

(15)SHEETS WITH A COVER

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	MODEL NO.	M4001			
	TYPE	NOBLE GT1 DRILLSHIP			
MANAGER:	S.H.YOON	TITLE			
CHECKED:	C.J.YANG	HVAC HEAT LOAD CALCULATION			
DRAWN :	S.H.LEE				
TEL. NO.	+82-2-310-2107				
DEP'T	OFFSHORE HULL OUTFITTING DESIGN TEAM	SCALE NONE	DATE 10/01/11	DWG. NO. T47D1001	REV. NO. 
STX Offshore & Shipbuilding					

PLAN HISTORY									
DATE	REV.	PAGE	DESCRIPTION	DWN.	CHKD.	MGR.			
20/03/09	A		PREPARED BY HULL OUTFITTING DESIGN TEAM.	X	X				
			SUBMITTED TO OWNER FOR APPROVAL.						
25/03/09			- APPROVED BY OWNER WITHOUT COMMENTS.						
10/01/11	F0		- ISSUED FOR FINAL.					X	

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STXOffshore&Shipbuilding

FORM NAME : STXSE-PC303

	TITLE : HVAC HEAT LOAD CALCULATION	
Project NO.	PROJECT NAME	SHEET NO
M4001	GT1 NOBLE DRILLSHIP	3/15

LOAD CALCULATION SUMMARY

AHU for ACCOMODATION

Column Number		INPUT												OUTPUT							REMARK										
Room No.	Room/Space	Height (m)	Room Floor Area (m ²)	Room Volume (m ³)	Lighting Gains		Elect. Gain (kw)	Occupants		Minimum Fresh Air Rate (CMH)	Minimum Air Change Rate (/Hr)	Minimum Airflow Rate (CMH)	Room Maximum Design Temp (Deg.C)	Heating Load (W)	Actual Heating Load (W)	Room Unit Q'ty	HVAC Calculation Results					21 System									
					Gain/m2 (w/m2)	Gain (w)		No. of Person	Activity Level								Total Sensible Load (W)	Supply Air Temp. (Deg.C)	Room Actual Temp (Deg.C)	Supply Airflow (CMH)	Actual Air Change (/Hr)										
UPPER TWEEN DECK																															
U3	Ware house office	4.20	16.7	70.1	20	334		-	Office		4.0	281	23	285	400x1	1	565	13	23.4	170	2.4										
105	Gymnasium	2.10	42.5	89.3	20	850		4	Athletics	264	6.0	536	23	1507	400x4	3	3013	13	23.5	900	10.1										
112	Game Room	2.10	37.2	78.1	20	744		4	Rest	264	8.0	625	23	1047	400x3	2	1928	13	23.0	625	8.0										
MAIN DECK																															
202	Chief Steward Office	2.10	12.8	26.9	20	256		1	Office	66	4.0	108	23	395	400x1	1	785	13	23.4	236	8.8										
215	Mess room	2.10	40.4	84.8	20	808		72	Rest	4752	12.0	1018	23	7957	8000	-	8048	13	23.7	4752	56.0										
UPPER DECK																															
301	Recreation / Viedo No.1	2.10	55.7	117.0	20	1114		22	Rest	1452	8.0	936	23	2431	400x6	5	3704	13	23.6	1452	12.4										
302	Recreation / Viedo No.2	2.10	47.6	100.0	20	952		22	Rest	1452	8.0	800	23	2431	400x6	5	3051	13	23.8	1452	14.5										
303	Library / Internet	2.10	56.4	118.4	20	1128		13	Rest	858	8.0	948	23	2724	400x7	6	5027	13	23.0	1627	13.7										
304	Office	2.10	16.5	34.7	20	330		2	Office	132	4.0	139	23	332	400x1	1	653	13	23.6	198	5.7										
305	Medic Office	2.10	16.5	34.7	20	330		2	Office	132	4.0	139	23	332	400x1	1	653	13	23.6	198	5.7										
306	Treatment	2.10	13.8	29.0	20	276		2	Office	132	8.0	232	23	388	400x1	1	601	13	22.9	232	8.0										
307	Hospital	2.10	42.9	90.1	20	858		2	Office	132	8.0	721	23	1207	400x3	3	1423	13	22.7	721	8.0										
308	Drilling Eng. Office	2.10	16.5	34.7	20	330		2	Office	132	4.0	139	23	382	400x1	1	755	13	23.5	228	6.6										
309	Catering Office	2.10	26.5	55.7	20	530		2	Office	132	4.0	223	23	382	400x1	1	755	13	23.5	228	4.1										
310	Technical office	2.10	31.3	65.7	20	626		4	Office	264	4.0	263	23	690	400x2	2	1370	13	23.6	412	6.3										
311	Client Office No.1	2.10	31.3	65.7	20	626		4	Office	264	4.0	263	23	690	400x2	2	1370	13	23.6	412	6.3										
312	Marine Office	2.10	14.9	31.3	20	298		2	Office	132	4.0	125	23	338	400x1	1	669	13	23.6	202	6.5										
313	2-Person Cabin	2.10	9.9	20.8	8	79		2	Rest	132	6.0	125	23	221	400x1	1	288	13	23.7	132	6.3										
314	2-Person Cabin	2.10	9.9	20.8	8	79		2	Rest	132	6.0	125	23	221	400x1	1	288	13	23.7	132	6.3										
315	2-Person Cabin	2.10	9.9	20.8	8	79		2	Rest	132	6.0	125	23	221	400x1	1	275	13	22.8	132	6.3										
316	2-Person Cabin	2.10	9.9	20.8	8	79		2	Rest	132	6.0	125	23	221	400x1	1	275	13	22.8	132	6.3										
A DECK																															
401	2-Person Cabin	2.10	18.2	38.2	8	146		2	Rest	132	6.0	229	23	385	400x1	1	443	13	22.8	230	6.0										
402	2-Person Cabin	2.10	18.2	38.2	8	146		2	Rest	132	6.0	229	23	385	400x1	1	443	13	22.8	230	6.0										
403	2-Person Cabin	2.10	18.2	38.2	8	146		2	Rest	132	6.0	229	23	385	400x1	1	443	13	22.8	230	6.0										
404	2-Person Cabin	2.10	18.2	38.2	8	146		2	Rest	132	6.0	229	23	385	400x1	1	443	13	22.8	230	6.0										
405	2-Person Cabin	2.10	18.2	38.2	8	146		2	Rest	132	6.0	229	23	385	400x1	1	472	13	23.0	230	6.0										
406	2-Person Cabin	2.10	13.6	28.6	8	109		2	Rest	132	6.0	171	23	288	400x1	1	472	13	22.9	172	6.0										
407	2-Person Cabin	2.10	13.6	28.6	8	109		2	Rest	132	6.0	171	23	288	400x1	1	406	13	22.9	172	6.0										
408	2-Person Cabin	2.10	13.6	28.6	8	109		2	Rest	132	6.0	171	23	288	400x1	1	406	13	22.9	172	6.0										
409	2-Person Cabin	2.10	13.6	28.6	8	109		2	Rest	132	6.0	171	23	288	400x1	1	406	13	22.9	172	6.0										
410	2-Person Cabin	2.10	13.6	28.6	8	109		2	Rest	132	6.0	171	23	288	400x1	1	406	13	22.9	172	6.0										
411	2-Person Cabin	2.10	13.6	28.6	8	109		2	Rest	132	6.0	171	23	288	400x1	1	406	13	22.9	172	6.0										
412	2-Person Cabin	2.10	13.6	28.6	8	109		2	Rest	132	6.0	171	23	288	400x1	1	406	13	22.9	172	6.0										
413	2-Person Cabin	2.10	13.6	28.6	8	109		2	Rest	132	6.0	171	23	288	400x1	1	406	13	22.9	172	6.0										
414	2-Person Cabin	2.10	13.6	28.6	8	109		2	Rest	132	6.0	171	23	288	400x1	1	406	13	22.9	172	6.0										
415	2-Person Cabin	2.10	13.6	28.6	8	109		2	Rest	132	6.0	171	23	288	400x1	1	406	13	22.9	172	6.0										
416	2-Person Cabin	2.10	13.6	28.6	8	109		2	Rest	132	6.0	171	23	288	400x1	1	406	13	22.9	172	6.0										
417	2-Person Cabin	2.10	13.6	28.6	8	109		2	Rest	132	6.0	171	23	288	400x1	1	406	13	22.9	172	6.0										



TITLE :

HVAC HEAT LOAD CALCULATION

Project NO.

