93 5 m weeker su N veker Science Carices - 3 8 -6 24 -7 38 -6 24 -7 38 4 73 110 81 18 87 126 91 335 93 32 47 59 11 10 12 11 10 11 11 11 11 11 11 11 11 11 11 11	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.18 (0.00 c) 0.00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Respondent of the control of the con	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	601.3 1.20 CL 0.0 0.0 19.0 18.9 18.1 84.9 19.0 19.0 19.0 19.0 19.0 19.0 19.0 19		
Css. No. of Sice 1 2 3 4 5 6 7 8 9 10 11 12 13 14 17 18 19 20	1 (2/2) 72 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.94	218 218 218 218 218 218 216 218 216 216 218 218 218 218 218 218 218 218 218 218	730 730 730 730 730 730 730 730 730 730	38.58 45.88 53.18 60.48 67.76 75.06 82.36 82.36 82.36 111.56 111.56 118.86 112.55 124.50 124.55 124.55 124.56 148.48 151.41	1.233 Sup Co 18.07 15.82 14.31 12.82 12.83 14.85 16.65 19.09 22.18 28.02 29.59 33.69 37.16 43.63 52.69 58.97 63.83 70.75	712 clo No C 0 0 2.8 2.8 2.8 2.4 2.4 2.4 2.4 2.4 2.4	45 45 45 42 42 42 42 42 40 35 40 40 35 25 25 25 45 45 40 40 40 40 40 40 45 45 45 45 45 45 46 46 46 46 46 46 46 46 46 46 46 46 46	Reserved 1.00 1.00 0.90 0.90 0.84 0.70 0.84 0.84 0.84 0.84 0.84 0.80 0.80 0.8	O O O O O O O O O O O O O O O O O O O	0 C C C C C C C C C C C C C C C C C C C	Normal Ware of Surface	8.600 6 star Surface N solid wate 45 132 212 288 351 408 455 455 506 515 510 259 419 64 57 578 58 45 58 45 58 58 45 58 58 58 58 58 58 58 58 58 58 58 58 58	EL 145,900 mokeds that provide that provide that provide that provide that provide that provide the provide the provide that provide the provide that provide the	93 5 m witter su N	Seismic C afface -	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.18 (00000000000000000000000000000000000000	Respondent	0 or vot SS vot Sec Vo	000000000000000000000000000000000000000	0 0 0 0 0 0 0 0 0 0 0	601.3 1.20 0.0 0.0 18.0 18.0 18.1 84.9 19.0 19.8 20.5 12.0 0.0 1.6 4.8 0.0 0.0
Case No. of Sice 1	1 (2/1) 7 t 1.94	216 216 216 216 216 216 216 216 216 216	730 730 730 730 730 730 730 730 730 730	SF = 1 Slope 2 3 3 5 5 4 5 8 8 5 3 1 6 6 0 7 6 6 7 5 0 6 8 2 3 6 8 2 3 6 111.5 6 111.5 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 125.4 125	1233 \$56 Co 1807 15.66 14.31 12.86 12.87 13.63 14.85 16.56 22.18 22.08 22.08 22.08 23.69 34.83 35.69 36.80 36.	The No C C C C C C C C C C C C C C C C C C	45 45 42 42 42 42 42 40 35 40 40 35 25 35 45 45 45 45 45 45 45 45 45 45 45 45 45	Reserved 1.00 1.00 0.90 0.90 0.84 0.24 0.24 0.24 0.47 0.41 0.41 0.41 0.40 0.40 0.40 0.40 0.40	N N N N N N N N N N N N N N N N N N N	0 Co Co Co Co Co Co Co Co Co Co Co Co Co	Normal W er surface	8.600 6 star Surface N solid wate 45 132 212 285 351 405 405 505 515 510 259 419 64 57 58 68 4 52 4 53 68 5 5 68 5 5 68 5 5 68 5 5 68 5 68	EL 145,900 molude that produce the produce that produce that produce that produce the produce the produce that produce the produce the produce that produce the produce the produce the produce the produce the produce that produce the produce th	93 5 m veter at N N N N N N N N N	Science Confines	1.101 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 ort	0.18 (C	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Record to water O O O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	601.3 1.20 Ct. 0.0 19.2 19.0 18.9 19.1 18.1 18.1 18.1 19.0 19.0 19.0 19.0 19.0 19.0 19.0 19
Cast No. of Stoce 1 2 3 5 6 6 9 10 11 11 12 13 14 15 15 16 7 17 18 19 20 7 18 19 7 18 18 18 18 18 18 18 18 18 18 18 18 18	1 (2/1) 7 t 1.94	216 216 216 216 216 216 216 216 216 216	730 730 730 730 730 730 730 730 730 730	SF = 1 Slope 2 3 3 5 5 4 5 8 8 5 3 1 6 6 0 7 6 6 7 5 0 6 8 2 3 6 8 2 3 6 111.5 6 111.5 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 125.4 125	1233 \$56 Co 1807 15.66 14.31 12.86 12.87 13.63 14.85 16.56 22.18 22.08 22.08 22.08 23.69 34.83 35.69 36.80 36.	The No C C C C C C C C C C C C C C C C C C	45 45 42 42 42 42 42 40 35 40 40 35 25 35 45 45 45 45 45 45 45 45 45 45 45 45 45	Reserved 1.00 1.00 0.90 0.90 0.84 0.24 0.24 0.24 0.47 0.41 0.41 0.41 0.40 0.40 0.40 0.40 0.40	O O O O O O O O O O O O O O O O O O O	O C C C C C C C C C C C C C C C C C C C	Normal W er surface	8.600 6 star Surface N solid wate 45 132 212 285 351 405 405 506 490 259 419 546 576 578 58 45 58 45 58 45 58 45 58 45 58 45 58 45 58 45 58 45 58 45 58 58 58 58 58 58 58 58 58 58 58 58 58	EL 143 900 EL 143 900 colored was policies was policie	93 5 m veter such that the ter of	Seismic C afface - 3 8 -3 8 -6 24 4 73 10 81 18 87 26 91 10 12 11 104 22 18 119 12 22 18 119 12 25 17 9 1 1 19 12 25 55 55 65 65 65 65 65 65 65 65 65 65 65	1.101 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 ort	0.18 (1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00000000000000000000000000000000000000	Record water of the state of th	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	601.3 1.20 0.0 0.0 18.0 18.0 18.1 84.9 19.0 19.8 20.5 12.0 0.0 1.6 4.8 0.0 0.0
Cast No. of Sicce 1 2 3 4 4 5 6 6 10 10 11 12 13 13 14 15 18 19 20 Cast No. of of	1 (2/2) 7 t 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.94	216 216 216 216 216 216 216 216 216 216	730 730 730 730 730 730 730 730 730 730	SF = 1 Slope 2 3 3 5 5 4 5 8 8 5 3 1 6 6 0 7 6 6 7 5 0 6 8 2 3 6 8 2 3 6 111.5 6 111.5 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 124.3 125.4 125	1233 \$56 Co 1807 15.66 14.31 12.86 12.87 13.63 14.85 16.56 22.18 22.08 22.08 22.08 23.69 34.83 35.69 36.80 36.	The No C C C C C C C C C C C C C C C C C C	45 45 45 42 42 42 42 42 42 40 40 40 40 55 25 25 25 45 45 40 40 40 40 40 40 40 40 40 40 40 40 40	Reserved 1.00 1.00 0.90 0.90 0.84 0.24 0.24 0.24 0.47 0.41 0.41 0.41 0.40 0.40 0.40 0.40 0.40	O O O O O O O O O O O O O O O O O O O	O C C C C C C C C C C C C C C C C C C C	Normal Water Surface Te U O CO O CO O CO O CO O CO O CO O CO O	8.600 6 star Surface N solid wate 45 132 212 286 351 405 455 506 515 510 259 419 64 578 -11 58 68 4 53 5,918 1 ster Surface N	EL 145,900 chids that placed we be considered with the considered	93 5 m veter such ter N veter such ter N veter such ter N veter such ter N veter such ter N veter such ter	Seismic C Seismi	1.101 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 ort	0.18 (1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000s)	Record to water O O O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	601.3 1.20 Ct. 0.0 19.2 19.0 18.9 19.1 18.1 18.1 18.1 19.0 19.0 19.0 19.0 19.0 19.0 19.0 19
Cast No. of Stoce 1 2 3 5 6 6 9 10 11 11 12 13 14 15 15 16 7 17 18 19 20 7 18 19 7 18 18 18 18 18 18 18 18 18 18 18 18 18	1 (2/2) 7 t 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.94	218 218 218 218 218 218 218 218 218 218	1,00	SF= I Stope	1233 Sup Co. 1807 15.68 14.31 15.31 15.88 12.88 12.88 16.65 16.65 22.18 22.95 33.69 22.18 23.50 33.69 25.59 35.69 55.97 55.50 7	To No. Co. Co. Co. Co. Co. Co. Co. Co. Co. C	45 45 45 42 42 42 42 42 42 40 35 40 40 35 25 25 35 45 45 40 40 40 40 40 40 40 40 40 40 40 40 40	Reserved to 1,000 1,000 0,900	O O O O O O O O O O O O O O O O O O O	Cer Surface set De water Surface set De water Surface set De certain set De certa	Normal West Surface Te U O C O C O C O C O C O C O C O	8.600 6 star Surface N solid wate 132 212 285 351 405 445 556 510 490 259 419 64 578 -11 89 5 68 4 52 59 81 10 10 10 10 10 10 10 10 10 10 10 10 10	EL 143,900 EL 143,900 colored was policies was policie	93 5 m waster state of the control o	Seismic C afface - 3 8 - 6 24 4 73 16 5 18 8 7 7 7 1 10 8 18 8 7 7 2 1 1 1 10 4 2 2 1 1 1 10 4 2 2 1 1 1 10 4 2 2 1 1 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.18 (L	0000 0000 0000 0000 0000 0000 0000 0000 0000	Record water of the state of th	O O O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	601.3 120 CL 00 00 192 19.0 18.9 18.9 18.1 19.0 19.0 17.8 4.8 20.5 17.8 4.8 00 00 00 00 12.0 12.0 00 00 12.0 12.0 12.0 00 00 00 12.
Cast No. of Sicce 1 2 3 4 4 5 6 6 10 10 11 12 13 13 14 15 18 19 20 Cast No. of of	1 (2/2) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	218 218 218 218 218 218 218 218 218 218	100 100	SF= 1 Stope 2 39.55 45.85 53.16 67.76 75.06 89.85 89.85 89.85 111.56 111.56 111.50 111.51 1	1233 Sop Co Y 1807 15.68 14.31 15.88 12.31 14.35 12.36 14.85 12.31 16.85 22.18 22	26 Re Re Re Re Re Re Re Re Re Re Re Re Re	45 42 42 42 42 42 42 42 42 42 42 42 42 42	Reserved to 1,000 1,000 0,900	or Water above the control of the co	o Constitution of the second o	Normal War Surface Normal War Surface Normal War Surface Normal War Surface Normal War Surface Normal War Surface Normal War Surface Normal War Surface Normal War Surface Normal War Surface	8.600 6 ster Surface N solid wate 45 132 212 286 351 408 405 405 405 506 515 510 259 419 64 526 68 4 52 4 52 4 52 4 52 4 52 4 52 4 52 4 5	EL 145,900 relia 15 15 15 15 15 15 15 15	93 5 m water at a wate	Seismic C Seismi	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 ort	0.18 (1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000s)	Record of water of the state of	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	601.3 120 00 00 192 19.0 19.9 19.9 19.9 19.9 19.0 19.0 19.0
Case No. of Sicce 2 3 3 4 4 5 5 6 6 7 1 12 12 12 12 12 12 12 12 12 12 12 12 1	1 (2/) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	216 216 216 216 216 216 216 216 216 216	730 730 730 730 730 730 730 730 730 730	SF= I Stope I 38 55 45 88 53.16 60.48 60.76 75 08 89.88 55.99 111.56 118.96 118.96 118.96 118.96 150.98 140.95 140.95 140.95 140.95 140.95 140.95 140.95 140.95 140.96 155.49 155.49 155.89 158.88 58 58 88 68 88 88 68 88 60 28	1233 Sep Co- y 1807 15.68 14.31 13.31 13.31 13.83 14.85 16.86 22.16 22.16 22.15 23.59 33.69 22.16 23.59 33.69 24.18 25.29 y 25.29 y 25.29 24.18	Tio No. C. C. C. C. C. C. C. C. C. C. C. C. C.	45 42 42 42 42 42 42 42 42 42 42 42 42 42	Reserved to 1,000 of 0,900 of	or Water above the control of the co	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Normal West surface Te U O C C O C O	8.600 6 eter Surface N solid wate 132 212 285 351 405 451 495 506 490 259 419 64 52 4 52 4 52 4 52 4 52 4 52 4 52 4 5	EL 143,900 rokide than Loke Loke	93 5 m voker a N	Seismic C affece - 3 8 -6 24 4 73 38 -5 51 10 12 24 18 11 104 22 18 11 104 22 18 11 104 22 18 11 104 22 18 17 9 11 104 22 18 17 9 17 10 10 10 10 10 10 10 10 10 10 10 10 10	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.18 (10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0000) October the control of the c	Record of water of the control of th	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000 CL 000 CD 00
Case No. of Sicce 2 3 3 4 4 5 5 6 6 7 1 12 12 12 12 12 12 12 12 12 12 12 12 1	1 (2/2) 7 t 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.9	218 218 218 218 218 218 218 218 218 218	100 100	SF= 1 Stope 2 39.55 45.85 53.16 67.76 75.06 89.85 89.85 89.85 111.56 111.56 111.50 111.51 1	1233 Sop Co Y 1807 15.68 14.31 15.88 12.31 14.35 12.36 14.85 12.31 16.85 22.18 22	C C C C C C C C C C C C C C C C C C C	45 45 45 45 45 45 45 45 45 45 45 45 45 4	Reserved to 1,000 1,000 0,900	or Water above the control of the co	o Constitution of the second o	Normal Wer Juffee O	8.600 6 star Surface N solid wate 45 132 212 286 351 405 451 455 506 515 510 259 419 64 578 -11 588 4 538 588 4 588 4 588 4 588 4 588 588 588 58	EL 145,900 rokuda Uhan r kolida wa 1 -15 -34 -35 -36 -38 -38 -38 -38 -38 -38 -38 -38 -38 -38	93 5 m worker sur	Science C risce	1.101 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0.18(1) vater 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00000000000000000000000000000000000000	Recy of water of the control of the	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	120 00 00 192 192 192 193 193 193 193 193 193 194 195 195 196 00 00 00 00 00 192 183 193 193 193 194 195 195 195 195 195 195 195 195
No. of Sice Sice Sice Sice Sice Sice Sice Sice	1 (2/2) 7 t 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.94	7 set 218 218 218 218 218 218 218 218 218 218	1,30 1,30	Signary 1	1233 \$50 Co- 1807 1807 1807 1808 1888 1431 1888 1908 11485 1908 11485 1908 11485 1908 11485 1908 11485 1908 11485 1908 11485 1908 11485 1908 11485 1908 11485 1908 11485 1908 11485 1908 11485 1908 11485 1908 11485 1908 11485 1908 11485 1908 11485 1908 11485 11586	Tio No. Co. Co. Co. Co. Co. Co. Co. Co. Co. C	45 45 42 42 42 42 42 42 42 42 45 45 45 45 45 45 42 42 42 42 42 42 45 45 45 45 45 42 42 42	Reserved to 1.00 0.90 0.90 0.84 0.84 0.84 0.84 0.84 0.84 1.00 0.84 1.00 0.84 1.00 0.84 1.00 0.84 1.00 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Normal West Surface Te U O C C O C O	8,600 6 star Surface N solid wate 45 132 212 286 351 406 515 500 515 500 515 510 259 490 259 419 64 - 578 -11 89 5 68 4 5 59 5 68 4 5 5 68 4 5 5 68 4 5 5 68 4 5 5 68 4 5 5 68 4 5 68 5 68	EL 145,900 moludo War 1 colid war 1 colid	93 5 m exercises Notes 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Seismic C office Seismic C off	1.101 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 ord	0.18(u)	0005) 10005 0000	Reconstruction of the control of the	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000 CL 000 CD 00
