

## SCR DIVE PLANNING SHEET

DEPTH	DIVE TIME (A)	RUNTIME	BAR (B)	GAS MIX	FO <sub>2</sub>	SCR FLOW RATE (C)	SCR LITERS REQUIRED (A°C)	PPO <sub>2</sub>	NOAA SINGLE DIVE LIMIT	% OF SINGLE DIVE LIMIT	NOAA DAILY DIVE LIMIT	% OF DAILY DIVE LIMIT	OTU/ MINUTE	OTU TOTAL
GAS	LITERS	*	1.5	=	TOTAL REQUIRED				% SINGLE LIMIT		% DAILY LIMIT		TOTAL OTU	
		*		=										
		*		=										

## BAILOUT GAS DIVE PLAN

DEPTH	DIVE TIME (A)	RUNTIME	BAR (B)	GAS MIX	FO <sub>2</sub>	SCR FLOW RATE (C)	SCR LITERS REQUIRED (A°C)	BAILOUT SAC (D)	OC LITERS REQUIRED (A*B*D)	PPO <sub>2</sub>	NOAA SINGLE DIVE LIMIT	% OF SINGLE DIVE LIMIT	NOAA DAILY DIVE LIMIT	% OF DAILY DIVE LIMIT	OTU/ MINUTE	OTU TOTAL
GAS	LITERS	*	1.5	=	TOTAL REQUIRED						% SINGLE LIMIT		% DAILY LIMIT		TOTAL OTU	
		*		=												
		*		=												

## FORMULAS

Bar = (Depth in msw/10) + 1

Partial pressure of oxygen (ppO<sub>2</sub>) = FO<sub>2</sub> \* Bar

Fraction of oxygen (FO<sub>2</sub>) = ppO<sub>2</sub> / Bar

### Ascent Depth Formula

Ascent Depth = [(MD - D<sub>1</sub>) / 2] + D<sub>1</sub>

MD = Maximum depth

D<sub>1</sub> - Depth of the first decompression stop

### Loop Fraction of Oxygen

Loop FO<sub>2</sub> = [(Flow rate \* Cylinder FO<sub>2</sub>) - VO<sub>2</sub>] / [Flow rate - VO<sub>2</sub>]

Cylinder FO<sub>2</sub> = Cylinder fraction of oxygen

VO<sub>2</sub> = Metabolic rate

### Flow Rate

Flow rate = VO<sub>2</sub> \* [(1 - Loop FO<sub>2</sub>) / (Cylinder FO<sub>2</sub> - Loop FO<sub>2</sub>)]

### SAC Rate

$$\frac{(\text{BAR}_B - \text{BAR}_E) * C / P}{\text{Minutes}}$$

B = Beginning pressure

E = Ending pressure

C = Rated cylinder capacity (liters)

P = Pressure at depth (bar)

### Equivalent Air Depth

From a known depth:

EAD = [(1 - FO<sub>2</sub>) \* (D + 10) / 0.79] - 10

From a known EAD:

D = [0.79 \* (EAD + 10) / (1 - FO<sub>2</sub>)] - 10

D = Depth

EAD = Equivalent Air Depth

FO<sub>2</sub> - Loop fraction of oxygen

### CNS Exposure

% Single Dive Limit

(Time / Single dive limit) \* 100

% Daily Dive Limit

(Time / Daily dive limit) \* 100

## OTU CALCULATION TABLE

ppO <sub>2</sub> (BAR)	OTU/Minute
.5	0
.6	0.27
.7	0.47
.8	0.65
.9	0.83
1.0	1.0
1.1	1.16
1.2	1.32
1.3	1.48
1.4	1.63
1.5	1.78
1.6	1.92
1.7	2.07
1.8	2.21
1.9	2.35
2	2.49

## NOAA CNS LIMITS (MIN.)

ppO <sub>2</sub>	Single	24-Hour
0.6	720	720
0.7	570	570
0.8	450	450
0.9	360	360
1.0	300	300
1.1	240	270
1.2	210	240
1.3	180	210
1.4	150	180
1.5	120	180
1.6	45	150