PROJECT NAME

SHEET NO

M4001

GT1 NOBLE DRILLSHIP

4/15

LOAD CALCULATION SUMMARY

AHU for ACCOMODATION

Column Number		INPUT												OUTPUT							REMARK	
Room No.	Room/Space	1 Height (m)	2 Room Floor Area (m2)	3 Room Volume (m3)	Lighting Gains		6 Elect. Gain (kw)	Occupants		9 Minimum Fresh Air Rate (CMH)	10 Minimum Air Change Rate (/Hr)	11 Minimum Airflow Rate (CMH)	12 Room Maximum Design Temp (Deg.C)	13 Heating Load (W)	14 Actual Heating Load (W)	15 Room Unit Q'ty	HVAC Calculation Results					21 System
																	16 Total Sensible Load (W)	17 Supply Air Temp. (Deg C)	18 Room Actual Temp (Deg.C)	19 Supply Airflow (CMH)	20 Actual Air Change (/Hr)	
					Gain/m2 (w/m2)	Gain (w)		No. of Person	Activity Level													
418	2-Person Cabin	2.10	13.6	28.6	8	109		2	Rest	132	6.0	171	23	288	400x1	1	406	13	22.9	172	6.0	
419	2-Person Cabin	2.10	13.6	28.6	8	109		2	Rest	132	6.0	171	23	288	400x1	1	406	13	22.9	172	6.0	
420	2-Person Cabin	2.10	13.6	28.6	8	109		2	Rest	132	6.0	171	23	288	400x1	1	406	13	22.9	172	6.0	
421	2-Person Cabin	2.10	13.6	28.6	8	109		2	Rest	132	6.0	171	23	288	400x1	1	406	13	22.9	172	6.0	
422	2-Person Cabin	2.10	18.2	38.2	8	146		2	Rest	132	6.0	229	23	385	400x1	1	406	13	22.9	230	6.0	
423	2-Person Cabin	2.10	9.9	20.8	8	79		2	Rest	132	6.0	125	23	221	400x1	1	335	13	22.9	132	6.3	
424	2-Person Cabin	2.10	9.9	20.8	8	79		2	Rest	132	6.0	125	23	221	400x1	1	227	13	22.7	132	6.3	
425	2-Person Cabin	2.10	9.9	20.8	8	79		2	Rest	132	6.0	125	23	221	400x1	1	227	13	22.7	132	6.3	
426	2-Person Cabin	2.10	9.9	20.8	8	79		2	Rest	132	6.0	125	23	221	400x1	1	227	13	22.7	132	6.3	
427	2-Person Cabin	2.10	9.9	20.8	8	79		2	Rest	132	6.0	125	23	221	400x1	1	227	13	22.7	132	6.3	
428	2-Person Cabin	2.10	9.9	20.8	8	79		2	Rest	132	6.0	125	23	221	400x1	1	227	13	22.7	132	6.3	
429	2-Person Cabin	2.10	9.9	20.8	8	79		2	Rest	132	6.0	125	23	221	400x1	1	248	13	22.7	132	6.3	
430	2-Person Cabin	2.10	9.9	20.8	8	79		2	Rest	132	6.0	125	23	221	400x1	1	396	13	23.1	132	6.3	
B DECK																						
501	2-Person Cabin	2.10	9.2	19.3	8	74		2	Rest	132	6.0	116	23	221	400x1	1	354	13	23.0	132	6.8	
502	2-Person Cabin	2.10	9.2	19.3	8	74		2	Rest	132	6.0	116	23	221	400x1	1	354	13	23.0	132	6.8	
503	2-Person Cabin	2.10	9.2	19.3	8	74		2	Rest	132	6.0	116	23	221	400x1	1	354	13	23.0	132	6.8	
504	2-Person Cabin	2.10	9.2	19.3	8	74		2	Rest	132	6.0	116	23	221	400x1	1	354	13	23.0	132	6.8	
505	2-Person Cabin	2.10	18.2	38.2	8	146		2	Rest	132	6.0	229	23	385	400x1	1	513	13	22.9	230	6.0	
506	2-Person Cabin	2.10	11.7	24.6	8	94		2	Rest	132	6.0	147	23	248	400x1	1	389	13	22.9	148	6.0	
507	2-Person Cabin	2.10	11.7	24.6	8	94		2	Rest	132	6.0	147	23	248	400x1	1	389	13	23.0	148	6.0	
508	2-Person Cabin	2.10	18.3	38.4	8	146		2	Rest	132	6.0	231	23	385	400x1	1	513	13	23.0	230	6.0	
509	2-Person Cabin	2.10	9.2	19.3	8	74		2	Rest	132	6.0	116	23	221	400x1	1	354	13	23.0	132	6.8	
510	2-Person Cabin	2.10	9.2	19.3	8	74		2	Rest	132	6.0	116	23	221	400x1	1	354	13	23.0	132	6.8	
511	2-Person Cabin	2.10	9.2	19.3	8	74		2	Rest	132	6.0	116	23	221	400x1	1	354	13	23.0	132	6.8	
512	2-Person Cabin	2.10	9.2	19.3	8	74		2	Rest	132	6.0	116	23	221	400x1	1	354	13	23.0	132	6.8	
513	2-Person Cabin	2.10	9.2	19.3	8	74		2	Rest	132	6.0	116	23	221	400x1	1	354	13	23.0	132	6.8	
514	2-Person Cabin	2.10	9.2	19.3	8	74		2	Rest	132	6.0	116	23	221	400x1	1	354	13	23.0	132	6.8	
515	2-Person Cabin	2.10	9.2	19.3	8	74		2	Rest	132	6.0	116	23	221	400x1	1	354	13	23.0	132	6.8	
516	2-Person Cabin	2.10	9.2	19.3	8	74		2	Rest	132	6.0	116	23	221	400x1	1	354	13	23.0	132	6.8	
517	2-Person Cabin	2.10	9.2	19.3	8	74		2	Rest	132	6.0	116	23	221	400x1	1	354	13	23.0	132	6.8	
518	2-Person Cabin	2.10	13.6	28.6	8	109		2	Rest	132	6.0	171	23	288	400x1	1	560	13	23.3	172	6.0	
519	2-Person Cabin	2.10	13.6	28.6	8	109		2	Rest	132	6.0	171	23	288	400x1	1	572	13	23.4	172	6.0	
521	2-Person Cabin	2.10	13.6	28.6	8	109		2	Rest	132	6.0	171	23	288	400x1	1	560	13	23.3	172	6.0	
522	2-Person Cabin	2.10	13.6	28.6	8	109		2	Rest	132	6.0	171	23	288	400x1	1	560	13	23.3	172	6.0	
523	2-Person Cabin	2.10	9.2	19.3	8	74		2	Rest	132	6.0	116	23	221	400x1	1	354	13	23.0	132	6.8	
524	2-Person Cabin	2.10	9.2	19.3	8	74		2	Rest	132	6.0	116	23	221	400x1	1	354	13	23.0	132	6.8	
525	2-Person Cabin	2.10	9.2	19.3	8	74		2	Rest	132	6.0	116	23	221	400x1	1	354	13	23.0	132	6.8	
526	2-Person Cabin	2.10	9.2	19.3	8	74		2	Rest	132	6.0	116	23	221	400x1	1	354	13	23.0	132	6.8	
527	2-Person Cabin	2.10	9.2	19.3	8	74		2	Rest	132	6.0	116	23	221	400x1	1	354	13	23.0	132	6.8	
528	2-Person Cabin	2.10	11.0	23.1	8	88		2	Rest	132	6.0	139	23	234	400x1	1	385	13	22.9	140	6.1	
529	2-Person Cabin	2.10	11.0	23.1	8	88		2	Rest	132	6.0	139	23	234	400x1	1	236	13	22.6	140	6.1	