Case No. of Sicce 2 3 3 4 4 5 5 6 6 7 1 12 12 12 12 12 12 12 12 12 12 12 12 1	1 (2/2) 7 t 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.94	7 set 2.16 2.16 2.16 2.16 2.16 2.16 2.16 2.16	730 730 730 730 730 730 730 730 730 730	SF= 1 Stope 2 39.55 45.85 53.16 67.76 75.08 69.76 89.85 104.26 111.56	1233 Sop Co- 1807 15.68 14.31 15.68 14.31 15.88 12.81 16.55	D12 TIO NO C C C C C C C C C C C C C	45 45 42 42 42 45 45 45 45 45 45 45 45 45 45 45 45 45	Reserved to 1.00 1.00 0.90 0.90 0.90 0.84 0.70 0.84 0.70 0.84 0.70 1.00 0.84 0.70 1.00 0.84 0.70 1.00 0.84 0.70 1.00 0.84 0.70 0.85 0.86 0.86 0.87 0.87 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88	O O O O O O O O O O O O O O O O O O O	O C C C C C C C C C C C C C C C C C C C	Normal W P Normal W P	8.600 6 ster Surface N solid wate 45 132 212 286 351 408 408 408 408 409 259 419 64 524 58 -11 58 -11 58 -11 598 4 52 4 52 4 52 4 52 65 105 105 105 1142 203	EL 145,900 mok/de Uha n p Loked wa - 15 15 28 28 - 21 28 - 31	93 5 m voker a N voker 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Seismic C afface	1.101 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.18 (10 0.1	0005) 0000 0000 0000 0000 0000 0000 000	Recovery of the state of the st	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Te	0 0 0 0 0 0 0 0 0 0	501.3 120 CL 00 192 19.0 19.0 18.9 18.9 18.9 18.9 19.0 19.0 10.0
Case No. Cas	1 (2/2) 7 1 194	7 set 2.16 2.16 2.16 2.16 2.16 2.16 2.16 2.16	1.00 1.00	Signary 1 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1233 Sop Co- 1807 15.88 14.31 15.88 14.31 15.88 12.31 15.88 12.31 16.65 16.65 16.65 16.65 16.65 17.70	D12 TIO NO C C C C C C C C C C C C C	45 45 42 42 42 45 45 45 45 45 45 45 45 45 45 45 45 45	Reserved to 1.00 1.00 1.00 0.90 0.90 0.90 0.90 0.84 0.70 0.84 0.70 0.84 0.70 0.84 0.70 0.84 0.70 0.84 0.84 0.70 0.84 0.85 0.85 0.86 0.86 0.87 0.87 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88	O O O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Normal W Normal W	8.600 6 star Surface N solid wate 132 212 285 351 405 405 505 515 510 259 419 64 578 -11 598 4 524 598 4 51 598 4 51 598 4 508 508 4 508 4 508 4 508 4 508 4 508 4 508 4 508 4 508 4 508 4 508 508 4 5	EL 145,900 rokuda Uhan p Lokid wa 1 -15 -31 -31 -31 -31 -31 -31 -31 -31 -31 -31	93 5 m water a law	Seismic C office Seismic C off	1.101 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 ord	0.18(u)	0005) 10005 0000	Reconstruction of the control of the	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	501.3 120 00 00 192 19.0
Case No. 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9 9 10 11 1 2 2 3 3 3 4 4 5 5 6 6 7 7 8 8 9 9 10 10 10 10 10 10 10 10 10 10 10 10 10	1 (2/2) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7 set 216 218 218 218 218 218 218 218 218 218 218	7.30 7.30 7.30 7.30 7.30 7.30 7.30 7.30	Sicre Sicre 1	1233 Sip Co- 1807 15.68 14.31 15.88 12.31 15.88 12.31 16.85	D12 TIO NO C C C C C C C C C C C C C	45 45 42 42 42 42 42 42 42 42 42 42 42 42 42	Reserved to 1.00 1.00 0.90 0.90 0.90 0.84 0.70 0.84 0.84 0.70 0.84 0.70 0.84 0.84 0.70 0.84 0.84 0.70 0.84 0.84 0.70 0.84 0.84 0.70 0.84 0.84 0.70 0.84 0.84 0.70 0.84 0.70 0.84 0.84 0.70 0.84 0.84 0.70 0.84 0.84 0.70 0.84 0.84 0.70 0.84 0.84 0.70 0.84 0.84 0.70 0.84 0.84 0.70 0.84 0.84 0.70 0.84 0.84 0.70 0.84 0.84 0.70 0.84 0.84 0.70 0.84 0.84 0.70 0.84 0.84 0.70 0.84 0.84 0.70 0.84 0.70 0.84 0.84 0.70 0.85 0.86 0.70 0.86 0.90	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	O C C C C C C C C C C C C C C C C C C C	Normal W Normal W	8.600 6 star Surface N solid wate 132 212 288 351 408 451 485 506 515 510 259 419 64 578 -11 89 5 68 4 58 -11 89 5 68 4 58 -11 89 5 105 105 112 22 265 105 112 214 203 222 246 259 258	EL 143 900 EL 145 900 Foldo Wa Fo	93 5 m weeker a N weeker a N N 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Seismic C afface -3 8 -3 8 -3 8 -3 8 -4 73 8 -1 63 4 73 10 85 18 87 26 91 10 12 8 91 10 11 10 10 10 10 10 10 10 10 10 10 10	1.101 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	No. No.	0.18 (10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000s) 1000s	Record	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Te	0 0 0 0 0 0 0 0 0 0	501.3 120 CL 00 192 19.0 18.9 18.9 18.9 18.9 19.0 19.0 10.0
Case No. Cas	1 (2/2) 7 1 194	7 set 2.16 2.16 2.16 2.16 2.16 2.16 2.16 2.16	b 7.30 7.30 7.30 7.30 7.30 7.30 7.30 7.30	Signer Sig	1233 Sop Co- 1807 15.88 14.31 15.88 14.31 15.88 12.31 15.88 12.31 16.65 16.65 16.65 16.65 16.65 17.70	C C C C C C C C C C C C C C C C C C C	45 45 42 42 42 42 42 42 42 42 42 42 42 42 42	Reserved to 1.00 1.00 1.00 0.90 0.90 0.90 0.90 0.84 0.70 0.84 0.70 0.84 0.70 0.84 0.70 0.84 0.70 0.84 0.84 0.70 0.84 0.85 0.85 0.86 0.86 0.87 0.87 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88	O O O O O O O O O O O O O O O O O O O	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Normal W er surface	8,600 6 star Surface N solid wate 45 132 212 286 351 406 515 500 515 500 515 500 490 259 419 64 - 578 -11 89 5 68 4 5 3 4 5 68 4 5 1 89 5 68 4 5 1 89 5 68 4 5 1 89 5 68 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	EL 145,900 moludo War 1 colid war 1 colid	93 5 m waker su N	Seismic C office	1.101 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0.18 (10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00000000000000000000000000000000000000	Record	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000 00 1920 1930 1930 1930 1930 1930 1930 1930 193
Case No. of 12 23 34 4 4 55 66 77 8 8 9 90 70 76 78 8 9 90 76 77 8 8 9 90 76 77 8 19 90 76 77 8 19 90 76 77 8 19 90 76 77 8 19 90 76 77 8 19 90 76 77 8 19 90 76 77 8 19 90 76 77 8 19 90 76 77 8 19 90 76 77 8 19 90 76 77 8 19 90 76 77 8 19 90 76 77 8 19 90 76 77 8 19 90 76 77 8 19 90 76 77 8 19 90 76 76 76 76 76 76 76 76 76 76 76 76 76	194 194 194 194 194 194 194 194 194 194	7 set 216 218 218 218 218 218 218 218 218 218 218	1300 1300 1300 1300 1300 1300 1300 1300	SS-2 SS	1233 Sup Co- 1807 15.68 14.31 15.58 14.31 15.88 12.88 12.88 12.88 18.85	D12 TIO NO C 0 0 2.8 2.8 2.8 2.4 2.4 2.4 2.4 2.4 2.4 2.4 2.4	45 45 42 42 42 42 42 42 42 42 42 42 42 42 42	Reserved to 1.00 0.90 0.90 0.90 0.90 0.90 0.90 0.90	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	O C C C C C C C C C C C C C C C C C C C	Normal W Normal W	8.600 6 star Surface N solid wate 132 212 285 351 405 405 485 506 490 490 518 -11 89 5 68 4 5259 419	EL 143 900 EL 143 900 Folder War 15 15 15 15 15 15 15 15 15 15 15 15 15	93 5 m water all	Seismic C afface - 3 8 -3 8 -6 24 4 73 10 81 18 87 26 91 10 81 18 87 32 47 11 10 44 19 11 10 19 12 21 18 11 10 19 12 21 18 11 10 19 12 21 18 19 10 10 10 10 10 10 10 10 10 10 10 10 10	1.101 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	C	0.18 (10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000s) 1000s	Record	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Te	0 0 0 0 0 0 0 0 0 0	501.3 120 CL 00 192 19.0 18.9 18.9 18.9 18.9 19.0 19.0 10.0
Case No. 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9 10 11 12 2 3 3 3 4 4 5 5 6 6 7 7 8 8 9 9 10 11 1 12 1 12 1 12 1 12 1 12 1 12	1 (2/) 7 1 194 1 1	7 set 2.16 2.16 2.16 2.16 2.16 2.16 2.16 2.16	1,30 7,30 7,30 7,30 7,30 7,30 7,30 7,30 7,30 7,30 7,30 7,30 7,30 1,18 12,15 15,10 1,69 15,10 1,69 15,10 1,59 15,10 1,59 15,10 1,59 15,10 1,59 15,10 1,59 15,10 1,59 15,10 1,59 15,10 1,59 15,10 1,59 1,	Sicpe x 38.55 45.88 53.16 67.76 75.08 62.36 62	1233 Sip Co 1807 11588 11431 11588 1291 1331 1488 1202 1336 1488 1688 1707 1709 1707 1709 1707 1709 1707 1709 1707 1709 1707 1709 1709	Con No Co	45 45 42 42 42 42 45 45 45 45 45 45 45 45 45 45 45 45 45	Reserved to 1.00 1.00 1.00 0.90 0.90 0.90 0.90 0.84 0.84 0.84 0.84 0.84 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0	N O O O O O O O O O O O O O O O O O O O	Color Colo	Normal W Normal W	8.600 6 star Surface N solid wate 132 212 285 351 405 405 506 515 510 259 419 64 578 -11 588 4 529 419 64 578 -11 588 4 588 4 588 4 588 4 588 1	EL 145,900 colude the point of	93 5 m water state	Science C risce	1.101 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Solid Soli	0.18 (10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00000 10000 10000 0000 0000 0000 0000	Record	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000 00 00 00 00 00 00 00 00 00 00 00 00
Control 1 2 3 4 4 5 6 7 7 8 9 10 11 12 15 16 17 18 19 10 11 12 13 14 15 16 17 18 19 10 11 12 13 14 15 16 16 16 16 16 16 16	7 1 24 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7 s.d. 216 218 218 218 218 218 218 218 218 218 218	1300 1300 1300 1300 1300 1300 1300 1300	Signary 38555 4588 5518 6048 6176 6048 6176 6176 6176 6176 6176 6176 6176 617	1233 Sip Co- 1100 11588 114.11 115.88 114.11 115.88 114.15 115.88 114.15 115.88 115.80 114.85 115.80 114.85 115.80 114.85 115.80 114.85 115.80 114.85 115.80 114.85 115.80 114.85 115.80 114.85 115.80 114.85 115.80 115.80 114.85 115.80 11	Control No. Contro	45 45 42 42 42 42 42 42 42 42 42 42 42 42 42	1.00 1.00 0.90 0.94 0.90	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Normal W Normal W	8.600 6 star Surface N solid wate 132 212 285 351 405 405 485 506 490 490 518 -11 89 5 68 4 5259 419	EL 145,900 mok/de Uha n p Loked wa p Lok	93 5 m weeker all week	Seismic C afface - 3 8 -3 8 -6 24 4 73 10 81 18 87 26 91 10 81 18 87 32 47 11 10 44 19 11 10 19 12 21 18 11 10 19 12 21 18 11 10 19 12 21 18 19 10 10 10 10 10 10 10 10 10 10 10 10 10	1.101 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	C	0.18 (10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00000 0000 0000 0000 0000 0000 0000 0000	Record	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	501.3 120 CL 00 192 189 189 189 189 189 189 189
Case No. 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9 10 11 12 2 3 3 3 4 4 5 5 6 6 7 7 8 8 9 9 10 11 12 13 3 14 4 15 16 17 17 17 18 19 10 10 10 10 10 10 10 10 10 10 10 10 10	1 (2/2) 7 t 1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.94	7 set 2.16 2.16 2.16 2.16 2.16 2.16 2.16 2.16	1,30 1,30 1,30 1,30 1,30 1,30 1,30 1,30	SS-2 SS-2 X X X X X X X X X	1233 Sop Co- 1807 15.88 14.31 15.88 14.31 15.88 16.35 16.35 16.35 16.35 16.35 16.35 16.35 17.16 18.35 17.16 17.16 18.35 17.16	D12 Clo No C C C C C C C C C C C C C C C C C C C	45 42 42 42 42 42 42 42 42 42 42 42 42 42	Reserved to 1,000 to 1,000 to 2,000 to 3,000 to	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Color Colo	Normal W Normal W	8.600 6 star Surface N solid wate 132 212 285 351 408 408 451 485 508 515 510 259 419 64 578 -11 591 10 10 10 10 10 10 10 10 10 10 10 10 10	EL 145,900 rokuda Uhan p Lokid wa - 15 15 28 - 8 - 110 28 - 110 - 28 - 110 - 28 - 110 - 28 - 110 - 28 - 110 - 28 - 110 - 28 - 110 - 28 - 110 - 28 - 110 - 28 - 110 - 28 - 110 - 28 - 110 - 28 - 110 - 28 - 110 - 28 - 110 - 28 - 110 - 30 - 30 - 30 - 30 - 30 - 30 - 30 - 3	93 5 m water sum of the control of t	Seismic C afface	1.101 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Color Colo	0.18 (10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0000 0000 0000 0000 0000 0000 0000 0000 0000	Record	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0	000 00 00 00 00 00 00 00 00 00 00 00 00
Case No. 1 1 1 2 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9 10 11 12 12 12 12 12 12 12 12 12 12 12 12	194 194 194 194 194 194 194 194 194 194	7 set 2.16 2.16 2.16 2.16 2.16 2.16 2.16 2.16	1,30 7,30	Signary 38555 4588 5518 6048 6176 6048 6176 6176 6176 6176 6176 6176 6176 617	1233 Sip Co- 1100 11588 114.11 115.88 114.11 115.88 114.15 115.88 114.15 115.88 115.80 114.85 115.80 114.85 115.80 114.85 115.80 114.85 115.80 114.85 115.80 114.85 115.80 114.85 115.80 114.85 115.80 114.85 115.80 115.80 114.85 115.80 11	C C C C C C C C C C C C C C C C C C C	45 45 42 42 42 42 42 42 42 42 42 42 42 42 42	1.00 1.00 0.90 0.94 0.90	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Normal W Normal W	8.600 6 star Surface N solid wate 45 132 212 286 351 406 515 510 6490 259 419 64 - 578 -11 89 56 68 4 52 4 53 68 4 52 65 68 4 52 65 68 4 52 65 68 68 68 68 68 68 68 68 68 68 68 68 68	EL 143 900 chide the record was a cold was a	93 5 m water sum of the control of t	Seismic C office	1.101 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Solid Soli	0.18 (10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00000000000000000000000000000000000000	Record of the state of the stat	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000 00 00 189 189 189 189 190 190 100 100 100 100 100 100 100 10



