


ALTO MAIPO	OWNER'S INSTRUCTION Section 2.29 PHAM-PLN12-INS-0003	
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Contract: <input type="checkbox"/> AM-CO610/620B <input checked="" type="checkbox"/> AM-CO630/620A	SI 6332 / N ^o 0529
Scope Segment Description: TUNNEL CH4 TO TPS	Scope Segment ID: 3.9
Location: Ch. 0+002.5 Approx	Time for Compliance: BEFORE NEXT ROUND

Contractor shall immediately proceed with the Work described below, in accordance with the terms and conditions of the Contract. This instruction is limited to maximum of 1000 UF or USD \$ 50,000., and without impact on the lump sums or schedule (except for Equivalent Times in the BOQ).

Instruction: INSTRUCTION FOR GROUTING

THE GROUTING SHALL BE CARRIED OUT AS ACCORDING TO THE SKETCH ATTACHMENT 1


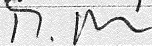
NOTES: 1) MEASURE WATER INFLOW AND GROUNDWATER PRESSURE IN ALL HOLES

2) HOLE N^o 2 SHALL BE LOGGED AS EXPLORATORY HOLE AND SHALL BE FOR LOGGED TESTING, SIMILAR TO THE EXAMPLE GIVEN IN ATTACHMENT 2, AND 3

Owner estimate of impact is: Per Units in BOQ ☒ ; or cost ; &/or Time

If Contractor believes that this instruction constitutes a Change, Contractor shall promptly provide Notice according to Section 11 of the Contract.

Contractor comments (if any):

Issued by	Received by Contractor
Name: ENRIQUE GONZALEZ	Name: Matthias Rosefeldt
Sign: 	Sign: 
Designation: SR GEOLOGIST	Designation: Ges-Manager
Date: 20-11-2015 Time: 09:15 hrs	Date: 20.11.15 Time: 11:15

(original): Contractor

Grouting Instruction CM1DS TO TPS FIRST GROUT FAN

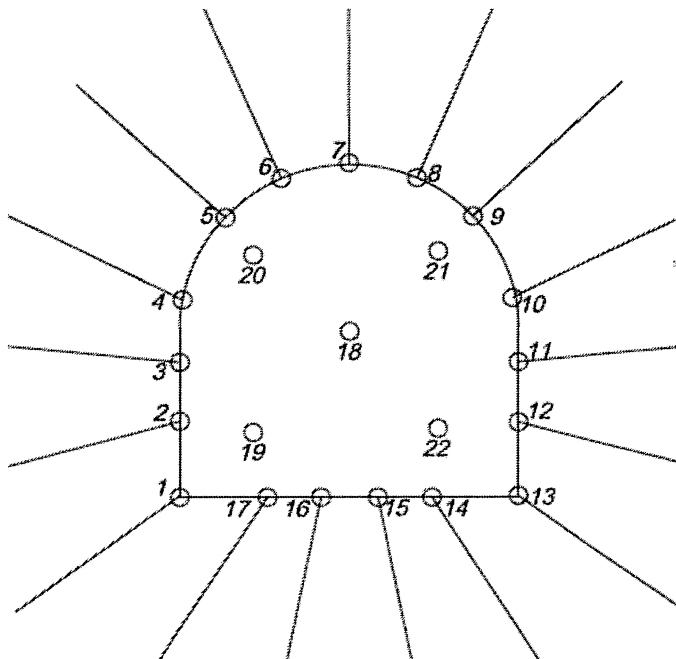
Tunnel	CM1 DS (W=10,2 H=10,0)
Instruction N°	529

Instructed by:	E. GONZALEZ
Instruction date:	20.11.2015

Chainage	0+002.5
Total Inflow face	
Total Inflow Probe hole	
Water pressure measured	

Holes 18-22 11-17	
N° of Grout holes	5 17
Grout holes length (m)	24 24
Grout hole angle ref Tunnel axis	0° 15°

Position of Grout holes 1st grout round:



Mark additional holes with x and number

Erase holes not to be used

1. DRILL HOLES:

• PRIMARY ROUND: 2, 8, 14, 6, 12, 4, 10, 16 AND GROUT

• SECONDARY ROUND: 1, 7, 13, 5, 11, 3, 15, 9, 17. AND GROUT

2. DRILL HOLES: 18, 19, 20, 21, 22

PARALLEL WITH THE TUNNEL AND GROUT.

THE PACKER SHALL BE INSTALLED BETWEEN 1.5 AND 3.0 M (DEPENDING OF ROCK MASS CONDITIONS, REF. LEAKAGE).

Design Mix (Type A,B,C, D or E)	A
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WCR	0,65
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Closure criteria

Pmax (bar)	50
Vmax (l/m borehole)	85
GIN	1000

ENRIQUE GONZALEZ

Name

Signature