	TITLE : HVAC HEAT LOAD CALCULATION		
Project NO.	PROJECT NAME		SHEET NO
M4001	GT1 NOBLE DRILLSHIP		5/15

LOAD CALCULATION SUMMARY

AHU for ACCOMODATION

Column Number		INPUT												OUTPUT										REMARK				
Room No.	Room/Space	1 Height (m)	2 Room Floor Area (m2)	3 Room Volume (m3)	Lighting Gains		6 Elect. Gain (kw)	7 Occupants		9 Minimum Fresh Air Rate (CMH)	10 Minimum Air Change Rate (/Hr)	11 Minimum Airflow Rate (CMH)	12 Room Maximum Design Temp (Deg.C)	13 Heating Load (W)	14 Actual Heating Load (W)	15 Room Unit Q'ty	HVAC Calculation Results					21 System						
								No. of Person	Activity Level								Total Sensible Load (W)	Supply Air Temp. (Deg C)	Room Actual Temp (Deg.C)	Supply Airflow (CMH)	Actual Air Change (/Hr)							
					Gain/m2 (w/m2)	Gain (w)																						
530	2-Person Cabin	2.10	11.0	23.1	8	88		2	Rest	132	6.0	139	23	234	400x1	1	236	13	22.6	140	6.1							
531	2-Person Cabin	2.10	11.0	23.1	8	88		2	Rest	132	6.0	139	23	234	400x1	1	385	13	22.9	140	6.1							
C DECK																												
601	1-Person Cabin	2.10	15.0	31.5	8	120		1	Rest	66	6.0	189	23	316	400x1	1	470	13	22.9	189	6.0							
602	1-Person Cabin	2.10	15.0	31.5	8	120		1	Rest	66	6.0	189	23	316	400x1	1	538	13	23.0	189	6.0							
603	1-Person Cabin	2.10	16.7	35.1	8	134		1	Rest	66	6.0	210	23	869	400x3	2	1366	13	22.9	519	14.8							
604	2-Person Cabin	2.10	12.0	25.2	8	96		2	Rest	132	6.0	151	23	692	400x2	2	1135	13	22.9	413	16.4							
605	2-Person Cabin	2.10	11.9	25.0	8	95		2	Rest	132	6.0	150	23	692	400x2	2	1135	13	22.9	413	16.5							
606	2-Person Cabin	2.10	11.9	25.0	8	95		2	Rest	132	6.0	150	23	692	400x2	2	1135	13	22.9	413	16.5							
607	2-Person Cabin	2.10	12.0	25.2	8	96		2	Rest	132	6.0	151	23	692	400x2	2	1135	13	22.9	413	16.4							
608	1-Person Cabin	2.10	16.7	35.1	8	134		1	Rest	66	6.0	210	23	869	400x3	2	1366	13	22.9	519	14.8							
609	1-Person Cabin	2.10	15.0	31.5	8	120		1	Rest	66	6.0	189	23	316	400x1	1	538	13	23.0	189	6.0							
610	1-Person Cabin	2.10	15.0	31.5	8	120		1	Rest	66	6.0	189	23	316	400x1	1	470	13	22.9	189	6.0							
611	1-Person Cabin	2.10	14.1	29.6	8	113		1	Rest	66	6.0	178	23	316	400x1	1	470	13	22.9	189	6.4							
612	1-Person Cabin	2.10	14.1	29.6	8	113		1	Rest	66	6.0	178	23	343	400x1	1	625	13	23.0	205	6.9							
613	2-Person Cabin	2.10	9.5	20.0	8	76		2	Rest	132	6.0	120	23	273	400x1	1	507	13	23.1	163	8.2							
614	2-Person Cabin	2.10	9.5	20.0	8	76		2	Rest	132	6.0	120	23	273	400x1	1	507	13	23.1	163	8.2							
615	2-Person Cabin	2.10	10.1	21.2	8	81		2	Rest	132	6.0	127	23	268	400x1	1	508	13	23.1	160	7.5							
616	2-Person Cabin	2.10	10.1	21.2	8	81		2	Rest	132	6.0	127	23	305	400x1	1	569	13	23.1	182	8.6							
617	2-Person Cabin	2.10	11.1	23.3	8	89		2	Rest	132	6.0	140	23	271	400x1	1	535	13	23.3	162	6.9							
618	Conference Room	2.10	19.4	40.7	20	388		11	Office	726	8.0	326	23	1216	400x3	3	1623	13	23.8	726	17.8							
619	Stationary & Filing	2.10	13.3	27.9	20	266		1	Office	66	4.0	112	23	283	400x1	1	519	13	23.3	169	6.1							
620	2-Person Cabin	2.10	10.6	22.3	8	85		2	Rest	132	6.0	134	23	305	400x1	1	569	13	23.1	182	8.2							
621	2-Person Cabin	2.10	10.6	22.3	8	85		2	Rest	132	6.0	134	23	268	400x1	1	508	13	23.1	160	7.2							
622	2-Person Cabin	2.10	9.5	20.0	8	76		2	Rest	132	6.0	120	23	273	400x1	1	507	13	23.1	163	8.2							
623	2-Person Cabin	2.10	9.5	20.0	8	76		2	Rest	132	6.0	120	23	273	400x1	1	507	13	23.1	163	8.2							
624	1-Person Cabin	2.10	14.1	29.6	8	113		1	Rest	66	6.0	178	23	298	400x1	1	370	13	22.8	178	6.0							
625	1-Person Cabin	2.10	14.1	29.6	8	113		1	Rest	66	6.0	178	23	316	400x1	1	470	13	22.9	189	6.4							
626	2-Person Cabin	2.10	9.9	20.8	8	79		2	Rest	132	6.0	125	23	251	400x1	1	459	13	23.0	150	7.2							
627	2-Person Cabin	2.10	9.9	20.8	8	79		2	Rest	132	6.0	125	23	221	400x1	1	351	13	22.9	132	6.3							
628	2-Person Cabin	2.10	9.9	20.8	8	79		2	Rest	132	6.0	125	23	221	400x1	1	351	13	22.9	132	6.3							
629	2-Person Cabin	2.10	9.9	20.8	8	79		2	Rest	132	6.0	125	23	221	400x1	1	351	13	22.9	132	6.3							
630	2-Person Cabin	2.10	9.9	20.8	8	79		2	Rest	132	6.0	125	23	221	400x1	1	351	13	22.9	132	6.3							
631	2-Person Cabin	2.10	9.9	20.8	8	79		2	Rest	132	6.0	125	23	221	400x1	1	351	13	22.9	132	6.3							
632	2-Person Cabin	2.10	9.9	20.8	8	79		2	Rest	132	6.0	125	23	221	400x1	1	351	13	22.9	132	6.3							
633	2-Person Cabin	2.10	9.9	20.8	8	79		2	Rest	132	6.0	125	23	251	400x1	1	459	13	23.0	150	7.2							
NAV DECK																												
703	Client Office No.2	2.10	29.2	61.3	20	584		2	Office	132	4.0	245	23	862	400x3	2	1445	13	23.2	515	8.4							
704	Owner Office	2.10	29.2	61.3	20	584		2	Office	132	4.0	245	23	882	400x3	2	1847	13	23.3	527	8.6							
705	Office No.1	2.10	15.0	31.5	20	300		2	Office	132	4.0	126	23	372	400x1	1	734	13	23.5	222	7.0							
706	Office No.2	2.10	15.0	31.5	20	300		2	Office	132	4.0	126	23	372	400x1	1	734	13	23.5	222	7.0							