Case 2 (1/2): Upstream Slope

 $SF = \frac{\Sigma \left[G \cdot L^{4}(N - U - N_{\theta}) \cdot tan \phi\right]}{\Sigma \left(I + T_{\theta}\right)}$

SF: Safety Factor

- N: Normal Force Acting on Stp Circle (tf/m)
 T: Tengential Force Acting on Stp Circle (tf/m)
 Ne: Normal Force of Earthquake Load Acting on Stp Circle (tf/m)
 Te: Tengential Force of Earthquake Load Acting on Stp Circle (tf/m)
 U: Pore Pressure acting on Stp Circle (tf/m)
 \$: Effective Internal Friction Angle on Stp Circle (*)

- O: Effective Cohesion on S/p Circle (tf/m2)
 L: Arc Length of Sip Circle (m)
 y 1: Wet Density (tf/m)
 y sat: Saturated Density of Material (tf/m3)
 b: Width of Sip Circle (m)
 1. y: X or Y Coordinate of Center of Sip Circle (m)

L.,	C+s	e 2 (1,	/2):Up	stre am	Sloce	Sto Co	rcie N	0, 1	Resen						ter Sull				Se	ismic (oe isc	ient.	0.00	(05)	Rea	ared Sa	ety Fa	tor	1.50
_ [N										abo			surfac	•		in	alude U	e wat	E BURTA	C &		r		under U					
يا ا		γt	y sat	ъ	1	Y	C	٠	uno	N	1	Ne	Te	ď	, N				Кe	Te	¬۲	7	1	, ,		Ne	Tê.	U	α.
<u></u>	Ce.														sond v	est er	\$00d	water				solid	water	\$05d	water			_ i	
1	-11	1.44		\$ 50	14.25	3.84	٥	45	1.00	0	0	0	0	्	0	Ó	0	0	0	0	C	635	1	31	-30	0	0	619	ÖC
1	31	1.24	2.16	9.50	23.75	4.45	0	45	1.00	•	0	0	0	이	0	0	0	0		0	0	€82	4	53	-49	o	o	614	0.0
-	3	1.94	2.16	9.50	33.25	5 37		45	1.00	0	٥	0	0	0	0	0	0	0	٥	0	0	€81	8	77	-€8	0	ō	607	0.0
	4	1.94	218	9.50	42.75	6 60	0	45	1.00	0	0	0	0	C	0	0		C	٥	. 0	0	693	12	101	-85	ō	ō	558	0.0
•	5	1.94	218	9.50	52.25	8.14	٥	45	1.00	0	0	0	0	6	0	0	0	0	0	0	0	698	18	125	-102	ō	ō	588	0.0
1	6	1.84	2.16	9.50	61.75	10.00	0	45	1.00	0	0	0	0	0	0	. 0	٥	0	0	0	. 0	695	25	148	-117	ō	ò	572	0.0
1	7	1.94	216	9.50	71.25	12.19	۰	45	1.00	Q	0	0	0	e]	0	0		0	0	Ó	: o	888	32	170	-129	ō	ō	555	0.0
ı	8	194	2.15	9.50	80.75	14.71	0	45	1.00	. 0	0	0	0	0	0	0	٥	0	0	0	. 0	669	40	189	-140	ŏ	ō	535	0.0
1	9]	1.94	216	\$.50	90.25	17.57	0	45	1.00	0	0	0	٥	0	0	0	0	. 0	0	۰	. 0	644	47	203	-148	ŏ	ŏ	512	0.0
	10	1.54	216	9.50	\$9.75	20.78	0	45	1.00	0	0	0	0	0	0	. 0		0	- 0	0	· e	613	55	219	-154	. 6	ň	485	0.0
1	11	1.94	2.16	9.50	109.25	24.36	٥	45	1.00	0	0	0	0	0	0	0	0	0	Ó	ŏ	Ċ	574	62	228	-156	ň	ň	455	0.0
4.	12	1.94	2.18	9.50	118.75	28 32	0	45	1.00	0	0	0	0	٥	0	6		0	0	ō	. 0	529	67	231	-154	- 6	ŏ	421	0.0
1	F3	1.54	216	9.50	128.25	32.07	0	45	1,00	٥	٥	٥	0	G	0	o	0	. 0	0	ō	0	478	71	228	-149			382	0.0
	14]	111	2.16	9.50	137.75	37.44	0	45	1,00	٥	0	0	0	0	0	o o	Ó	ō	ō	ō	i	418	23	218	-139	ň	ň	338	0.0
1	15	1.94	216	9.50	147.25	42.65	0	45	1.00	0	٥	0	٥	0	0	0		. 0		ě	: 0	350	iil	200	-124	ň		287	0.0
	16	1.94	2.16	9.50	156.75	43.32	0	45	1.00	0	0	٥	0	G.	0	٥	Ö	0	0	ŏ	. 0	278	64	173	-103	. 6	ň	230	0.0
1	17	1.94	218	9.50	166.25	54.49	Ó	45	1.00	0	o	0	Ó	C	ò	Ö	ō	ō	ŏ	ŏ		200	- 5	135	-22	ň	ň	165	0.0
1	18	1.94	2.16	8.15	175.07	60.70	٥	45	1.00	Ó	Ō	ō	ó	ó	ŏ	· 6	Ŏ	ŏ	ŏ	ŏ		104	201	76	-39	: ٨	ă	. 65	0.0
1	15	1.94	2.16	8.62	182.45	66 28	0	45	1.00	0	0	ō	ó	٥	42		33	-11		ŏ	22				3		ŏ	٠,	0.0
		1.94		5.78	188.65	71.25	. 0	45	1.00	0	0	0	ó	0	11	Ö	9		٠ ڏ	ŏ	č	ŏ	ă					្រ	0.0
	Res	At of C	Calculat	ion	\$F = 1	2 656	>12		ल		0	0	0	ó	54	- 8	42	-11	- 6	<u>š</u> -	- 52	9,603	732	2,809	-1 26		- 0	8.045	- 60
	-																		• •	- -		7,000		2,003				6,0431	

	150 Z	(1/2):Ups	ream	Slope	Sip C	rcia N	a, 2	Resen	or Wat	er Sur	face	None	¥W.	rter Su	rface :	EL 143	900m	Se	STIC.	Coeffic	iant	0.00	(01)	Sec	uired Se	foto Fa	rtne	1.50
No.							1			300	e the	Water	surfac	6					s aufa	4		T				SUISCE		, CO	
οf	1	t :	y sat	ь	1	Y	C	٠	tend	N	T	Ne	Te	U		N			No.	Y			N	1		Na.	7.	-11	αL
Sec	<u> </u>							100							solid	water	solid.	water				1050		solid				•	_ ~
1	3.5	54	2.16	5.00	53.41	20.04	0	45	1.00	0		ō	0	Č	ō	0	0	0	0			243		44	-46			243	- ^^
2	1.1	94	2.15	5.00	58.41	21.04	o	45	1,00	Ó	0	0	Ó	0	ó	ō	مَا	ň	1 5	ň		242		51	-49			244	0.0
3	1.5	94	216	\$.00	. 63,41	22.14	lo	45	1.00	0	Ö	ō	ō	0	ة	ŏ	ة	ň	ň	ň		241	11	55	-52				00
4	1.5	94	2.16	5.00	68.41	23.33	1 0	45	1.00	0	Ō	ō	0	6	ľě	ŏ	ة	ň	×	ň		238	1,	59	-55		×	240	0.0
	1.5	94	2.18	5.00	73.41	24.61	١ ٥	45	1.00	ō	ò	Ď	ō	ě	ŏ	ň	ة ا	ŏ	1 %	ň		234	15		-57	,	v	235	0.0
	1.1	94	216	5.00	78,41	25.99	1 0	45	1.00	ō	ō	ō	Ö	ō	וֹ ו	ň		ň	ľ	ž		229		68	-59	,		229	0.0
1	1.5	94	2.16	5.00	83.41	. 27.47	1 0	45	1.00	0	ō	ō	ò		ìò	Ď.	,	ŏ	ľ			224	10		-61	V		223	0.0
	1.5	54	218	5.00	88.41	29.05	0	45	1.00	ō	ō	ō	ő	ŏ	ة ا	ő	ة ا	ň	Ĭ	ň		1 ::;		68	-62		` ¥	217	0.0
\$	1 1.5	94	218	5.00	\$3,41	30.74	٥١	45	1.00	0	ō	ō	ō	o.	ة ا	ň	۱ ۲		Ĭ	×		209	20	1 ::	-63			210	0.6
10	1.3	P4	2.15	5.00	98.41	32.52		45	1.00	ò	ō	ō	ō	0	۱ŏ	ň	,		Ĭ			200	- 41	"	1 27	ŭ		202	0.0
11	1.5	54	216	5.00	103.41	34.42		45	1.00	ò	ò	ŏ	ō	ŏ	ة ا	ň	ň	ŏ	ľ	Ň		190	23	''	-63			194	0.0
12	1.5	94	2.16	5.00	108.41	35.42	ه۱	45	1.00	ò	ō	ō	ŏ		ة ا	ň	۱ ،		1 %		Š	179	24	73	-63			185	0.0
13	1.5	94	2.16	5.00	113.41	38.53	lō	45	1.00	ò	ö	ŏ	ŏ	r.	آما	ň	Ň		×			100	25		-62	v	Ū	176	0.0
14	1.5	94	2.16	5.00	118,41	40.76	ì	45	1.60	ŏ	ō	Ğ	ŏ	Ď.	ľň	ň	Ň	Ğ	Š				28		-60	Ü	0	166	0.0
15	13	94	2.16	5.00	123.41		1 6	45	1.00	ō	ŏ	ō	ă	ň	۸	č	<u>ہ</u> ا	ň	Š			153	41	70	-58		0	155	0.0
16	1.5	94	216	5.00	128.41	45.58	i	45	1.00	Ď	ō	ň	ň	0	ĭ	,	×			×		139	21	0,1	-56	Ü	0	143	0.0
17	1.5	94	2.16	5.00	133,41	48.15	ة ا	43	1.00	ŏ	ò	ŏ	ŏ	ŏ	١×	ň	,	,	,		v	124	21	63	-53	, o	. 9	131	C.D
18	11	64	2.16	5.00	138.41	50.88	ĺ	45	1.00	ŏ	ŏ	ň	ŏ	ň			Š		×	V	0	108	20	3,	-49	0	0	117	0.0
19	1.5	94	2.16	5.00	143.41	53,70	ة I	45	100	Ň	ň	ň	ň	à	۸	Ň			Ň	Ž		1 "	24	50	-44	9	0	103	0.0
20	1,9	P 4	2.16	4.22	148.02	56.45	íõ	45	1.00	ŏ	ŏ	ŏ	ŏ	Ň		Ň	,	š		×		/3	22	42	-38	0	. 0	88	0.0
Pa	su't	of C	alculat.	ion	SF =	2.621	712	ō		- 5	-5-	ŏ	~~~~	č	- `	6	×		×	~₩	<u> </u>	3.545		1221	-27		0	3 567	0.0