	TITLE : HVAC HEAT LOAD CALCULATION		
Project NO.	PROJECT NAME		SHEET NO
M4001	GT1 NOBLE DRILLSHIP		6/15

LOAD CALCULATION SUMMARY

PACU

		INPUT												OUTPUT								REMARK
Column Number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Room No.	Room/Space	Height	Room Floor Area	Room Volume	Lighting Gains		Elect. Gain	Occupants		Minimum Fresh Air Rate	Minimum Air Change Rate	Minimum Airflow Rate	Room Maximum Design Temp	HVAC Calculation Results						Return Airflow	System	
					Gain/m2	Gain		No. of Person	Activity Level					Total Sensible Load	Supply Air Temp.	Room Actual Temp	HVAC Supply Airflow	Actual Air Change	Exhaust Airflow			
				(m)			(m2)			(m3)	(w/m2)	(w)	(kw)							(CMH)		(/Hr)
ACCOMMODATION																						
214	Galley	2.10	76.8	161.3	20	1536							Spot		20.0		3300	20	3300/6600		901-HAD-001	
808	Helicopter Waiting Room	2.10	31.5	66.2	20	630		20	Rest	660			Spot	4766	17.0	27	1440	22	290	1150	901-HAD-002	
804	A/C Plant Room	4.00	18.5	74.0	20	370							Spot		17.0		300	4	300			
851	Corridor	2.10	17.3	36.3	20	346							Spot		17.0		650	18		650		
	Lobby	2.10	3.0	6.3	20	60							Spot		17.0		65	10		65		
701	Wheel House	2.10	183.2	384.7	20	3664	6.20						Spot	30570	13.0	27	6400	17		6400	901-HAD-003 (ACCU)	
702	Emer. DP Console	2.10	17.2	36.1	20	344	2.24						Spot	4176	13.0	27	850	24	850			
710	NO1 Instrument Room	2.10	16.8	35.3	20	336	5.38						Spot	7849	13.0	27	1850	52	1850			
801	NO2 Instrument Room	2.10	33.6	70.6	20	672	13.51						Spot	18441	13.0	27	3700	52		3700		
MACHINERY																						
	Mechanical Workshop	2.10	53.7	112.8	20	1074	2.0	1	Office	33			Spot	7610	15	27	2400	21	120	2280	902-HAD-001	
	Switchboard Room1	2.10	100.8	211.7	20	2016	33.26						Spot	38350	15	27	9600	45	480	9120	902-HAD-002	
	Switchboard Room2	2.10	100.8	211.7	20	2016	32.46						Spot	37470	15	27	9400	44	470	8930	902-HAD-003	
	Switchboard Room3	2.10	80.6	169.3	20	1612	33.98						Spot	38987	15	27	9800	58	490	9310	902-HAD-004	
	Switchboard Room4	2.10	80.6	169.3	20	1612	34.58						Spot	39655	15	27	9900	58	495	9405	902-HAD-005	
	Engine Control Room	2.10	48.2	101.2	20	964	1.98	3	Office	99			Spot	3625	17	27	2200	22	110	2090	902-HAD-006A/B	
	Subsea Office	2.10	33.6	70.6	20	672	5.7	1	Office	33			Spot	8294	15	27	2500	35	125	2375	902-HAD-007	



TITLE :

HVAC HEAT LOAD CALCULATION

Project NO.

M4001

PROJECT NAME

GT1 NOBLE DRILLSHIP

SHEET NO

7/15

AIR BALANCING TABLE for ACCOMMODATION

Room		Ceiling H (m)	Room Area (m ²)	Room Volume (m ³)	Final A/C Supply		Sanitary Exhaust	Mechanical Supply	Sundry Exhaust	Mechanical Exhaust	Natural Supply	Natural Exhaust	Return
NO.	Name				ch/h	Air volume							
UPPER TWEEN DECK													
U2	Rubber Store	2.10	11.2	23.5	6.0	141						141	
U3	Ware house office	2.10	16.7	35.1	4.8	170							170
101	Air Handling Unit Room	4.20	183.9	772.4	2.3	1800				1800			
103	Cleaning Gear Locker	2.10	15.9	33.4	6.0	200	200						
104	Lavatory	2.10	13.0	27.3	0.0		410						
105	Gymnasium	2.10	42.5	89.3	10.1	900							900
106	Storage	2.10	16.8	35.3	6.0	212			212				
107	Garbage Store	2.10	16.8	35.3	6.0	212			212				
109	Laundry	2.10	62.4	131.0	19.8	2600				2862			(262)
110	Female Changing Room	2.10	64.5	135.5	6.0	813	320		764				(271)
111	Male Changing Room	2.10	90.9	190.9	6.0	1145	720		807				(382)
112	Game Room	2.10	37.2	78.1	8.0	625							625
113	Male Sauna	2.10	11.6	24.4	8.0	195	195						
114	Female Sauna	2.10	11.6	24.4	8.0	195	195						
116	Deck Store	2.10	4.5	9.5	6.0	57			57				
151	Corridor	2.10	22.6	47.5	0.0								
152	Corridor	2.10	30.0	63.0	0.0								
153	Corridor	2.10	22.6	47.5	0.0								
154	Corridor	2.10	63.0	132.3	3.1	410							
161	Elevator	2.10	9.0	18.9	23.5	445				445			
162	Main Stairway	2.10	11.4	23.9	11.7	280						280	
	SUB. TOTAL					10400	2040	0	2052	5107	0	421	780
													0
MAIN DECK													
201	Storage	2.10	16.8	35.3	6.0	212			212				
202	Chief Steward Office	2.10	12.8	26.9	8.8	236							236
203	Refrigerating Plant	2.10	27.4	57.5	2.0	115				115			
204	Lavatory Galley Staff	2.10	9.8	20.6	0.0		309						(309)
205	Tel. Booth	2.10	2.2	4.6	10.8	50							50
206	Storage	2.10	37.3	78.3	6.0	470			470				
207	Storage	2.10	37.9	79.6	6.0	478			478				
208	Tel. booth	2.10	2.2	4.6	10.8	50							50
209	Bonded Store	2.10	40.4	84.8	6.0	509			509				
210	Storage	2.10	16.6	34.9	6.0	209			209				
211	Lavatory	2.10	13.4	28.1	0.0		422						(422)
213	Dry provision store	2.10	29.6	62.2	10.0	622				622			
215	Mess room	2.10	40.4	84.8	56.0	4752							4752
216	Locker	2.10	4.5	9.5	6.0	57			57				
251	Corridor	2.10	24.7	51.9	0.0								
252	Corridor	2.10	30.0	63.0	0.0								
253	Corridor	2.10	24.7	51.9	0.0								
254	Corridor	2.10	47.5	99.8	0.0								605
261	Elevator	2.10	9.0	18.9	23.5	445				445			
262	Main Stairway	2.10	11.4	23.9	0.0								
	SUB. TOTAL					8205	731	0	1935	1182	0	0	4357

	TITLE : HVAC HEAT LOAD CALCULATION		
Project NO.	PROJECT NAME		SHEET NO
M4001	GT1 NOBLE DRILLSHIP		8/15

AIR BALANCING TABLE for ACCOMMODATION

Room		Ceiling H (m)	Room Area (m ²)	Room Volume (m ³)	Final A/C Supply		Sanitary Exhaust	Mechanical Supply	Sundry Exhaust	Mechanical Exhaust	Natural Supply	Natural Exhaust	Return
NO.	Name				ch./h	Air volume							
0													
UPPER DECK													
301	Recreation / Viedo No.1	2.10	55.7	117.0	12.4	1452							1452
302	Recreation / Viedo No.2	2.10	47.6	100.0	14.5	1452							1452
303	Library / Internet	2.10	56.4	118.4	13.7	1627							1627
304	Office	2.10	16.5	34.7	5.7	198							198
305	Medic Office	2.10	16.5	34.7	5.7	198				198			
306	Treatment	2.10	13.8	29.0	8.0	232				232			
307	Hospital	2.10	42.9	90.1	8.0	721				721			
308	Drilling Eng. Office	2.10	16.5	34.7	6.6	228							228
309	Catering Office	2.10	16.5	34.7	6.6	228							228
310	Technical office	2.10	31.3	65.7	6.3	412							412
311	Client Office No.1	2.10	31.3	65.7	6.3	412							412
312	Marine Office	2.10	14.9	31.3	6.5	202							202
313	2-Person Cabin	2.10	9.9	20.8	6.3	132	60						72
314	2-Person Cabin	2.10	9.9	20.8	6.3	132	60						72
315	2-Person Cabin	2.10	9.9	20.8	6.3	132	60						72
316	2-Person Cabin	2.10	9.9	20.8	6.3	132	60						72
317	Lavatory	2.10	12.7	26.7	0.0		400						(400)
318	Locker	2.10	11.2	23.5	6.0	141			141				
321	Locker	2.10	12.3	25.9	6.0	155			155				
351	Corridor	2.10	22.1	46.4	0.0								767
352	Corridor	2.10	40.6	85.3	0.0								767
353	Corridor	2.10	22.1	46.4	0.0								767
354	Corridor	2.10	35.4	74.3	0.0								767
361	Elevator	2.10	9.0	18.9	23.5	445				445			
362	Main Stairway	2.10	11.3	23.7	11.8	280						280	
	Lobby FWD-PORT	2.10	3.0	6.3	10.3	65						65	
	Lobby FWD-STBD	2.10	3.0	6.3	10.3	65						65	
	Lobby AFT-PORT	2.10	3.0	6.3	10.3	65						65	
	Lobby AFT-STBD	2.10	3.0	6.3	10.3	65						65	
	SUB. TOTAL					9171	640	0	296	1596	0	540	6099
0													
A DECK													
401	2-Person Cabin	2.10	18.2	38.2	6.0	230	60						170
402	2-Person Cabin	2.10	18.2	38.2	6.0	230	60						170
403	2-Person Cabin	2.10	18.2	38.2	6.0	230	60						170
404	2-Person Cabin	2.10	18.2	38.2	6.0	230	60						170
405	2-Person Cabin	2.10	18.2	38.2	6.0	230	60						170
406	2-Person Cabin	2.10	13.6	28.6	6.0	172	60						112
407	2-Person Cabin	2.10	13.6	28.6	6.0	172	60						112
408	2-Person Cabin	2.10	13.6	28.6	6.0	172	60						112
409	2-Person Cabin	2.10	13.6	28.6	6.0	172	60						112
410	2-Person Cabin	2.10	13.6	28.6	6.0	172	60						112
411	2-Person Cabin	2.10	13.6	28.6	6.0	172	60						112
412	2-Person Cabin	2.10	13.6	28.6	6.0	172	60						112

	TITLE : HVAC HEAT LOAD CALCULATION		
Project NO.	PROJECT NAME		SHEET NO
M4001	GT1 NOBLE DRILLSHIP		9/15

AIR BALANCING TABLE for ACCOMMODATION

Room		Ceiling H (m)	Room Area (m ²)	Room Volume (m ³)	Final A/C Supply		Sanitary Exhaust	Mechanical Supply	Sundry Exhaust	Mechanical Exhaust	Natural Supply	Natural Exhaust	Return
NO.	Name				ch./h	Air volume							
413	2-Person Cabin	2.10	13.6	28.6	6.0	172	60						112
414	2-Person Cabin	2.10	13.6	28.6	6.0	172	60						112
415	2-Person Cabin	2.10	13.6	28.6	6.0	172	60						112
416	2-Person Cabin	2.10	13.6	28.6	6.0	172	60						112
417	2-Person Cabin	2.10	13.6	28.6	6.0	172	60						112
418	2-Person Cabin	2.10	13.6	28.6	6.0	172	60						112
419	2-Person Cabin	2.10	13.6	28.6	6.0	172	60						112
420	2-Person Cabin	2.10	13.6	28.6	6.0	172	60						112
421	2-Person Cabin	2.10	13.6	28.6	6.0	172	60						112
422	2-Person Cabin	2.10	18.2	38.2	6.0	230	60						170
423	2-Person Cabin	2.10	9.9	20.8	6.3	132	60						72
424	2-Person Cabin	2.10	9.9	20.8	6.3	132	60						72
425	2-Person Cabin	2.10	9.9	20.8	6.3	132	60						72
426	2-Person Cabin	2.10	9.9	20.8	6.3	132	60						72
427	2-Person Cabin	2.10	9.9	20.8	6.3	132	60						72
428	2-Person Cabin	2.10	9.9	20.8	6.3	132	60						72
429	2-Person Cabin	2.10	9.9	20.8	6.3	132	60						72
430	2-Person Cabin	2.10	9.9	20.8	6.3	132	60						72
431	Locker	2.10	11.2	23.5	6.0	141			141				
432	Locker	2.10	12.3	25.8	6.0	155			155				
451	Corridor	2.10	35.7	75.0	0.0								847
452	Corridor	2.10	10.7	22.5	0.0								847
453	Corridor	2.10	35.7	75.0	0.0								847
454	Corridor	2.10	35.4	74.3	0.0								847
461	Elevator	2.10	9.0	18.9	0.0								851
462	Main Stairway	2.10	11.3	23.7	0.0								
	Lobby FWD-PORT	2.10	2.3	4.8	10.4	50						50	
	Lobby FWD-STBD	2.10	2.3	4.8	10.4	50						50	
	Lobby AFT-PORT	2.10	2.3	4.8	10.4	50						50	
	Lobby AFT-STBD	2.10	2.3	4.8	10.4	50						50	
SUB. TOTAL						5684	1800	0	296	0	0	200	3388
													0
B DECK													
501	2-Person Cabin	2.10	9.2	19.3	6.8	132	60						72
502	2-Person Cabin	2.10	9.2	19.3	6.8	132	60						72
503	2-Person Cabin	2.10	9.2	19.3	6.8	132	60						72
504	2-Person Cabin	2.10	9.2	19.3	6.8	132	60						72
505	2-Person Cabin	2.10	18.2	38.2	6.0	230	60						170
506	2-Person Cabin	2.10	11.7	24.6	6.0	148	60						88
507	2-Person Cabin	2.10	11.7	24.6	6.0	148	60						88
508	2-Person Cabin	2.10	18.3	38.4	6.0	230	60						170
509	2-Person Cabin	2.10	9.2	19.3	6.8	132	60						72
510	2-Person Cabin	2.10	9.2	19.3	6.8	132	60						72
511	2-Person Cabin	2.10	9.2	19.3	6.8	132	60						72
512	2-Person Cabin	2.10	9.2	19.3	6.8	132	60						72
513	2-Person Cabin	2.10	9.2	19.3	6.8	132	60						72