Cas	+ 2 (/2):U	stram resource	Slope	Sto C	rcle N	0. 3	Reser						ter Su				Sei	arric C	oeffic:	ent.	0.00	(05)	Rec	uined S	efety Fa	ctor	150
No.			٠.	100			_		ab	no th	e wete	r surfac	٠		Į,	clude L	o wat	H BUITAC	4				under U					1.24
of	71	rts	, в	1	y	¢	٠	tenç	Ν.	. Τ⊤	Ne	Ta '	U		N	Γ	r	N.	Te	U		4		r	No	7.		ĺα.
Sice											- '			60 6 6	rest er	s ofici	water				solid	water.	s:06d	water.	İ			1
.!	1.9				5,19		45	1,00	0	0	0	0	0	0	. 0	0	O.	0	Ò	0	909	13	-113	106	Ó	ő	867	0.0
- 41	1.9				3.93		45	1.00		0	0	0	0	0	1 0] 0	. 0	0	. 0	O	1,032	3	-64	55	Ð	. 0	879	0.0
3	1.94		13.50		3.50		45	1.00	0	0	0	0	c	٥	•	0	0	٥	0	0	1,127	O	-2	1	o	. 0	883	
- 21	1,54				3.85		45	1.00	0	0	0	0	0	0	. 6	0	0	0	0	0	1,195	3	71	-52	9	•	879	0.0
3	1.94				5.11		42	0.90	0	٥	G	0	0	0	0	. 0	0	0	0	Ç	1,234	13	150	-104	0	. 0	887	35.2
•	1.31	216			7,18		42	0.90	٥	0	0	0	0	0	. 0	0	. 0	0	0	0	1,243	28	229	-151	ō	0	847	
	1.9		13.50	103.70	10.11		42	0.90	0	0	0	0	Đ	0	0	0	. 0	0	0	. 0	1,222	48	305	-192	Ó	Ö	818	
ំ	1.0	215	13.50	117.20	13.94	2.5	42	0.90	0	0	0	0	¢	•	. 0	٥	0	٥	٥	. 0	1,172	72	373	-225	0	. 0	779	
	194		13.50		18.72	2.6	42	0.90	0	9	Q	0	0	٥	0		0	0	0	0]	1,091	97	427	-247	0		727	
	1,94		13.50		24.53	2.6	42	0.90	0	0	٥	0	0	0	0	0	0	٥	0	0	\$31	120	461	-255	0	ō	662	38.6
-::1	1.94				31,44	0	45	1.00	0	0	0	0	0	0	0	0	. 0	0	0	. 0	842	137	468	-245	ō	ō	579	0.0
::1	1,94		14.69	171.79	39.99	0	45	1.00	0	0	0	0	0	0	0	٥	0	0	0	0	728	154	478	-234	. 0	. 0	509	0.0
.:1	1.94		6.64	182.46	47.47	0	45	1.00	0	0	٥	0	0	280	63	194	-85	٥	0	177	. 0	0	0	0		Ò	0	0.0
::1	1.94	2.15	9.51	190.69	53.92	0	45	1.00	0	0	Đ	0	이	310	76	255	-93	0	٥	189	0	- 0	. 0	٥	. 0	Ó	0	0.0
::1	2.09	224	4.88	199.03	60.23	0	35	0.70	0	0	0	0	0	123	25	110	-28	¢	٥	57	0	0	0	0	0	. 0	ō	0.0
::1		2.23	1.29	201.12	63.05	1	25	0.47	0	٥	0	0	0	28	. 5	26	-5	0	0	10	. 0	0	. 0		. 0	ō	. 6	1.5
-::1	2.11	219	2.04	202.78	64.63	!	25	0.47		0	٥	0	이	39	9	37	-10	0	0	. 7	0	0	. 0	. 0	. 0	. 0		2.3
15	209		4.59	205.10	87.85	j	25	0.47	. 0	0	0	0	이	62	0	62	. 0	٥	0	0	0	0	. 0	. 0	ō	. 0	. 0	6.5
			3.68	210.23	72.07	0	35	0.70	0	٥	٥	٥	이	24	. 0	25	. 0	.: 0	0	0	. 0	. 0	i ò	Ö		ŏ	: 6	0.0
巡	1.94	2.16	1.19	212.60	74.55		45	1.00		0	•	0	0	. 2	0	2	0	0	0	ં ા	. 0	o	Ö	0	ŏ		. 0	0.0
148	MPI OI	Calcul	ròu	SF = 2	2.003	>12) ···· (OK_	0	0	0	0	이	848	179	711	-221	0	0	440	12,173	887	2.784	-1.544	Ö	0	9,296	230.7

No.	#4	2 (1/	(2):Up	eusens	Slope	5€p Ci	rcio N	0.4	Reser	oir W	ster \$	wface)	Norm	J W	eter Si	riece :	EL148	900m	Spin:	mic Cost	fic les	m.	0.00	(62)	Rec	ured Si	fety F	eter	11.501
of.	L	- 4					I؞			4	ove th		suria		1	in in	ciude (10 1750	r surfaça		Т			nder th		surface			1
Sice	ı i	,	7 64	٠, "		y	ľ۳	Ŧ	tung	N	. 1	Ne	Te .	U	١	Ν.		r —	No	Y+ U	•		<u>`</u>		r -	No	10	U	jal
		134	2.16	10.00	59.41	19.87	٦ ا	75	1.00						8000	Water	8084	weter			٠,							3 47	
- 1		134	2.18	10.00	69.41	18.14	ľ	45	1.00	ו ג	·			Ų	1 9			. 0	0	ο.	이	515	19	-102	95	0	C	500	0.0
•	1	1.64	2.18	10.00	79.41	18.91	ĭ	14	1.00	X	ž	Ŷ	Ÿ	D	9	. 0	! !	0	0	• •	이	900	11	-89	. 74	٥		513	0.0
7		1.24	2.18	10.00	89.41	18.18		ĸ	1.00	X	ž		0		! !	. 0	! !	. 0	0	0	연	675	5	-87	51	0	0	522	
		1.91	2.16	10.00	99.41	15.90		45	1.00	١,		v		ç	! !		! 9	. 0	0	0	이	738	. 1	-37	27	0	. 0	528	0.0
i		1 64	218	10.00	109.41	1811	3.	12	0.90	×	×	×	×	Ŏ	1 9		1 ?	0	0	0	인	789	. 0	-2	2	0	. 0	530	0.0
i	1	194	2.16	10.00	119.41	16.80	24	42	0.90	ň	×	×	×	ç	1 2	. 0	! ?	. 0	0	0	인	828	- 1	37	-24	0	o	528	
i	1	1.94	218	10.00	129.41	17.97	-	45	0.90	×	×	v	¥	·	1 2	. 0		O.	0	0	이	855	- 5	30	-48	0	٥	523	20.0
ì	1	94	218	10.00	139,41	19.64	1 7 4	44	0.90	×		×	×	Ų	! !	0	! !	. 0		0	이	205	. 10	123	-12	Ó	. 0	514	26.2
10	1	64	218	10.00	149.41	21.82	34	41	0.00		×		×	·	i !	D	!	0	. 0	, o .	ç	471	10	167	-93	. 0	0	502	
- 11	Li	194	216	10.00	159.41	24.51	34	40	0.84	×	×	×	ž	·		v	!	. 0	0	. 0	이	859	27	209	-111	0	. 0	485	
12	li	94	2.16	7.00	167.91	27.23	1 1	40	0.84	×	×	×	×	v	ľ				0	. 0	o	835	37	247	+128	0	0	483	25.3
13	1	94	218	7.73	175.27	29 9 1	7.4	40	0.84	~	ž	×	Ň	Ų	! !			0	0	0	인	563	33	193	- 05	0	. 0	308	18.0
14	li	34	2.18	12.22	185.25	34.00	7.	40	0.84		×	×	ž		<u></u>	. 0			0	• •	9	595	42	230	-109	0	. 0	323	201
15	li	54	2.20	4.45	193.58	38.01	-7	**	0.70	×	×	×	×	- 0	890	- !!	358	-173	0		65	0	. 0	0	: 0	0	0	0	32.5
16	1 2	.02	2.23	5.95	198.78	40.70	ĭ	25	0.47	~	×	×	×		313	31	157	-61	0		53	0	0	0	. 0	0	; O	. 0	0.0
17		.05	2.10	9.81	208.86	45.14	i :	35	0.41				,		410	42	220	- 79	. 0		90	0	• •	٥	٥	0	0	0	[6.3]
18	li	.94	218	1.09	212.11	48.49	l i	žč	0.42	: X	×	×	×		580	180	336	-304	0	0 1	51	٥	0	0	0	0	. 0	٥	11.4
19	li	.03	2.18	5.30	215.30	50.56	ò	35	0.70	Ň	ň	×	×	2	-		31	. 9		. 0	9	0	9	0	. 0	0	0	0	1.3
20	113	940	2.150 1	5 547	225.726	57513	ō	45	1.00	ŏ	ŏ	ň	Ň	v	201 252		133	21	. 6	Ŷ	잌	ō	. 9	•	인	0	0	C	0.0
R	isul	: 7	alculat		SF = ;	1.12	713	5		`	×	× -	- ×	- ×	2,682	331		-617		9	OI OI 1	0 9.592	209	990	-428 -428	0_	0	C	1 0.0

0: Effective Cohesion on Sip Circle (U/m2)
L: Arc Length of Sip Circle (m)

			. 41	[[720]	1.5	-			Ince	NUM P	orce.	Acting on	5	o Cercio (U	/m)				L:	Arc Le	ngth of	'Sio Cir	てる(か)	,			
				- .				No:	Norma	Forc	a of E	arth public	a L	oad Acting	en Sip	Circle (t	/m)		yt:	Wet De	nsity (t/m3)					
		25 :	Safety	actor.				Te:	Tange	tial f	orce.	of Earthq.	Jai.	a Load Act	ng on S	o Certi	e (ti/m))	yest:	Situra	ted Der	TO VES	Makana	(U/m.)		
								U:	Ports F	La sad	re ác	ting on \$6	φ¢	ircle (tf/m)					Width							
								•	Effecti	va Int	നേഷ്	Friction A	lπe	on Sio C	rcte (*)					XorY				of Sto	Circle (m)	
					·																		•				
	sa 2 (l	72): Up	stream	Sloce	Sip O	ircle N	la. 5	Reser	voi W.	er S.	1000	Normal	W.	ter Surface	EL 14	3 900m	1 5	4.07	Coeffic	200	66	(01)	T 6.	to the	1	Eactor	1.50
Ro.	F			45		T			653	ve the	wate	f surface	7			the wat			944.74	~~~				r surfac			
of	71	yest	ъ		У	0		Land	א ו	Τ-	Na.	To U		N N	1	1	I No	7.	U	ļ		r	Y	1 1/0	7	— U	al
\$5ce	1		٠.			1	-		ļ l					sold wat	. ا م. د			••	•	1 '	•	ا	• :	1		•	, «
	194	2.15	9.00	76 85	27.25	1-7	~45	1.00	1 0		7.0	0	À	A MAC						solid	water		* Ker				
,	194	2.15	9.00	85 85				1.00	ľ	Ň	×	ň	X	ň	<u> </u>	0 0		0	_		5	-45				Q 37	
1	194	2.18	9.60	94.85				1.00		×	×	ŏ	М	•	91	9 (•			2	-32	27] 0	ı	0 38:	
- 7	1.14	2.18	9.00							Ÿ			ч	0	인	0 0	0	0	. 0	435	0	-13	10		, .	0 387	
2	1.34							1.00		0	Q	0	0	0	0]		0	0	. 0	533	0] 10	-7	1 0	,	0 397	7 0.0
?	134	2.16	9.00	112.85		٥	45	1.00	0	0	٥	0	0	0	0]	0 0	0	0	. 0	561	. 2	35	-25			0 384	0.0
•	1.94	2.15	8.00	121.85			45	1.00	0	0	0	0	0	0	0]	0 0	0	٥	. 0	579	5	64	~41			0 379	
- 7]	194	2.16	90)	130.85	28.30] 0	45	1.00	0	0	0	0	¢	0	이) 0	1 0	ó	ó	588	ě	92	-57			0 370	
8	1.54	2.16	9.00	139.85	29.92	2.6	42	0.90	٥	0	0	0	0	G '	ol (òò	ŏ	ō	ā	588	14	120	-70			0 359	
9	1.94	2.15	9.00	145 85	31.98	2.6	42	0.90	0	0	0	ō	ò	ŏ	اه		1 6	Ň	ŏ		21	145					
10	1.94	216	9.00	157.85	31.43	2.5	42	0.90	ò	ò	ō	ō	ŏ	ŏ	اه اه		ĭ	×	č		21		-82				
11	194	2.16	9 00	165 85			42	0.90	ň	ŏ	ă	Ă	XI.	ň	ăl :			×					-30			0 . 324	
12	194	216	7.80	135 24			42	0.90	ň	Ă	ň	ň	ŏ	ž	XI :		1 .	Ÿ		529	34	189	-\$5		: : (0 300	
13	1.94	2.16	800	183,14		2.6		0.90	×	×	ň	•			' ا`.			·		428	34		-83	. 0		0 238	
	1.14	2.16		190 50						Ÿ		-	ç		8 16		0	0	218	٥	. ଦା	0	0	0	- (0	22.8
13							42	0.90			Q		Ó		3] 16:		0	•	150	0	O)	0	0	, c		. 0	19.5
13	1.95	222	4.50	195.11			35	0.70	0	0	0	-	e	210 2			٥	٥	94	٥	0	0	. 0	. 0	. (Ò	
16	2.04	2.23		200.05		1	25	0.47	0	. 0	0	. •	0	154 1	t] 94	-27		. 0	63	0	. 0		0			, ,	39
17	2.11	219		204.11	55.65	1	25	0.47	0	•	0	0	C	229 5	3 14	-95		. 0	52	0	. 6	ō	. 6	ň			8.9
18	2.00	2.18	2.89	209.10	58.44	1	25	0.47	Ó	0	0	0	이	90	O 59	0	6	Ó	0	i i	ò	ň	- 6	ň			35
19	1.93	2.16	5.27	213.18	61,19	0	35	0.70	٥	0	. 0	0	ol	119	ol a		Ó	ō	ŏ	i .	اه	ň	. 0				0.0
20	1.54	2.15	827	21995	66 08	0	45	1.00	•	0.	·· o	0	ol	70	0 5		آما	ŏ	- 6	۸			ŏ	ň			
Rei	ult of	Calcula	502	\$F =		712	0	OK 1	Ö	-	- 6	-	ŏ	1.608 15				- 6	- 3 1	6 285	153	910	-459				00
										· ·	~~~				-1			. · ·		0.503	133	210	-433	0		4,230	175.4
Cad	42(1/	2): Up:	tream:	Shoul	Sin Cir	e ta Ma		Pasan	فولها منه		14.1	Many of L	-	er Surface	Et 145	645-			. Ze i			/ T		يبب		<u>.</u>	
No. T	- 4 1.,	-,,,				<u> </u>		7-0011		4 1 4		SUFFEE	1			4 1 30			ceffic.		0.00		Req	Area Sa	dety F	ector .	1.50
of	.71	7 341	ь			c	4	Lung	N		No	To U	+	——u—-	COCC	THE MACE	Ne				- 0	maer U	d water	surface			1
Sice		,	•	. 🗓 :	'	_	¥	~~1		٠,	110				1	• .	N.	Te	٧	N				Ne	To	-0	[CL]
3000	134		340	414.	42.44								J.		0.554	W4.61					water	1056	Wat.or				
		2.15	7.20	97.21	35.92	0	45	1.00	0	0	0	0	ᅊ	0	ણ (0	0	0	0	250	0	-4	4	0	. 0	238	0.0
3	1.44	2.18	7.20	104.41	35.95	٥	45	1.60	0	0	0	0	ᅋ	0	이 (0	0	0	0	272	. 0	6	-5	0	Ó		0.0
3	1.94	2.15		111.61	35.25	. 0	45	1.00	0	0	0	•	이	0	0] (0	0	0	. 0	290	- 1	18	-14	ŏ	: ō		0.01
- 41	1.94	2.16	7.20	118.81	38.83	0	45	1.60	Q.	0	0	0 (Q]	· 0	0] (. 0	0	Ó	o	303	2	30	-23	ō	ŏ		0.0
5	1.94	2.15	7.20	126.01	37.69	0	45	1.00	Ó	0	٥	0	Ċ.	•	ol d	0	ò	Ó	6	312	` <u>a</u> l	43	-31	ň	ં ઢ	~~~	0.0
- 6	1.94	2.16	7.20	13321	38.83	0	45	1,00	0	0	٥	0 1	e l	0	ol a	0	ò	ò	اة	315	7	56	-38	Ň		220	00
7	1,94	2.15	7.20	140,41	43.26	Ó	45	1.00	0	ò	o	0 1	ōΙ	0	of a	ام	ň	ŏ		314	10	63	-44		. 0		
s i	1.94	2.16	7.20	147.61	41.99	ō	45	1,00	ò	ā	ň		7		i	, ,	×	ě	្ដ	307	13				. •	211	0.0
ol	1.94	2.15		154.81	44.01	ň	45	1.00	Ā	Ā	ň	ŏ	7		31 3			٥	, i			80	-43	. 0	- 0	\$00	0.0
10	1.94	2.16		162.01	46.35	ň	45	1.00	Ň	ň	ň	ŏ	XI.		()		v	•	9	296	16	90	-52	. 0	0		0.0
· iil	194	2.16		169.21	43.01	ŏ	45	1.00	ň	×	ŏ	ŏ	"		1 4		U	0	이	279	18	97	-53	्०	. 0	172	0.0
12	194	2.15		17597					v	9	-		"1		9 9	. 0	. 0	0	이	258	21	102	-52	0	. 0		0.0
					51.83	٥	45	1.00	ō	0	0	0 (9	0 (기 0	. 0	0	0	0]	204	19	90	-43	0	. 0	118	- 0.0
13	1.94	2.18		183.54	55.40	. 9	45	1.00	o,	0	0		ᅊ	252 2		~53	0	0	135	0	0	0	. 0	. 0	. 0	. 0	ool
14	1.94	2.15		19223	5995	٥	45	1.00	0	0	0		¢[211 2	118	-36	0	0	85	0	. 0	0	ol	0	ं ठ	i	0.0
15	2.01	2.25		198.73	83.71	0	35	0.76	Q.	0	0	0 (0]	104	64	~12	0	0	29	. 0	. 0	0	0	á	. 0		0.0
. 15	2.11	2.23		201.38	65 37	1	25	0.47	0	0	0	0 (0	16	1] 10	-1	0	٥	3	ŏ	اة		0	ň		Ň	0.9
17	2.11	2.19	1.45	202.49	65 08	1	25	0.47	0	0	0	0 6	οl	.28	18	-5	ő	ő			اة		- 31			الإ	
18	203	216	519	205.81	58 27	i	25	0.42	À	Δ.	Á			79	1 .			ŭ	- :1		<i>→</i> 11		ંપ			ં પ	1.7