	TITLE : HVAC HEAT LOAD CALCULATION		
Project NO.	PROJECT NAME		SHEET NO
M4001	GT1 NOBLE DRILLSHIP		10/15

AIR BALANCING TABLE for ACCOMMODATION

Room		Ceiling H (m)	Room Area (m ²)	Room Volume (m ³)	Final A/C Supply		Sanitary Exhaust	Mechanical Supply	Sundry Exhaust	Mechanical Exhaust	Natural Supply	Natural Exhaust	Return
NO.	Name				ch./h	Air volume							
514	2-Person Cabin	2.10	9.2	19.3	6.8	132	60						72
515	2-Person Cabin	2.10	9.2	19.3	6.8	132	60						72
516	2-Person Cabin	2.10	9.2	19.3	6.8	132	60						72
517	2-Person Cabin	2.10	9.2	19.3	6.8	132	60						72
518	2-Person Cabin	2.10	13.6	28.6	6.0	172	60						112
519	2-Person Cabin	2.10	13.6	28.6	6.0	172	60						112
521	2-Person Cabin	2.10	13.6	28.6	6.0	172	60						112
522	2-Person Cabin	2.10	13.6	28.6	6.0	172	60						112
523	2-Person Cabin	2.10	9.2	19.3	6.8	132	60						72
524	2-Person Cabin	2.10	9.2	19.3	6.8	132	60						72
525	2-Person Cabin	2.10	9.2	19.3	6.8	132	60						72
526	2-Person Cabin	2.10	9.2	19.3	6.8	132	60						72
527	2-Person Cabin	2.10	9.2	19.3	6.8	132	60						72
528	2-Person Cabin	2.10	11.0	23.1	6.1	140	60						80
529	2-Person Cabin	2.10	11.0	23.1	6.1	140	60						80
530	2-Person Cabin	2.10	11.0	23.1	6.1	140	60						80
531	2-Person Cabin	2.10	11.0	23.1	6.1	140	60						80
532	Locker	2.10	6.1	12.8	6.0	77			77				
533	Locker	2.10	6.1	12.8	6.0	77			77				
534	Locker	2.10	4.5	9.5	6.0	57			57				
551	Corridor	2.10	41.2	86.5	0.0								860
552	Corridor	2.10	41.2	86.5	0.0								860
553	Corridor	2.10	38.0	79.8	0.0								860
561	Elevator	2.10	9.0	18.9	0.0								
562	Main Stairway	2.10	11.3	23.7	11.8	280						280	
	Lobby FWD-PORT	2.10	3.0	6.3	10.3	65						65	
	Lobby FWD-STBD	2.10	3.0	6.3	10.3	65						65	
	Lobby AFT-PORT	2.10	3.0	6.3	10.3	65						65	
	Lobby AFT-STBD	2.10	3.0	6.3	10.3	65						65	
	SUB. TOTAL					5131	1800	0	211	0	0	540	2580
													0
C DECK													
601	1-Person Cabin	2.10	15.0	31.5	6.0	189	60						129
602	1-Person Cabin	2.10	15.0	31.5	6.0	189	60						129
603	1-Person Cabin	2.10	16.7	35.07	14.8	519	60						459
604	2-Person Cabin	2.10	12.0	25.2	16.4	413	60						353
605	2-Person Cabin	2.10	11.9	24.99	16.5	413	60						353
606	2-Person Cabin	2.10	11.9	24.99	16.5	413	60						353
607	2-Person Cabin	2.10	12.0	25.2	16.4	413	60						353
608	1-Person Cabin	2.10	16.7	35.07	14.8	519	60						459
609	1-Person Cabin	2.10	15.0	31.5	6.0	189	60						129
610	1-Person Cabin	2.10	15.0	31.5	6.0	189	60						129
611	1-Person Cabin	2.10	14.1	29.61	6.4	189	60						129
612	1-Person Cabin	2.10	14.1	29.61	6.9	205	60						145
613	2-Person Cabin	2.10	9.5	19.95	8.2	163	60						103
614	2-Person Cabin	2.10	9.5	19.95	8.2	163	60						103

	TITLE : HVAC HEAT LOAD CALCULATION		
	Project NO.	PROJECT NAME	SHEET NO
	M4001	GT1 NOBLE DRILLSHIP	11/15

AIR BALANCING TABLE for ACCOMMODATION

Room		Ceiling H (m)	Room Area (m ²)	Room Volume (m ³)	Final A/C Supply		Sanitary Exhaust	Mechanical Supply	Sundry Exhaust	Mechanical Exhaust	Natural Supply	Natural Exhaust	Return
NO.	Name				ch./h	Air volume							
615	2-Person Cabin	2.10	10.1	21.21	7.5	160	60						100
616	2-Person Cabin	2.10	10.1	21.21	8.6	182	60						122
617	2-Person Cabin	2.10	11.1	23.31	6.9	162	60						102
618	Conference Room	2.10	19.4	40.74	17.8	726							726
619	Stationary & Filing	2.10	13.3	27.93	6.1	169							169
620	2-Person Cabin	2.10	10.6	22.26	8.2	182	60						122
621	2-Person Cabin	2.10	10.6	22.26	7.2	160	60						100
622	2-Person Cabin	2.10	9.5	19.95	8.2	163	60						103
623	2-Person Cabin	2.10	9.5	19.95	8.2	163	60						103
624	1-Person Cabin	2.10	14.1	29.61	6.0	178	60						118
625	1-Person Cabin	2.10	14.1	29.61	6.4	189	60						129
626	2-Person Cabin	2.10	9.9	20.79	7.2	150	60						90
627	2-Person Cabin	2.10	9.9	20.79	6.3	132	60						72
628	2-Person Cabin	2.10	9.9	20.79	6.3	132	60						72
629	2-Person Cabin	2.10	9.9	20.79	6.3	132	60						72
630	2-Person Cabin	2.10	9.9	20.79	6.3	132	60						72
631	2-Person Cabin	2.10	9.9	20.79	6.3	132	60						72
632	2-Person Cabin	2.10	9.9	20.79	6.3	132	60						72
633	2-Person Cabin	2.10	9.9	20.79	7.2	150	60						90
634	Locker	2.10	12.3	25.83	6.0	155			155				
635	Locker	2.10	11.2	23.52	6.0	141			141				
651	Corridor	2.10	94.2	197.82	0.0								2403
652	Corridor	2.10	94.2	197.82	0.0								2403
653	Corridor	2.10	94.2	197.82	0.0								1026
661	Elevator	2.10	9.0	18.9	0.0								
662	Main Stairway	2.10	11.3	23.73	0.0								
	Lobby FWD-PORT	2.10	2.8	5.88	10.2	60						60	
	Lobby FWD-STBD	2.10	2.8	5.88	10.2	60						60	
	Lobby AFT-PORT	2.10	2.8	5.88	10.2	60						60	
	Lobby AFT-STBD	2.10	2.8	5.88	10.2	60						60	
	SUB. TOTAL					8228	1860	0	296	0	0	240	5832
													0
NAVIGATION DECK													
701	Wheel House	2.10	183.2	384.7	16.6	6400							6400
702	Emergency DP Console	2.10	17.2	36.1	23.5	850						850	
	No.1 Instrument Room	2.10	16.8	35.3	52.4	1850						1850	
703	Client Office No.2	2.10	29.2	61.3	8.4	515							515
704	Owner Office	2.10	29.2	61.3	8.6	527							527
705	Office No.1	2.10	15.0	31.5	7.0	222							222
706	Office No.2	2.10	15.0	31.5	7.0	222							222
707	Pantry	2.10	8.1	17.0	8.0	136			136				
708	Lavatory	2.10	8.1	17.0	15.0	255	255						
709	Locker	2.10	4.5	9.5	6.0	57			57				
751	Corridor	2.10	71.1	149.3	0.0								743
752	Corridor	2.10	71.1	149.3	0.0								743
761	Elevator	2.10	9.0	18.9	0.0								

	TITLE : HVAC HEAT LOAD CALCULATION		
Project NO.	PROJECT NAME		SHEET NO
M4001	GT1 NOBLE DRILLSHIP		12/15

AIR BALANCING TABLE for ACCOMMODATION

Room		Ceiling H (m)	Room Area (m ²)	Room Volume (m ³)	Final A/C Supply		Sanitary Exhaust	Mechanical Supply	Sundry Exhaust	Mechanical Exhaust	Natural Supply	Natural Exhaust	Return
NO.	Name				ch./h	Air volume							
762	Man Stairway	2.10	11.3	23.7	11.8	280						280	
	Lobby PORT	2.10	1.8	3.8	10.6	40						40	
	Lobby STBD	2.10	1.8	3.8	10.6	40						40	
	SUB. TOTAL					11394	255	0	193	0	0	3060	7886
													0
TOP DECK													
801	No.2 Instrument Room	2.10	33.6	70.56	52.4	3700						3700	
802	Form Room	2.10	13.4	28.14	0.0						170	170	
803	Battery/UPS Room	2.10	13.4	28.14	0.0					1500	1500		
804	Air Conditioning Plant Room	2.10	18.6	39.06	7.7	300						300	
808	Helicopter Wating Room	2.10	30.9	64.89	22.2	1440						290	1150
851	Corridor	2.10	17.3	36.33	17.9	650							650
	Lobby STBD	2.10	1.8	3.78	17.2	65						65	
	SUB. TOTAL					3700	0	0	0	1500	1670	3870	0
													0
	TOTAL					61,913	9,126	-	5,279	9,385	1,670	8,871	30,922

* RETURN AIR : 50%

(30,922 / 61,913)

* EXHAUST AIR : 30,991 m3/h

REV : F0

	TITLE : HVAC HEAT LOAD CALCULATION		
Project NO.	PROJECT NAME		SHEET NO
M4001	GT1 NOBLE DRILLSHIP		13/15

AIR BALANCING TABLE for PACU

Room		Ceiling H (m)	Room Area (m ²)	Room Volume (m ³)	Final A/C Supply		Sanitary Exhaust	Mechanical Supply	Sundry Exhaust	Mechanical Exhaust	Natural Supply	Natural Exhaust	Return
NO.	Name				ch/h	Air volume							
ACCOMMODATION													
214	Galley	2.10	76.8	161.3	20.5	3300				6600	3300		
701	Wheel House	2.10	183.2	384.7	16.6	6400							6400
702	Emer. DP Console	2.10	17.2	36.1	23.5	850						850	
710	NO1 Instrument Room	2.10	16.8	35.3	52.4	1850						1850	
801	NO2 Instrument Room	2.10	33.6	70.6	52.4	3700							3700
808	Helicopter Wating Room	2.10	31.5	66.2	21.8	1440						290	1150
804	A/C Plant Room	4.00	18.5	74.0	4.1	300						300	
851	Corridor	2.10	17.3	36.3	17.9	650							650
	Lobby	2.10	3.0	6.3	10.3	65						65	
MACHINERY													
			ch/h										
	Mechanical Workshop	2.10	53.7	112.8	21.3	2400		120				120	2280
	Switchboard Room1	2.10	100.8	211.7	45.4	9600		480				480	9120
	Switchboard Room2	2.10	100.8	211.7	44.4	9400		470				470	8930
	Switchboard Room3	2.10	80.6	169.3	57.9	9800		490				490	9310
	Switchboard Room4	2.10	80.6	169.3	58.5	9900		495				495	9405
	Engine Control Room	2.10	48.2	101.2	21.7	2200		110				110	2090
	Subsea Office	2.10	33.6	70.6	35.4	2500		125				125	2375