Cas	4 2 (1	/2):Up	stream	S'oca	Sto C	rtie N	2.71	Resen	our Wat	er Su	rfa- el	Non	na) W	+ 4 c S	efa. a ·	<u> </u>	900-		ismio C			0.00	(ca)				6.721	
No.			-									i izali					ha wate			Oe IIIC	erit .			Ke3	ured Sal	ety Fa	tor	1.50
of ,	γŧ	yest	ъ	χ	Y	C	•	tanà	N	T	Ne	7.0	U		N	r	7	Na	T4	U		v		-	Na	Ta	-61	άι
Sice				4				- 1						6050	water	totd	water	3. 4			so⊼d.	water.	1004	water			•	/ ~
1 1	1.94		4.00	11.99	3 93	Ò	45	1.00	0	0	0	. 0	- 0	7	, 	0	0	0	Ó	C	262	2	21	-21	- 0	· o	261	00
2	1.94		4.00	15.99		0	45	1.00	0	0	0	. 0	0	() 1 0	0	. 0	. 0	0	0	265	. 3	29	-28	هَا	ň	250	00
3	1.94		4.00	19.99	4.87	0	45	1.00	0	0	0	. 0	Q	. () 0	- 0	ં 0	0	0	0	267	5	37	-35	6		253	00
4	1.94		4.00	23.93	5.48	0	45	1.00	0	0	0	0	C	(0	0	; O	0	. 0	0	287	. 7	44	-42	ō	. 0	257	0.0
્ર	1.94	2.18	4.00	27.93	6 20	0	45	1.00	0	0	0	0	0	(0	0	. 0	G	. 0	0	287	9	52	-43	o	. 0	256	0.0
	7.54	2.10	4.00	31.99	7.03	0	45	1,00	0.	0	0	0	. 0		0	0	. 0	0	0	0	255	12	59	-54	0	. 0	254	00
- 4	1.94	2.36	4.00	35 9 3	7.93	0	45	1.00	0	0	٥	0	0	9	0	0	. 0	0	. 0	C	253	15	67	-60	0	. 0	251	0.0
	1,94	2.18	4.00	39.59	9.66	0	45	1.00	0	0	0	. 0	0	(• 0	0	. 0	. 0	0	0	253	19	73	-65	0	. 0	243	0.0
,	1.94	2.15	4.00	43.99	10.26		45	1.00	0	0	0	0	0	9	0	0	. 0	0	. 0	Q	253	22	80	-20	٥	. 0	245	0.0
	1.94	2.15	4.00	47.93	11.58		45	1.00	0	0	0	0	0	١٩	0	0	ું ગ	0	. 0	C	247	26	85	-75	0	0	243	00
	1.71	2.15	4.00	\$1.99	13 03		45	1.00	0.	0	0	0	. 0	9	0	. 0	[0]	0	0	0	233	30	91	-73]	0	0	239	0.0
- 3	1.34	2.15 2.15	4.00	55.99	14.82		43	1.00	0	0	0	0	0	9	0	0	0	0	. 0	. 0	230	34	95	-83	0	. 0	235	0.0
::	1.71	2.53	4.00	59.99 83.99	18.34	. 0	43	1.00	v	0	0	. 0	0	9	0	0	이	0	0.	¢	220	39	93	-85	Q	. 0	230	0.0
	1.34	215	4.00	87,99	18.21		43	1.00		0	. 0	. 0	9	0	0	0	역	0	. 0	0	509	43	102	-83	0	. 0	225	0.0
	101	2.17	4.00	71.99	22.41		7.2	1.00				v	2			. 0	악	0	•	. 0	197	43	103	-90	0	0	220	0.0
. 3	101	2.18	4.00	75.93	24.75		15	1.00	, v					9		0	. 6	0	. 0	9	183	. 52	103	-91	. 0	•	214	0.0
- 11	144	218	4.00	19.99	27.28	×	45	1.00	- 7			٧	2	ءِ ا	9	. 0	o o	ŏ	. 0	. 0	.169	56	102	-92	0	0	207	0.0
191	144	2.16	400	83.93	29.95		45	1.00	×.	0	×		. 0	٥		0	의	9	0	. 0	153	59	100	-91	0	0	199	0.0
20	1,94	2.16	4.54	88 26	33.07	Ň	45	1.00	×		~			, א		0	, i	0	0	ç	136	62	25	-89	0	0	190	0.0
Res		Calculat		SF =		712			-	-	~ ~	-	- 0			<u></u>	0				134	- 74	101	-98	<u> </u>	<u>. 0</u> .	204	0.0
								<u> </u>		<u>`</u> -						<u> </u>					4,485	616	1,540	1,36 ()	0	. 0	4,635	0.0[

	se 2 ((1/2): U	pstream	Slope	Sfo C	rcie N	o. 8	Resen	voir Wat	er S.	rface	Non	W lest	ater S:	rface:	EL.143	900m	Set	smic Coe	effic:	ent	0.00	(04)	Rea	uined Sa	/a 10 E a	ctor	1.50
No.			a	10 No. 1		Γ		and a			wate			T .				r surfac			, , , , , , , , , , , , , , , , , , ,		under th					1.30
of	71	7 42	8	* *	y	0	÷	Land	N	Υ	Ne	Ya-	··u	1.	N		r	Ne	Tá	13		· · · · ·	1	7	Na	_ y		a l
Sic.		2 - 5	. :			:	•		i .	3 T				0.754	-	solid		1.1	· .		solid	water	#0Fd		.,,			W
1	1.3	4 21	1.60	2191	5.20	1.6	45	1,60	7	^	- 0	<u> </u>		-003	W 0.(4)	*****	mace:	_		-		WATER			<u></u> -			ļ
2	19	4 2 1	7.50	29.59	4 9 3	ا ا	45	1.00	ا آما	Ā		ă		1 7	Ň	ĭ	×	. ×	× .		437		-95	91			485	00
3	1 10	4 2.0		37.19			45	1.00	١ 🔏	Ă						, ,	, ,	١ ٪			538	. 10	-10	68	. 0		491	0.0
	ه ز	4 2.10		44.73			7.5	1.00	l x∽	×				1 :		1 2	v,	, ,		. 0	531	. 1	-51	43	0	- 0	495	0.0
- 1	ه ا	4 2.1	2,000	52.33			77		· × ·		ŭ			1 :				9	0	. 0	616	1	-22	18	0	0	497	0.0
	١.,	7 2.11	7.60	59.99			7,7	1.00	, ×	X	o Y	Ÿ		1 5	·		. 0	. 0	. 0	O,	643	. 0	10	-8	. •	. 0	437	0.0
)	1.3	2.10				۱ °	49		٠	0	, 0	. 0	0	19	G	0	0	. 0	0	. 0	652	2	45	-34	0	0	435	0.0
<u>.</u>	1.2	4 2,14				0	45	1.00		0	, 0	. 0	,0	1 0	. 0	• 0	0	0	0	0	873	- 7	- 81	-59]	. 0	0	493	0.0
: - š	1.9	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	*,,**	75.19		2.5	42	0.90	9.	0	, 0	0	0		.0	0	0	٥	0 .	Q.	875	14	118	-83	0	0	438	20.0
9	1.3	4 - 2.10	-,	82.79		2.6	42	0.90	0	0	. 0	. 0	0	1 0	. 0	- 0	. 6	. 0	0	. 0	668	24	154	-105	- 0	. 0	431	20.2
.10	1.9			90.33	9.18	2.6	42	0.90	0	0	: 0	0	e	0	0	0	. 0	. 0	0	0	653	35	187	-125	: 0	0	472	20.5
्रभा	1.9	4 2.10		97.93		2.6	42.	0.90	0	0	. 0	0	¢] 0	O	0	[0]	. 0	0	. 0	829	49	218	-143	0	0	451	20.8
. 12 <u>]</u>	19	4 2.16	7.60	105.59	14,45	. 0	45	1.00	0 1	0	0	0	6] a	. 0	- 0	0]	. 0	. 0	e	595	64	244	-157	ò	. 0	447	0.0
13	1.9	4 2.15	7,60	113.19	17,83	ͺο.	45	1.00	0.	0	: 0	. 0	0] 0	0	ं	: 0]	0	0	o	555	80	265	-167			430	0.0
14]	1.9	\$ 2,16	7.60	120.73	21.74	. 0	45	1.00	0	. 0	. 0	. 0	. 0	1 0	. 0	0	0	0	. 0	o	505	96	278	-173	. 0	. ň	409	0.0
15	19	4 2.16	. 7,60	128.39	28.24	. 0	45	1.00	: 0	0	. 0	. 0	. 0		. 0	0	0	: ō		6	445	110	283	-173		ň	384	0.0
16	1.9	4 2.16	7.60	135.99	31.39	. 0	45	1.00	0	0	. 0	. 0	٠,	10	٥	. 6	o	0	. 0	o.	380	121	276	-167	×	×	352	. 0.0
17	1.5	4 2.14	7,60	143.59	37.29	. 0	45	1.00	0	ø	. 0	. 0	- 36	۱ ،	Ó					7.	305	122	254	-163	×			0.0
18	13	4 216	7.60	151.19	44.08	Ó	45	1.00	6	ō	Ö	ō	ŏ	ة ا		ة ا		, , , , , , , , , , , , , , , , , , ,	ń	٠,٨	228	125	213	-133	××	Ž	312	0.0
19	1.9	4 2.16	7.60	158.79	51.88	0	45	1 00	ŏ	ā	· 6		6	ہ ا	ň	ام ا			ň	Ň	141	106		-130		. 0	251	0.0
- 2ol	19	4 2.16	8.85	16501	60.54	- 6	45	1.00		ó	` `	٨	- 0	۱۰ň	Ă	,				ĭ	121	100	155	-95		9	193	0.0
Rei	sult c	Calcul	etion.		2.813	212	0		- 6 -	<u> </u>	- ^	— <u>∻</u>	`	-		×		-			14033	1.054	02	-45	- 0	. 0	94	0.0
								~		_ <u>~</u> _	÷	 -		<u>, v</u>						v	10.033	1,054	4.010	-1,600]	. 0	0	8,233	1 81.5

 $SF = \frac{E\left(C\cdot L+(N-U-Ne)\cdot tan\phi\right)}{E\left(T+Te\right)}$

SF: Safety Factor

N: Normal Force Acting on Sip Circle (tf/m)
T: Targential Force Acting on Sip Circle (tf/m)
Ne: Normal Force of Earthquists Load Acting on Sip Circle (tf/m)
Te: Targential Force of Earthquists Load Acting on Sip Circle (tf/m)
U: Pore Pressure acting on Sip Circle (tf/m)
A: Firestia Internal Firstion Anda on Sip Circle (T)