		TITLE : HVAC HEAT LOAD CALCULATION																			
Project NO.		PROJECT NAME																	SHEET NO		
M4001		GT1 NOBLE DRILLSHIP																	14/15		
LOAD CALCULATION SUMMARY										MACHINERY											
Column Number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	REMARK
Room No.	Room/Space	Height (m)	Room Floor Area (m ²)	Room Volume (m ³)	Lighting Gains Gain/m ² (w/m ²) Gain (w)		Elect. Gain (kw)	Occupants No. of Person Activity Level		Minimum Fresh Air Rate (CMH)	Minimum Air Change Rate (/Hr)	Minimum Airflow Rate (CMH)	Room Maximum Design Temp (Deg.C)	HVAC Calculation Results					Exhaust Airflow (CMH)	Return Airflow (CMH)	System
														Total Sensible Load (W)	Supply Air Temp. (Deg.C)	Room Actual Temp (Deg.C)	Supply Airflow (CMH)	Actual Air Change (/Hr)			
FWD MACHINERY																					
1	Bosun Store	6.10	190.50	1162.1	20	3810	30.0			6			45		38	45	15000	12.9	15000		M/S M/E
2	Incinerator Room	4.90	22.40	109.8	20	448	17.4			ISO8861			45		38	45	10600	96.6	10600		M/S N/E
3	Paint Store	3.20	10.10	32.3	20	202				20			45		38	45	650	20.1	650		N/S M/E
4	Sewage Treatment Plant Room	4.20	49.30	207.1	20	986				6			45		38	45	1300	6.3	1300		M/S M/E
5	CO2 Room	4.90	22.40	109.8	20	448				10			45		38	45	1000	9.1	1000		N/S M/E
6	Electrical Workshop	4.20	16.80	70.6	20	336				10			45		38	45	700	9.9	700		M/S M/E
7	F.W Plant Room1	4.20	67.60	283.9	20	1352	15.0			5			45		38	45	1500	5.3	1500		M/S M/E
8	F.W Plant Room2	4.20	67.60	283.9	20	1352	4.0			5			45		38	45	1500	5.3	1500		M/S M/E
9	Storage (PORT)	4.20	36.10	151.6	20	722				6			45		38	45	1500	9.9	1500		M/S M/E
10	Storage (STBD)	4.20	36.10	151.6	20	722				6			45		38	45	1500	9.9	1500		M/S M/E
11	FWD Thruster Room (PORT) (T-FP)	4.20	32.90	138.2	20	658	12.6			10			45		38	45	6000	43.4	6000		M/S M/E
12	FWD Thruster (PORT)	14.70	43.30	636.5	20	866	6.0			10			45		38	45	3730	5.9	3730		M/S M/E
13	FWD Thruster Room (CENTER) (T-FC)	4.20	44.20	185.6	20	884	20.88			10			45		38	45	9700	52.3	9700		M/S M/E
14	FWD Thruster (CENTER)	14.70	50.40	740.9	20	1008	6.0			10			45		38	45	3730	5.0	3730		M/S M/E
15	FWD Thruster Room (STBD) (T-FS)	4.20	32.90	138.2	20	658	12.4			10			45		38	45	6000	43.4	6000		M/S M/E
16	FWD Thruster (STBD)	12.60	43.30	545.6	20	866	6.0			10			45		38	45	3730	6.8	3730		M/S M/E
17	FWD Pump Room1	4.20	55.30	232.3	20	1106	47.2			10			45		38	45	21200	91.3	21200		M/S M/E
18	FWD Pump Room2	4.20	55.30	232.3	20	1106	45.9			10			45		38	45	21200	91.3	21200		M/S M/E
HULL MACHINERY																					
19	Welding Area	4.90	16.80	82.3	20	336				ISO8861			45		38	45	900	10.9	900		N/S M/E
20	Sack Store	4.20	311.40	1307.9	20	6228	0.6			6			45		38	45	8000	6.1	8000		M/S M/E
21	Trip Tank Pumps	4.20	47.00	197.4	20	940	19.5			10			45		38	45	9000	45.6	9000		M/S N/E
22	Transformer (Upper-TW, PORT)	4.20	23.50	98.7	20	470	6.0			6			45		38	45	3000	30.4	3000		M/S M/E
23	Transformer (Upper-TW,STBD)	4.20	23.50	98.7	20	470	6.0			6			45		38	45	3000	30.4	3000		M/S M/E
24	Hazardous Store	4.20	16.80	70.6	20	336				12			45		38	45	900	12.8	900		N/S M/E
25	B.O.P HPU ROOM	4.20	71.68	301.1	20	1434				20			45		38	45	12800	42.5	12800		M/S N/E
26	Mud Pump Room	8.40	394.20	3311.3	20	7884	263.0			20			45		38	45	119000	35.9	119000		M/S M/E
27	Active Mud Tank Vent & Reserve Mud Tank Vent	4.00	134.40	537.6	20	2688				20			45		38	45	16500	30.7	16500		M/S M/E
28	Pump Room	4.20	224.00	940.8	20	4480	73.0			10			45		38	45	34000	36.1	34000		M/S M/E
29	HPR (PORT)	12.60	15.70	197.8	20	314	3.0			20			45		38	45	4200	21.2	4200		M/S M/E
30	HPR (STBD)	12.60	15.70	197.8	20	314	3.0			20			45		38	45	4200	21.2	4200		M/S M/E
31	Silo (PORT)	12.60	54.90	691.7	20	1098				5			45		38	45	5910	8.5	5910		M/S N/E
32	Transformer (Middle, PORT)	4.20	23.50	98.7	20	470	6.0			6			45		38	45	3000	30.4	3000		M/S M/E
33	Transformer (Middle, STBD)	4.20	23.50	98.7	20	470	6.0			6			45		38	45	3000	30.4	3000		M/S M/E
34	N2 Generator Room	4.20	47.00	197.4	20	940	40.0			10			45		38	45	2500	12.7	2500		M/S N/E
35	Silo (STBD)	12.60	54.90	691.7	20	1098				5			45		38	45	5910	8.5	5910		M/S N/E
36	No.1 AFT Pump Room	4.20	87.58	367.8	20	1752	35.85			10			45		38	45	16500	44.9	16500		M/S M/E
37	Mud MCC Room (PORT)	4.20	23.52	98.8	20	470	4.8			6			45		38	45	2400	24.3	2400		M/S M/E
38	Mud MCC Room (STBD)	4.20	23.52	98.8	20	470	3.35			6			45		38	45	2200	22.3	2200		M/S M/E
39	Mud Pump Mcc Room	4.20	23.52	98.8	20	470	3.5			6			45		38	45	2200	22.3	2200		M/S M/E
40	Elevator Machinery Room	4.20	21.28	89.4	20	426				3			45		38	45	250	2.8	250		M/S M/E



TITLE :		HVAC HEAT LOAD CALCULATION																	
Project NO.	PROJECT NAME																		SHEET NO
M4001	GT1 NOBLE DRILLSHIP																		15/15

LOAD CALCULATION SUMMARY

MACHINERY

		INPUT																			REMARK
Column Number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Room No.	Room/Space	Height	Room Floor Area	Room Volume	Lighting Gains		Elect. Gain	Occupants		Minimum Fresh Air Rate	Minimum Air Change Rate	Minimum Airflow Rate	Room Maximum Design Temp	HVAC Calculation Results					Exhaust Airflow	Return Airflow	System
					Gain/m2 (w/m2)	Gain (w)		No. of Person	Activity Level					Total Sensible Load (W)	Supply Air Temp. (Deg C)	Room Actual Temp (Deg.C)	Supply Airflow (CMH)	Actual Air Change (/Hr)			
41	Subsea Winch Room	4.20	274.29	1152.0	20	5486	80.00			6			46		38	46	32000	27.8	32000		M/S M/E
42	ROV Winch Room(PORT)	4.20	145.60	611.5	20	2912				6			45		38	45	3700	6.1	3700		M/S N/E
43	ROV Winch Room(STBD)	4.20	145.60	611.5	20	2912				6			45		38	45	3700	6.1	3700		M/S N/E
AFT MACHINERY																					
44	Riser Holder	16.40	573.40	9403.8	20	11468				5			45		38	45	33260	3.5	33260		M/S M/E
45	AFT Compressor Room	4.20	322.50	1354.5	20	6450	186.74			10			45		38	45	93000	68.7	93000		M/S M/E
46	Local Equipment Room (PORT)	4.20	28.04	117.8	20	561	7.3			20			45		38	45	4200	35.7	4200		M/S M/E
47	Local Equipment Room (STBD)	4.20	28.04	117.8	20	561	7.2			20			45		38	45	4200	35.7	4200		M/S M/E
48	AFT Thruster Room (PORT)	Z-001-B	4.20	55.40	232.7	20	1108	16.6		10			45		38	45	7800	33.5	7800		M/S M/E
49	AFT Thruster (PORT)		10.00	55.00	550.0	20	1100	6.48		10			45		38	45	5600	10.2	5600		M/S M/E
50	AFT Thruster Room (CENTER)	Z-001-A	4.20	50.40	211.7	20	1008	9.4		10			45		38	45	4600	21.7	4600		M/S M/E
51	AFT Thruster (CENTER)		10.00	50.40	504.0	20	1008	6.0		10			45		38	45	5000	9.9	5000		M/S M/E
52	AFT Thruster Room (STBD)	Z-001-C	4.20	55.40	232.7	20	1108	16.4		10			45		38	45	7800	33.5	7800		M/S M/E
53	AFT Thruster (STBD)		10.00	55.40	554.0	20	1108	6.48		10			45		38	45	5600	10.1	5600		M/S M/E
54	AFT Thruster Room Access (Upper TW)		4.20	37.63	158.0	20	753	7.48		10			45		38	45	3700	23.4	3700		M/S M/E
55	AFT Thruster Room Access (MIDDLE TW)		4.20	37.63	158.0	20	753	4.0		10			45		38	45	2100	13.3	2100		M/S M/E
56	No.2 AFT Pump Room		16.00	44.80	716.8	20	896	10.23		10			45		38	45	5300	7.4	5300		M/S N/E