C: Effective Cohesion on Sip Circle (tf/m2)
L: Arc Length of Sip Circle (m)
r: Wet Density (tf/m3)
rst: Stutusted Density of Material (tf/m3)
b: Width of Sip Circle (m)

												ing on Slip Friction An			14 (°)			X or Y		ute of C		of Stip Ci	(m) ef sni		
		6 2 (1	(2): U;	stream	Sloge	Sto C	rcie N	o. 9	Reser				eter Surf		EL148 \$00m	Seismi	Coeffic	ient	0.00	(o) J	Req	uired Sa	fety Fact	or	1.50
	No.	γt	7 634	ь	1	Y	o.	•	Land	N T		Te U	N		clude the wat.	Ne Te	U		N	under th		Na Na	Ye	u 	α.
ł	\$5ce 1	1.94	2.16	550	38 58	13.42	ō	45	1.00		0 0	0 0	solid 0	O	0 0	0	0 0	338	water 2	-28	Water 27	0	0	328	60
i	3	1.94 1.94	2.16 2.15	5 90 5 90	44,48 50.38	13 06 12 95	0	45 45	1.00 1.00	0	0 0	0 0	0	0	000	Ö	0 0		. 1	-14	13 -1	0	. 0	330 330	0.0
١	5	1.94 1.94	2.16 2.16	590 590	55.28 62.18	13.09 13.49	0	45 45	1.00 1.00	0	0 0	0 0	0	0	000	8	0 0	387 397	1	18	-15 -29	0	0	330 328	0.0
ı	6	1.94 1.94	2.16 2.16	5 90 5.90	80.63 62.65	14,14 15.06	0	45 45	1.00	0	0 0	0 0	0	. 0	0 0	0	0 : 0	402 403	10	53	-43 -56	, 0	. 0	326	0.0
1	8	1.94 1.94	2.16 2.15	5 90 5 90	79.83 85.78	16.24 17.70	٥	45 45	1.00 1.00		0 0	0 0	0	. C	0 0		0 0	400 393	15	89	-69 -79	0	0	318	0.0
١	10	154	2.16	5.90 5.90	91.68 97.58	19.44 21.47	0	45 45	1.00	-	0 0	0 0	o o	0	0 0		0 0	381	28	122	-89	ŏ	. 0	306	0.0
	12	1.54	2.16	5 50	103.48	23.81	0	45	1.00	0	0 0	0 0	Ó	ŏ,	0 0	I I	o c	1 4	44	146	-104	Ó	0	298 289	0.0
-	14	1,54 1,54	2.16 2.16	5.50 5.50	109.38 115.28	20.48 29.49	ô	45 45	1.00	ě.	o o	0 0	0	Ö	0 0	ŏ	0 0	322 294	60	159	-108 -111	. 0	. 0	278 264	0.0 0.0
	16	1,94 1,94	2.16 2.16	5.90 5.90	121.18 127.08	32 88 35.67	0	45 45	1.00	o e		0 0	0	e	0 0	ô	0 0	262 226	67 73		-110 -107	0	0	249	0.0
	15	1.54	2.16 2.16	5 90 5 90	132 93 139 88	40.92 45.67	0	45 45	1.00	o e		0 0	ô	0	0 0	0	0 0	187 145	76 78	142	-100 -89	0	0	207 180	0.0
l	19 20	154	2.16 2.15	5.90 4.27	144.78 149.85	51.00 58.14	00	45 45	1.00 1.00	0		0 0	0	0	0 0	0	0 0	99 42	70 42	95 45	-73 -40	0	0	146	0.0
£	Re	N FU	Calcula	lion	SF ≖	2.740	> 1.2	0 (ok]	0	0 0	0 0	0	0	0 0	Ó	0 0	5,118	682	1,769	-1277	0	0 5	454	0.0
F	No.	+ 2 (1/	2).U _y	s'iream	Stope	Sip Cir	c e No	10 8	Resen			Normal W.	der Surf	ece : 1	EL148.900m Jude the water		Coeffic	ent		(0%) under the	Req.	uired Sal	ery Facto	or .	1.50
١	of Stice	yt	y sat.	ь	. I	· y	C	٠,	tanj	N T	No	t. U	Ro∓d .	water	sc5d water	No Te	U	\$050	v ater	s oFd	water	No.	1.	U	Œ.
ĺ	3	1.94		10.60 10.60	45.47 57.07	13.63 9.93	00	45 45	1.00	0	0 0	0 0	0	0	0 0	0	0 0	594 739	84 56	-233 -225	214 183	0	0	629 654	0.0
١	3	1.94	2.18 2.18	10.60 10.60	67.67 18.27	7.11 5.12	2.6	45 42	1.00	0 1	0 0	0 0	0	Ö	0 0	0	0 0	866 972	33	-196 -145	145	. 0	ŏ	672	0.0
١	5	1.94	218	10.60	88.87 99.47	3.92 3.50	2.6	42	0.90	0		0 0	ŏ	ŏ) ŏ	0	ŏ	1,058	15	-81	52	0	ŏ	684 691	27.5
١	ì	1.94	2.16	10.60	110.07	3.65	2.6	42	0.90	0	0 0	0 6	Ö	0	0 0	0	0 0	1,121	3	80	-47	. 0	0	693 691	21.5
.	9	1.54	2.16 2.16	10.80	120.67 131.27	4.95 6.88	2.6	42 42	0.90	0	0 0	0 0	0	0	0 0		0 0	1,175 1,188	14 31	187 255	-95 -140	8	0	895 873	27.7 28.1
1	11	154	2.15 2.15	10.60	141.87 152.47	9.61 13.22	2.4	40 40	0.84 0.84	ò	0 0	0 0	ô	0	0 0	0	0 0	1,132 1,073	54 81	338 411	-180 -211	. 0	0	656 632	26.9
1	13	1.94	2.18 2.18	10.80 10,77	163.07 173.75	13.17 23.42	2.4 2.4	40 40	0.84 0.84	0	0 0	0 0	0	0	0 0	0	0 0	988 892	111 144	471 520	-233 -247	0	. 0	600 567	28.5 30.3
١	14 15	1.94 1.94	2.16 2.19	11.28 4.79	185.08 193.42	30.74 37.15	2.4	40 35	0.84		0 0	0 0	840 295	187 80	599 -262 245 -97	0	0 554 0 197	°	0	0	0	0	·· 0	0	35.5 0.0
	16 17	2.02	2.23 2.19	595 7.85	199.79 205.69	41,82 45.55	1	25 25	0.47	0	0 0	0 0	332 329	213	303 -108 343 -204	0 0	0 217 0 138	l °	0	0	0	0	0	.0	8.1 11.3
Ì	18 19	1.95 1.93	218	1.83 4.81	210.53 213.85	53.85 57.80	1	25 35	0.47	0	0 0	0 0	54 100	0	62 0 124 0	0	o õ		ò	ŏ	. 0	ŏ		ò	2.8
ŀ	_20 Re	194	2.15	6.50	219.50	65.25	0	45	1.00	o e	o c	0 0	48	510	68 0	0	0 0	6	0	0	ŏ	ě		. 0	0.0
t	Re	uit of	Calcula	tion [SF	65.25 2.915))1.2	45 0 ··· (OΚ	6	0 C	o c	1,999	579	1.744 -672			0 12,935	629 629	1,355	0 -157	- Š	25.5		0.0 337.0
-	Cas No.	nuit of 1	Colordo 2): Up		SF	65.25 2.915 Stip Cir))1.2	45 0 ··· (Resen	0 6 oùr Water :	O C O O Surface	0 0 Normal Wa	1,999 ter Surf	ece ; 8		Seismic r surface	Coeffic	0 12,935 •rit	0.00	0 1,358 (0%)	Requ	ired Saf surface	ety Facto	×	0.0 337.0 1.50
-	Re	uit of a 2 (1/ y t	Calcula 2): Up y sal	tion (SF =	65.25 2.915 Slip Cir	0 > 1.2 cle No C	45	OK Resen Lané	0 6 oùr Water : above t	0 C 0 0 Surface he inster Ne	0 C	1,999	ece ; l	1.744 -872 1148.900m	Seismic r surface No Te	Coeffic	0 12,935 ent solid	0.00	(0%) Inder the	Requ water water	árod Saf surface Ne	ety Facto	v U	0.0 337.0 1.50 CL
<u> </u>	Cas No. of	1.94 1.94	2):Up y sat 2.15 2.15	streem b 9,90 9,90	SF = Slope : 1 55.21 65.11	65.25 2.915 Sép Cer 7 17.97 15.09	O D D D D D D D D D D D D D D D D D D D	45 0 (11) 4 45 45	Resen Land 1.00	oir Water : above t N T	O C O O Surface Ne water Ne	Normal Wasurface Te U	1,999 Her Surf N solid O	ece ; l	1.744 -672 L.148.900m Jude the water 0 0 0 0	Seismic r surface No To	Coeffici	12,935 ent solid 518 532	0.00 water 53	(0%) Inder the solid -172 -159	Requirements water 159 130	ired Saf surface Ne O	To 0	V U 531 549	0.0 337.0 1.50 CL 0.0 0.0
<u> </u>	Cas No. of	154 154 154 154 154	2): Up y sat 216 216 218 218	8,90 9,90 9,90 9,90 9,90	SF = Slope 1 2 55.21 66.11 16.01 85.91	65.25 2.915 Sip Cer y 17.97 15.09 12.98 11.61	0 > 1.2 C C	45 0 ··· (11 6 45 45 45 45	Resen (and 1.00 1.00 1.00	or Water above to	Surface D 0 Surface Na Na D 0 D 0	Normal Wisurtsch Te O C O O O O O C	ter Surf N solid 1 0 0	reter 0 0	1.744 -672 1.148.900m lude the water 0 0 0 0 0 0	Seismic F surface Ne Te	Coeffici	12,935 ent solid 518 632 729 809	0.00 water 53	(0%) ander the cofid -172 -159 -128 -82	Requester water 159 130 95 57	áred Saf surface Ne	Te 0 0 0 0	531 549 562 570	0.0 337.0 1.50 CL 0.0 0.0 0.0
	Cas No. of	154 154 154 154 154 154 154	2): Up y set 2.16 2.15 2.16 2.18 2.18 2.18	500 500	SF = Slope 2 55.21 65.11 76.01 85.91 95.81 105.71	6525 2915 S5p Car 7 17.97 15.09 12.98 11.61 10.92 11.01	0 > 1.20 cla No 0 0 0 0 2.6 2.8	45 0 (11 6 45 45 45 45 42 42	1.00 1.00 1.00 1.00 0.90 0.90	O O O O O O O O O O O O O O O O O O O	Surface Na Na O O O O O O	Normal W. surface Ye U	ter Surf	ece ; l	1.744 -672 L.148.900m Jude the water 0 0 0 0 0 0	Seismic Faurisce Ne Te	Coeffici	0 12,935 ent solid 518 632 729	0.00 water 53	(0%) ender the tofid -172 -159 -128	Requ water 159 130 95 57 17 -24	ired Saf surface Ne O	Te O O O O O	531 549 562	0.0 337.0 1.50 CL 0.0 0.0
	Cas No. of	194 194 194 194 194 194 194 194 194	2):Up y sat 216 216 218 218 218 218 218 218	\$200 \$200 \$300 \$300 \$300 \$300 \$300 \$300	SF = Slope 2 5521 66.11 76.01 85.91 95.81 105.71 115.61 125.51	65.25 2.915 Sep Car y 17.97 15.09 12.98 11.61 10.92 11.01 11.27 13.25	0 > 1.2 cle No 0 0 0 2 6 2 8 2 6 2 6	45 0 (11 45 45 45 45 42 42 42 42	1.00 1.00 1.00 1.00 0.90 0.90 0.90	O O O O O O O O O O O O O O O O O O O	Surface) his water No 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	O C Normal W: surface Te U O C O O O O O O O O O O O O O O O O O O	1,999 ster Surf N solid 1 0 0 0 0 0	reter 0 0	1.744 -672 Lut48.900m Jude the water 0 0 0 0 0 0 0 0	Seismic Faurisce Ne Te O O O	Coeffici U 0 0 0 0 0 0 0 0 0 0	0 12,935 ent solid 518 632 729 809 811	0.00 water 53	(0%) mder the mder	Requ s water 159 130 95 57 17	ired Saf surface Ne O	oty Facto	531 549 562 570 574	0.0 337.0 1.50 CL 0.0 0.0 0.0 25.7
	Cas No. of	154 154 154 154 154 154 154 154	2):Up ysal 216 216 216 218 218 218 218	\$93 \$93 \$93 \$90 \$90 \$90 \$90 \$90	SF = Slope 1 5521 66.11 76.01 85.91 95.81 105.71 115.61	6525 2915 S5p Car 7 17.97 15.09 12.98 11.61 10.92 11.01 11.77	0 > 1.20 cie No 0 0 0 0 2 6 2 8 2 8	45 0 (11 6 45 45 45 45 42 42 42	1.00 1.00 1.00 1.00 1.00 0.90 0.90	O O O O O O O O O O O O O O O O O O O	Surfacel Ne water No 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Normal W. surface Te	ter Surf	reter 0 0	1.744 -672 L.148.900m -bude the water 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Seismic F Eurface Ne Te 0 0 0 0 0 0	Coeffici U 0 0 0 0 0 0 0 0 0 0 0 0	0 12,935 ent solid 518 632 129 809 811 913 935	0.00 water 53 33 17 6	(0%) ender the solid -172 -159 -128 -82 -26 -37 106	Request water water 159 130 95 57 17 -24 -63	ired Saf surface Ne 0	oty Facto O O O O O O O O O O O O O O O O O O	531 \$49 562 574 574 589 550 547	0.0 3370 150 CL 0.0 0.0 0.0 25.7 25.7 25.8 26.1 26.5
	Cas No. of	1.54 1.54 1.54 1.54 1.54 1.54 1.54 1.54	2):Up y sat 216 216 218 218 218 218 218 218 218	\$200 \$200 \$300 \$300 \$300 \$300 \$300 \$300	\$6.000 \$5.21 \$6.11 \$7.00 \$5.91 \$95.81 \$105.71 \$15.51 \$125.51 \$135.41	65.25 2.915 55p Car y 17.97 15.09 12.98 11.61 10.92 11.01 11.77 13.25 15.43	0 >1.20 cle No 0 0 0 2.5 2.6 2.6 2.8	45 0 (45 45 45 45 42 42 42 42 42	1.00 1.00 1.00 1.00 0.90 0.90 0.90 0.90	O O O O O O O O O O O O O O O O O O O	C C C C C C C C C C C C C C C C C C C	Normal Wisches VIII	1,999 ster Surf N 106d 1 0 0 0 0 0 0	reter 0 0	1.744 -672 1.148 900m 2.046 Uni water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Seismice Faurisce No Te O O O O O O O O O O O O O O O O O O O	Coeffici U 0 0 0 0 0 0 0 0 0 0 0 0	orit 12,935 solid 518 632 129 809 819 913 935 937 918	000 water 53 33 17 6 1 1 7	(09) wider that 1/2	Requesters water 159 130 95 57 17 -24 -63 -101 -135	ired Saf surface Ne 0	Te O O O O O O O O O O O O O O O O O O O	531 \$49 562 570 574 574 574 589 560 547 528 502	0.0 337.0 1.50 CL 0.0 0.0 0.0 25.7 25.7 25.8 26.5 27.1 26.2
	Cas No. of Sice 1 2 3 4 5 6 7 8 9	1.54 1.54 1.54 1.54 1.54 1.54 1.54 1.54	2:Up y sut 2:15 2:15 2:18 2:18 2:18 2:18 2:18 2:18 2:18 2:18	\$90 \$90 \$90 \$90 \$90 \$90 \$90 \$90 \$90 \$90	SF = Slope 2 55.21 65.11 76.01 95.81 105.31 135.41 145.31 155.21 185.11 174.60	65.25 2915 Sep Ca y 17.97 15.69 11.61 10.96 11.61 11.77 13.25 15.43 18.44 22.37 27.07 32.59	0 >120 0 0 0 0 25 26 26 26 26 26 24 24 24	45 0 ··· (11) 45 45 45 45 42 42 42 42 42 42 40 40	100 100 100 100 100 000 000 000 000 000	O O O O O O O O O O O O O O O O O O O	Surfacel he hater No.	0 C Normal Win surface 1 C C C C C C C C C C C C C C C C C C	1.999 ster Surf 0 0 0 0 0 0 0	reter	1.148.900m 2.046 Uns water 0	Seismic Faurface Ne Te	Coeffici	512,935 orit solid 518 532 809 811 913 935 937 918 878 878 878 878 878 878 878 8	0.00 water 53 33 37 17 6 1 1 7 19 35 56 79 103 112	(05) ander the cold 172 159 128 282 281 106 175 242 303 353 359 372	Requirements water 159 130 95 57 17 -24 -63 -101 -135 -163 -183 -194 -177	ired Saf surface Ne 0 0 0 0 0 0 0 0	To O O O O O O O O O O O O O O O O O O O	531 549 562 574 574 574 589 580 547 528 502 460 391	00 337.0 1.50 CL 0.0 0.0 0.0 0.0 25.7 25.7 25.8 26.1 26.5 27.2 27.2 27.2 27.2
	Res Cass No. of Sicce 1 2 2 3 4 4 5 5 6 7 8 8 9 10 11 12 13	1.54 1.54 1.54 1.54 1.54 1.54 1.54 1.54	2): Up y sal 2:15 2:15 2:18 2:18 2:18 2:18 2:18 2:18 2:18 2:18 2:18 2:18	\$90 \$90 \$90 \$90 \$90 \$90 \$90 \$90 \$90 \$90	SF = Slope 2 5521 66.11 76.01 85.91 95.81 105.71 115.61 125.51 135.41 145.31 155.21 185.11 174.60 186.25 195.62	65 25 2915 S5p Cr 17.97 15 C9 12.98 11.61 10.91 11.77 13.25 15.43 22.32 27.07 32.59 40.86 49.17	0 >120 0 0 0 0 25 28 28 28 28 28	45 0 ··· (11) 45 45 45 45 42 42 42 42 42 40 43 35	1.00 1.00 1.00 1.00 0.90 0.90 0.90 0.90	or Water above to	Surface New York N	0 C Normal W surfaces 16 U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1,999 that Surf N 106d 1 0 0 0 0 0 0 0 734 201	00000000000000000000000000000000000000	1.744 -672 L.148.900m 2.046 Use water 0	Seismic Furface No Te O O O O O O O O O O O O O O O O O O	Coeffici U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 12.935 ont	0.00 water 53 33 17 6 1 1 7 19 35 58 79 103 112 0	(0%)	Requirements of the control of the c	ired Saf surface Ne 0	To O O O O O O O O O O O O O O O O O O O	531 549 549 574 574 574 589 560 547 528 502 460 391	0.0 337.0 1.50 CL 0.0 0.0 0.0 25.7 25.7 25.8 26.1 26.5 27.1 28.2 27.1 28.2 27.1 28.2 27.1 28.2 27.1 28.2
	Case Case Case Case Case Case Case Case	194 194 194 194 194 194 194 194 194 194	2): Up y set 2.16 2.16 2.18 2.23 2.18 2.23 2.18 2.23 2.23 2.23 2.23 2.23 2.23 2.23 2.23 2.23	\$990 \$90 \$90 \$90 \$90 \$90 \$90 \$90 \$90 \$90	SF = Slope 2 5521 (65.11 26.01 25.91 95.81 105.71 135.61 135.61 135.61 135.61 135.61 136.61 13	65 25 2915 Sup Car 17.97 15.09 11.61 10.96 11.01 11.27 13.25 15.43 22.32 27.07 32.59 40.86 49.17 53.33 57.73	0) 1.2 No C C 0 0 0 0 0 2.5 2.5 2.5 2.5 2.4 2.4 2.4 1 1 1	45 0 (11) 45 45 45 45 42 42 42 42 42 40 40 40 40 43 35 25 25	1.00 1.00 1.00 1.00 0.90 0.90 0.90 0.90	O Water above to	Surface No O O O O O O O O O	0 C Normal W. surface Y	1,999 Alar Surf N 10fd 1 0 0 0 0 0 0 0 734 201 123 128		9.744 -672 L.148.900m -hude Une water 0 10 0 0 1	Seismic Furface No To	Coeffici U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 12 935 ont sold sold sold sold sold sold sold sold	water 53 33 17 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	(0%)	Request water 159 130 95 57 17 -24 -63 -101 -135 -163 -183 -194 -177 0 0 0 0	ired Saf surface Ne 0 0 0 0 0 0 0 0	Te O O O O O O O O O O O O O O O O O O O	531 549 562 574 574 589 560 547 558 502 460 391	00 3370 150 CL 00 00 00 00 00 257 25.7 25.7 25.8 26.1 26.5 27.2 28.2 28.2 28.2 28.1 00 00 00 00 00 00 00 00 00 00 00 00 00
	Rec Cass No	1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.94	21:Up y sel 218 218 218 218 218 218 218 218 218 218	b 9.90 8.90 8.90 8.90 8.90 8.90 8.90 8.90	SF= Slope 2 55.21 65.11 76.01 85.91 95.81 105.71 115.61 125.51 135.41 145.31 155.21 145.31 155.21 174.60 185.82 195.83 204.09 207.99 207.99 207.99 211.92	65 25 2915 S5p Car y 17,97 15 09 12.98 11.81 10.91 11.77 13.25 18.48 22.32 27.07 32.59 40.86 49.17 53.33 57.73 62.32 67.40	0 12 cte No 0 0 0 0 2 5 2 5 2 5 2 5 2 5 2 5 2 4 2 4 2 4 1 1 1 0	45 0 (11 6 45 45 45 45 42 42 42 42 42 42 40 40 43 35 25 25 35	1.00 1.00 1.00 0.90 0.90 0.90 0.90 0.90	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Surfacel he water No. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 C Normal W. surface 17 0 C C C C C C C C C C C C C C C C C C	1,999 der Surf N 108d 1 0 0 0 0 0 0 0 734 201 123	water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1.744 -672 L.148.900m -bude Une water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 1 0 0 0 0	Seismic Furface No To	Coeffici U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 112,935 ent 518 632 729 821 913 835 937 918 817 136 586 0 0 0 0 0 0 0 0	water 53 33 17 16 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	(0%) 10%	Request water 159 130 95 57 17 -24 -63 -101 -135 -163 -183 -194 -177 0 0	ired Saf surface Ne 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	531 549 562 570 574 589 589 580 547 528 502 469 391	00 3370 150 CL 00 00 00 25.7 25.7 25.7 26.1 26.5 27.1 26.5 27.1 26.5 27.2 26.1 26.5 27.2 26.1 00 00 00 00 00 00 00 00 00 00 00 00 00
	Rec Cass No. of Sice of Sice of 2 3 4 5 5 6 6 7 7 8 9 10 11 12 12 13 14 15 16 17 18 19 20	1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.94	216 216 216 216 218 218 218 218 218 218 218 218 218 218	830 830 830 830 830 830 830 830 830 830	SF = Slope 2 55.21 65.11 76.01 85.91 95.81 105.31 135.61 145.31 145.31 174.60 186.25 195.82 204.09 207.99	65 25 2915 S5p Car y 17.97 15 09 12.98 11.01 10.96 11.01 11.22 13.25 15.43 18.48 22.32 27.07 32.59 40.86 49.17 53.33 67.40 67.44	0) 1.2 No C C 0 0 0 0 0 2.5 2.5 2.5 2.5 2.4 2.4 2.4 1 1 1	45 0 (11 1 45 45 45 42 42 42 42 42 42 42 42 42 42 42 42 42	0K Resen 1.00 1.00 1.00 0.90 0.90 0.90 0.90 0.90	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Surfacel his water Ne O O O O O O O O O O O O O O O O O O	0 C Normal W: surface 1	1,999 ter Surf 0 0 0 0 0 0 0 0 734 201 123 128 59	000 000 000 000 000 000 000 000 000 00	1.744 -672 L.148.900m Jude Une water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 10 0 0	Selemic f surface Ne Te O O O O O O O O O O O O O O O O O O	Coeffici U 0	518 532 729 871 913 913 915 937 918 817 736 586 0	0.00 water 53 33 17 6 1 1 1 2 5 5 5 6 1 1 1 7 7 9 1 9 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(0%)	Requested water 159 130 95 57 17 -24 -63 -163 -183 -194 177 0 0 0 0 0	ired Saf surface Ne 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	531 549 562 574 574 569 574 550 547 528 502 460 0 0 0 0	00 3370 150 CL 00 00 00 00 25,7 25,7 25,7 25,7 26,1 28,2 27,1 28,2 27,2 28,1 28,2 27,1 28,2 27,1 28,2 28,5 28,5 28,5 28,5 28,5 28,5 28,5
	Re- Case No. Of SSice 1 2 3 4 5 6 7 8 9 10 11 12 15 16 17 18 19 20 Case	194 194 194 194 194 194 194 194 194 194	216 215 216 218 218 218 218 218 218 218 218 218 218	830 830 830 830 830 830 830 830 830 830	SF= Slope 2 5521 66.11 16.01 85.91 95.81 105.71 115.61 125.51 125.51 135.41 145.31 185.11 174.60 201.99 201.99 201.99 211.92 215.27 SF=	5525 2915 y 17.97 11.50 11.61 11.61 11.22 11.01 11.22 11.01 11.22 11.01 11.22 11.01 11.22 11.01 11.22 11.01 11.22 11.01 11.22 11.01 11.22 11.01 11.22 11.01 11.22 11.01 11.22 11.01 11.22 11.01 11.01 11.02 11.01 11.02	0 > 1.20 to No C 0 0 0 0 2 5 2 5 2 5 2 5 2 6 2 4 2 4 2 4 1 1 1 0 0 0 > 1.20	45 0 (- 11] 6 45 45 45 42 42 42 42 42 42 42 40 40 43 35 25 25 25 25 45 45 45 45 45 45 45 45 45 45 45 45 45	1.00 1.00 1.00 1.00 0.90 0.90 0.90 0.90	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Surface	0 C Normal Western Wes	1,999 ster Surf N 10fd 1 0 0 0 0 0 0 0 0 734 201 128 597 4 1,295	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1.148 900m 2.056 Weter 0	Seismic Seismic Seismic Seismic Seismic Seismic Seismic	Coeffici U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 12,935 4 12,935 4 12,935 4 12,935 1	0.000 water 53 33 17 6 6 1 1 7 19 35 55 79 103 112 0 0 0 0 0 5 5 5 6 6 6 7 9 9 9 9 9 9 9 9 9 9 9 9 9	(0%) ander the a	Requirements Requir	wed Safe No.	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	X U 531 549 562 570 574 589 560 547 558 502 460 0 0 0 0 0 0 0 0 0 0 0 0 0	00 3370 150 00 00 00 00 257 257 258 271 282 281 00 00 00 00 00 00 00 00 00 00 00 00 00
	Re- Cas No. Of Sice 1 2 2 3 4 4 5 5 6 7 7 8 9 10 11 12 13 14 15 15 16 17 18 19 19 19 19 19 19 19 19 19 19 19 19 19	194 194 194 194 194 194 194 194 194 194	216 215 216 218 218 218 218 218 218 218 218 218 218	8,90 8,90 8,90 8,90 8,90 8,90 8,90 8,90	SF= Slope 2 5521 66.11 16.01 85.91 95.81 105.71 115.61 125.51 125.51 135.41 145.31 185.11 174.60 201.99 201.99 201.99 211.92 215.27 SF=	5525 2915 y 17.97 11.50 11.61 11.61 11.22 11.01 11.22 11.01 11.22 11.01 11.22 11.01 11.22 11.01 11.22 11.01 11.22 11.01 11.22 11.01 11.22 11.01 11.22 11.01 11.22 11.01 11.22 11.01 11.22 11.01 11.01 11.02 11.01 11.02	0) 1.2 No C C 0 0 0 0 0 2.5 2.5 2.6 2.6 2.4 2.4 1 1 1 0 0 0 > 1.2 (45 0 (11) 45 45 45 45 42 42 42 42 42 42 42 42 42 42 43 55 25 25 25 45 45 15 16 16 16 16 16 16 16 16 16 16 16 16 16	1.00 1.00 1.00 1.00 0.90 0.90 0.90 0.90	O O O O O O O O O O O O O O O O O O O	C	0 C Normal We surface 1 C C C C C C C C C C C C C C C C C C	N solid 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1.144 -672 L.148.900m Jude the water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 1 144 -63 1 3 0 1 148.900m	Seismic Seismic Seismic Seismic Seismic Seismic Seismic	Coeffici U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 12,935 12,935 12,935 15,18 1	0.000 water 53 33 17 6 6 1 7 19 35 56 79 103 112 0 0 0 0 0 0 0 0 0 0 0 0 0	(00) (0	Requested water water water 159 130 159 130 177 -24 159 130 180 180 180 180 180 180 180 180 180 18	wed Safe No. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	× UU 5311 549 562 570 574 569 560 574 660 391 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00 3370 150 00 00 00 00 00 25.7 25.8 26.1 26.2 27.1 26.2 27.1 26.2 27.1 26.2 27.1 26.2 27.1 26.2 27.1 26.2 27.1 26.2 27.1 27.2 27.1 27.1 27.1 27.1 27.1 27
	Re- Cass No. of Sicce 1 2 2 3 4 4 5 5 6 7 7 8 9 10 11 12 13 14 15 15 16 17 18 19 20 Re-	194 194 194 194 194 194 194 194 194 194	21: Up 216 216 218 218 218 218 218 218 218 218 218 218	\$9.90 \$9.90 \$9.90 \$9.90 \$9.90 \$9.90 \$9.90 \$9.90 \$9.90 \$14.22 4.94 4.67 1.98 \$1	55 = 550pe 1 2 5521 66.11 160.	55,25 2915 y 17,97 15,09 11,61 10,96 11,61 10,96 11,61 10,96 11,61 10,96 11,61 10,96 11,61 10,96 11,61 10,96 11,61 10,96 11,61 10,96 11,61 10,96 11,61	0 > 1.2 No C C C C C C C C C C C C C C C C C C	45 45 45 45 45 42 42 42 42 42 42 42 40 40 40 40 40 40 40 40 40 40 40 40 40	Reserved 1:00 1:00 1:00 0:90 0:90 0:90 0:90 0:90	O CONTROL OF THE CONT	Surface) Surface) O O O O O O O O O O O O O O O O O O O	Normal We author 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1,999 N solid 1 0 0 0 0 0 0 0 0 0 0 123 128 59 47 4 1 129 120 180 180 180 180 180 180 180	00 193 193 194 195 1	1.144 -672 L.148.900m -hode Use weter 0	Seismic Furface Ne Te O O O O O O O O O O O O O	Coeffici	0 0 12,935 12,935 12,935 13,55 18,16 19,17 1	0.000 (water 53 33 33 17 6 6 1 1 1 7 7 19 35 56 79 103 1112 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(00) 1	Requester water 159 130 159 130 159 159 130 159 159 159 159 159 159 159 159 159 159	wed Surface No 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	oty Factor O O O O O O O O O O O O O O O O O O	× UU 5311 \$49 562 574 574 574 550 570 574 650 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00 3370 150 CL 00 00 00 00 00 25.7 25.7 25.7 25.2 28.1 28.2 27.2 28.1 00 00 00 00 00 00 00 00 00 00 00 00 00
	Re- Cas No. Of Sice 1 2 2 3 4 4 5 5 6 7 7 8 9 10 11 12 13 14 15 15 16 17 18 19 19 19 19 19 19 19 19 19 19 19 19 19	154 154 154 154 154 154 154 154 154 154	2: Up y sak 2: 16 2: 18	\$300 \$300 \$300 \$300 \$300 \$300 \$300 \$300	\$5.50 1 1 1 1 1 1 1 1 1	55,25 2915 y 117,97 15 Csp 11,61 10.92 11,61 10.92 11,61 10.92 11,61 10.92 11,61 10.92 11,61 10.92 11,61 10.92 11,61 10.92 11,61 10.92 11,61 10.92 11,61 11,	O > 1.20 C	45 45 45 45 45 42 42 42 42 42 42 42 42 42 43 53 53 53 65 65 65 65 65 65 65 65 65 65	Resent 1.00 1.00 0.90 0.90 0.90 0.90 0.90 0.90	O CONTROL OF THE PROPERTY OF T	Surface Surfac	0 C Normal W. surface 1	1,999 ster Surf N solid 0 0 0 0 0 0 0 123 123 124 1255 47 1256 6re Surf N solid 0 0 0 0 0 0 0 0 0 0 0 0 0	00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1.744 -672 L.148.900m Jude Une water 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Seismic Furface Ne Te 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 12,935 orth sold sold sold sold sold sold sold sold	0.00 (water	(00) (0	Requester	wed Safe Safe Safe Safe Safe Safe Safe Safe	oby Factor O O O O O O O O O O O O O O O O O O	× UU 5311 544 562 570 5714 5659 572 576 560 547 528 660 6 60 60 60 60 60 60 60 60 60 60 60	00 3370 150 CL 00 00 00 00 00 257 257 258 271 285 271 285 271 285 271 285 271 285 271 285 271 285 271 285 271 271 285 271 271 271 271 271 271 271 271 271 271
	Re- Cas No. of Sice 1 2 2 3 4 4 5 5 6 7 7 8 9 10 11 12 13 14 15 15 16 17 18 19 19 19 19 19 19 19 19 19 19 19 19 19	154 154 154 154 154 154 154 154 154 154	2): Up 7 sst. 2:16 2:15 2:16 2:18	b 9,90 9,90 9,90 9,90 9,90 14,22 4,54 4,178 1,58 1,58 1,59 8,70 8,70 8,70 8,70 8,70 8,70 8,70 8,70	\$5.50 1 1 1 1 1 1 1 1 1	5525 Cs- y 17,97 15:09 11,97 15:09 11,81 10:98 11,81 11,91 11,92 11,93 1	0 >1.2 cte No 0 0 0 0 0 0 2.5 2.5 2.5 2.8 2.4 2.4 2.4 2.4 2.4 2.4 2.4 2.4	45 	Reten 1.00 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	C	0 C Normal West Surface 1 C C C C C C C C C C C C C C C C C C	1,999 Ase Surf V 1,099 N 1,000 0 0 0 0 0 0 0 1,234 1,296 1,296 T N N N N N N N N N N N N	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1.148 900m 2.056 water 0	Seismic Sei	Coefficient U 0	0 0 12,935 12,935 12,935 13,000 13	0.000 (water 53 33 33 17 6 6 1 1 1 7 7 19 35 56 79 103 1112 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	(%) 100	Requ. water 159 1300 255 150 2	And Safe Safe Safe Safe Safe Safe Safe Safe	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	531 549 5570 574 5585 550 550 558 550 0 0 0 0 0 0 0 0 0	00 3370 150 CL 00 00 00 257 258 281 282 281 282 281 00 00 00 00 253 34
	Re- Cas No. of Sice 1 2 2 3 4 4 5 5 6 7 7 8 9 10 11 12 13 14 15 15 16 17 18 19 19 19 19 19 19 19 19 19 19 19 19 19	1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.94	2): Up 7 sul. 216 2: 15 2: 18	b 9.90 9.90 9.90 9.90 9.90 9.90 9.90 9.9	\$\frac{5}{5} = \frac{5}{5} \text{Stope} \\ \text{1} \\ \text{1} \\ \text{5521} \\ \text{66.11} \\ \text{176.01} \\ 176.	5525 2915 y 17.97 15.59 12.98 11.61 10.92 11.61 10.92 11.61 10.92 11.61 10.92 11.61 10.92 11.61 10.92 11.61 10.92 11.61 10.92 11.61 10.92 11.61 10.92 11.61 10.92 11.61 10.92 11.61	0 120 No C C C C C C C C C C C C C C C C C C	45 45 45 45 45 42 42 42 42 42 42 42 42 42 43 53 53 53 53 53 54 54 54 54 54 54 54 54 54 54	Resent Lamp 1000 1.000 1.000 1.000 0.900 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	C	Normal West Normal West	N solid 1 1295 1226 1226 1226 1226 1226 1226 1226 122	00 : E 00 00 00 00 00 00 0	1.144 -672 L.148.900m Jude Une water 0	Seismic Furface No O O O O O O O O O O O O O	Coefficient U	0 0 12,935 12,935 12,935 15,18 1	0.00 ((00) 1	Requested water 159 150 150 157 177 177 178 150 150 150 150 150 150 150 150 150 150	wed Safe Safe Safe Safe Safe Safe Safe Safe	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	531 549 552 570 574 589 550 550 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00 3370 150 CL 00 00 00 00 257 258 281 221 221 221 221 221 231 241 251 251 251 251 251 251 251 251 251 25
	Re- Case No. of 1 2 3 4 5 6 7 7 8 9 9 10 11 12 15 16 17 18 19 20 Re- Case No. 1 2 4 5 6	1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.94	2): Up y sut. 2:15 2:15 2:15 2:18	b 990 990 990 990 990 990 990 990 990 99	55 = 550pe 1 2 5521 66.11 160.11 160.11 160.11 160.11 160.11 160.11 165.11 165.11 165.11 174.60 20.00 20.19	55,25 2915 y 17,97 15,09 11,61 10,92 11,61 10,92 11,61 10,92 11,61 10,92 11,61 10,92 11,61 10,92 11,61 10,92 11,61 10,92 11,93	0 1.2 No C C C C C C C C C C C C C C C C C C	45 	Research 1.00 1.00 1.00 1.00 0.90 0.90 0.90 0.90	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	C	Normal We as writer by C C C C C C C C C C C C C C C C C C	1,999 the Surf N 106d 1 0 0 0 0 0 0 0 0 0 0 0 0 0 1123 128 59 47 4 1 1295 11	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1.144 -672 L.148.900m Jude Une weter 0	Seismic Furface No O O O O O O O O O O O O O	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 12,935 18 2 18 19 19 19 19 19 19 19 19 19 19 19 19 19	0.00 (water	(00) (0	Regg. water 159 130 6 5 57 17 1-24 -60 19 10 10 1-135 -183 -183 -184 -194 6 5 5 5 7 17 1-13 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	No. No.	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5315 549 5502 5704 5595 574 5595 560 547 5502 460 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00 3370 150 CL 00 00 00 00 00 25.7 25.8 27.1 26.5 27.1 28.
	Re- Case No. of 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 19 Case No. Case 7	1.94 1.94 1.94 1.94 1.94 1.94 1.94 1.94	2: Up 7: st. 2: 15 2: 15 2: 15 2: 18 2:	b 9.90 9.90 9.90 9.90 9.90 9.90 9.90 9.9	\$5.21	5525 2515 y 17.97 15.09 17.97 15.09 11.01 11.01 11.02 11.01 11.22 11.01 11.23 15.40 11.01 11.22 27.07 21.40 22.32 27.07 27.40 27.40 27.40 27.40 21.40	0 1.2 No C C C C C C C C C C C C C C C C C C	45 45 45 45 45 45 45 46 40 40 40 40 40 40 40 40 40 40	CK Research 1.00 1.00 1.00 1.00 1.00 0.90 0.90 0.90	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	C	0 C C C C C C C C C C C C C C C C C C C	1,099 Ase Surf N 1,000 0 0 0 0 0 0 0 0 0		1.144 -672 L.148.900m Jude the water 0	Seismic Furface No O O O O O O O O O O O O O O O O O O	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 12,935 18 2066 18 207 19 20 20 20 20 20 20 20 20 20 20 20 20 20	0.000 (water	(00) (0	Requester 159 130 130 159 159 159 159 159 159 159 159 159 159	Ne	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	531 545 545 545 550 574 555 550 547 558 550 647 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00 00 00 00 00 00 00 00 00 00
	Rec	194 194 194 194 194 194 194 194 194 194	2): Up 7 suk 2: 15 2: 18 2:	### ##################################	55 = 5501 5501	5525 2915 7 17.97 15.69 12.98 11.61 10.92 11.61 10.92 11.61 10.92 11.61 10.92 11.61 10.92 11.61 10.92 11.61 10.92 11.61 10.92 11.61 10.92 11.61 10.92 11.61 10.92 11.61 10.92 11.61 10.92 11.61 10.92 11.61 10.92 11.61 10.92 11.61 10.92	0 12 12 12 12 12 12 12 12 12 12 12 12 12	45 45 45 45 42 42 42 42 42 42 44 44 44 44 44 44 44	Control 1.00	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Surface	Normal West Normal West	N solid v 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		1.144 -672 L.148.900m Jude Une water 0	Seismic Furface No Co Co Co Co Co Co Co Co Co	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 12,935 12,935 12,935 15,18 1	0.000 (water	(%) 100	Regu- water 159 139 130 130 130 130 130 130 130 130 130 130		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	531 545 545 545 552 570 557 557 558 558 558 558 508 60 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00 3370 150 CL 00 00 00 257 25.8 22.1 25.8 22.1 22.2 28.1 22.2 28.1 27.1 28.1
	Rec Cas No. of Sice 1 1 2 2 3 4 5 5 6 6 7 1 1 1 1 1 1 2 2 3 3 4 5 5 6 6 7 7 8 8 9 10 11 1 1 2 1 3 1 3 1 4 1 5 5 6 6 7 7 8 8 9 10 10 11 1 1 2 1 3 1 3 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1	194 194 194 194 194 194 194 194 194 194	21:Up 7 sat. 216 218 218 218 218 218 218 218 218 218 218	b 9.90 9.90 9.90 9.90 9.90 14.22 4.94 4.72 1.98 8.70 8.70 8.70 8.70 8.70 8.70 8.70 8.7	\$\frac{55}{6000} = \frac{55}{1	55,25 2915 y 17,97 15,09 11,61 10,92 11,61 10,92 11,61 10,92 11,61 10,92 11,61 10,92 11,61 10,92 11,61 10,92 11,61 10,92 11,61 10,92 11,61 11,72	0 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	45 45 45 45 45 45 45 45 45 45 45 45 45 4	CK Lamp	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	C	Normal We Norm	1,999 dar Surf N 1,064 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1.744 -672 L.148.900m Jude Une weter 0	Seismice No To O O O O O O O O O O O O O O O O O O O	Coefficient U U U U U U U U U	0 0 12,935 12,935 13 13 15 15 18 15 18 15 18 15 18 15 18 15 18 15 18 18	0.000 (water 53 33 33 37 7 6 6 1 1 1 7 7 19 13 5 5 5 6 6 6 7 9 7 10 3 2 3 3 3 7 5 2 6 6 6 7 9 9 8 6 6 7 9 9 9 8 6 6 7 9 9 9 8 6 6 7 9 9 9 8 6 6 7 9 9 9 8 6 6 7 9 9 9 8 6 6 7 9 9 9 8 6 6 7 9 9 9 8 6 6 7 9 9 9 8 6 6 7 9 9 9 8 6 6 7 9 9 9 9 8 6 6 7 9 9 9 8 6 6 7 9 9 9 8 6 6 7 9 9 9 8 6 6 7 9 9 9 9 8 6 6 7 9 9 9 9 8 6 6 7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	(00) 1	Requester (159 159 159 159 159 159 159 159 159 159	Ne Surface Ne Ne Ne Ne Ne Ne Ne	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	531 531 549 549 552 570 570 550 550 547 550 641 640 640 640 640 640 640 640 640 640 640	00 3370 150 CL 00 00 00 00 257 258 281 281 281 281 281 281 281 28
	Re- Case No. of Sice 1 2 2 3 4 4 5 6 7 7 8 8 9 10 11 12 12 12 12 12 12 12 12 12 12 12 12	194 194 194 194 194 194 194 194 194 194	21: Up 7 set. 2:15 2:15 2:15 2:15 2:16 2:1	b 9,99 9,90 9,90 9,90 9,90 9,90 9,90 8,70 8,70 8,70 8,70 8,70 8,70 8,70 8,7	55 = 5500 1 5500	55,25 2915 y 17,97 15,09 11,61 10,92 10,92	0 1 20 No C C C C C C C C C C C C C C C C C C	45 45 45 45 45 45 45 45 45 45 45 45 45 4	Cardy Card	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	C	Normal We Norm	1,999 the Surfi N 106d 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		1.144 -672 L.148.900m Jude Une weter 0	Seismic Fiurface No To O O O O O O O O O O O O O O O O O O O	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 12,935 18 532 129 13 13 13 15 16 16 16 16 16 16 16 16 16 16 16 16 16	0.00 (water	(%) (%)	Regg. 1 water 159 130 130 130 130 130 130 130 130 130 130	No No No No No No No No	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5319 549 5502 5704 5555 574 574 5555 5502 460 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00 00 00 00 00 00 00 00 00 00 00 00 00
	Cas No. of Sice 12 20 8 6 7 18 18 19 19 10 11 12 15 15 16 6 7 7 8 8 9 10 11 12 15 15 16 17 17 17 17 17 17 17 17 17 17 17 17 17	194 194 194 194 194 194 194 194 194 194	2):Up 7 sul 2:15 2:18 2:18 2:18 2:18 2:18 2:18 2:18 2:18	### ##################################	\$5.50 1 1 1 1 1 1 1 1 1	5525 2515 y 17.97 15.09 Cs 17.97 15.09 11.61 10.92 11.01 11.27 11.01 11.27 11.01 11.27 11.01 11.27 11.01 11.27 11.01 11.27 11.01 11.27 12.01 11.01 11.27 12.01 11.01 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	45 45 45 45 45 45 45 45 45 45 45 45 45 4	CK Research 1.00 1.00 1.00 0.90 0.90 0.90 0.90 0.90	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 C C C C C C C C C C C C C C C C C C C	1,999 Ase Surf N 1,000 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1.744 -672 L.148.900m Jude the water 0	Seismic Furface No O O O O O O O O O O O O O	U 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 12,935 18 518 532 129 913 915 817 136 613 613 613 613 613 613 613 613 613	0.000 (water	(00) (0	Requester 159 130 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Ne	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	531 545 545 545 550 574 555 574 558 550 547 558 502 466 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00 00 00 00 00 00 00 00 00 00 00 00 00