



PLANT MATERIAL BALANCE
KMOLES/HOUR

GAS COMPONENT	DESIGN STABLE CONDENSATE OPERATION															TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
N ₂	77.99	77.99	0.00	77.92	0.07	77.90	0.02	76.21	2.69	76.21	1.89	1.00	1.09	0.02	0.00	77.99
CO ₂	55.21	55.21	0.00	27.61	28.41	27.51	0.10	26.55	0.96	26.55	0.66	0.35	28.00	0.10	0.00	55.21
H ₂ S	5.90	5.90	0.00	0.00	6.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.90	0.00	0.00	5.90
C ₁	1383.81	1383.81	0.00	1380.51	1.65	1378.72	1.79	1331.21	47.61	1331.21	29.81	17.71	22.79	1.73	0.00	1383.81
C ₂	76.68	76.68	0.00	76.66	0.12	75.73	0.82	73.12	2.61	73.12	1.66	0.98	1.90	0.79	0.00	76.68
C ₃	20.97	20.97	0.00	20.75	0.22	19.76	0.99	19.08	0.68	19.08	0.44	0.25	1.45	0.95	0.00	20.97
iC ₄	6.88	6.88	0.00	6.81	0.07	5.94	0.86	5.74	0.20	5.74	0.12	0.08	1.01	0.83	0.01	6.88
nC ₄	5.41	5.41	0.00	5.34	0.07	4.33	1.01	4.18	0.15	4.18	0.10	0.05	1.07	0.92	0.06	5.41
iC ₅	1.80	1.80	0.00	1.77	0.03	1.04	0.73	1.00	0.03	1.00	0.02	0.01	0.14	0.10	0.64	1.80
nC ₅	1.47	1.47	0.00	1.43	0.04	0.73	0.70	0.67	0.02	0.67	0.01	0.01	0.07	0.01	0.72	1.47
C ₆	0.98	0.98	0.00	0.92	0.07	0.73	0.14	0.01	0.14	0.01	0.00	0.00	0.07	0.00	0.76	0.98
C ₇₊	1.31	1.31	0.00	1.12	0.19	0.08	1.05	0.05	0.00	0.05	0.00	0.00	0.18	0.00	1.08	1.31
TOTAL	1638.42	1638.42	0.00	1600.75	37.67	1591.93	8.82	1536.95	54.98	1536.95	34.53	20.45	63.67	5.45	3.27	1638.42
MMSCFD	33.0	33.0	---	32.24	0.76	32.06	0.18	30.96	1.11	30.96	0.70	0.41	1.29	0.11	0.07	---
10 ⁶ M ³ /DAY	934.5	934.5	---	913.0	21.5	908.0	5.0	876.6	31.4	876.6	19.7	11.7	36.4	3.1	1.9	---
BAR/DAY	---	---	---	---	---	---	---	---	---	---	---	---	---	---	61.1	---
M/DAY	---	---	---	---	---	---	---	---	---	---	---	---	---	---	9.7	---
PSIA	430	430	---	420	6	400	410	400	400	1200	100	100	5	70	12	---
KPa	2965	2965	---	2896	41	2758	2827	2758	2758	8274	690	690	34	483	83	---
'F	60	60	---	80	70	70	-20	70	70	90	55	55	65	58	100	---
'C	16	16	---	27	21	21	-29	21	21	32	13	13	18	14	38	---

GAS COMPONENT	TYPICAL STABLE CONDENSATE OPERATION															TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
N ₂	31.67	31.67	0.00	31.64	0.03	31.63	0.01	30.64	1.09	30.64	0.69	0.41	0.44	0.01	0.00	31.67
CO ₂	22.42	22.42	0.00	11.21	11.54	11.17	0.04	10.78	0.39	10.78	0.27	0.14	11.37	0.04	0.00	22.42
H ₂ S	2.40	2.40	0.00	0.00	2.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.40	0.00	0.00	2.40
C ₁	561.91	561.91	0.00	560.57	0.67	559.84	0.73	540.55	19.33	540.55	12.10	7.19	9.25	0.70	0.00	561.91
C ₂	31.14	31.14	0.00	31.09	0.05	30.76	0.33	29.69	1.06	29.69	0.67	0.40	0.77	0.32	0.00	31.14
C ₃	8.52	8.52	0.00	8.43	0.09	8.03	0.40	7.75	0.28	7.75	0.18	0.10	0.59	0.39	0.00	8.52
iC ₄	2.79	2.79	0.00	2.77	0.03	2.41	0.36	2.33	0.08	2.33	0.06	0.03	0.41	0.34	0.00	2.79
nC ₄	2.20	2.20	0.00	2.17	0.03	1.76	0.41	1.70	0.06	1.70	0.04	0.02	0.43	0.37	0.02	2.20
iC ₅	0.73	0.73	0.00	0.72	0.01	0.42	0.29	0.41	0.01	0.41	0.01	0.00	0.06	0.04	0.26	0.73
nC ₅	0.60	0.60	0.00	0.58	0.02	0.29	0.29	0.27	0.01	0.27	0.00	0.00	0.03	0.00	0.29	0.60
C ₆	0.40	0.40	0.00	0.37	0.03	0.08	0.30	0.06	0.00	0.06	0.00	0.00	0.03	0.00	0.31	0.40
C ₇₊	0.63	0.53	0.00	0.46	0.08	0.03	0.42	0.02	0.00	0.02	0.00	0.00	0.07	0.00	0.44	0.63
TOTAL	665.30	665.30	0.00	650.00	15.30	646.42	3.58	624.09	22.33	624.09	14.02	8.31	25.85	2.21	1.33	665.30
MMSCFD	13.4	13.4	---	13.09	0.31	13.02	0.07	12.57	0.45	12.57	0.28	0.17	0.52	0.04	0.03	---
10 ⁶ M ³ /DAY	379.5	379.5	---	370.7	8.7	368.7	2.0	356.0	12.7	356.0	8.0	4.7	14.8	1.3	0.8	---
BAR/DAY	---	---	---	---	---	---	---	---	---	---	---	---	---	---	24.8	---
M/DAY	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3.9	---
PSIA	430	430	---	420	6	400	410	400	400	1200	100	100	5	70	12	---
KPa	2965	2965	---	2896	41	2758	2827	2758	2758	8274	690	690	34	483	83	---
'F	60	60	---	80	70	70	-20	70	70	90	55	55	65	58	100	---
'C	16	16	---	27	21	21	-29	21	21	32	13	13	18	14	38	---

GAS COMPONENT	TYPICAL STABLE CONDENSATE OPERATION															TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
N ₂	31.67	31.67	0.00	31.64	0.03	31.63	0.01	30.64	1.09	30.64	0.69	0.41	0.44	0.01	0.00	31.67
CO ₂	22.42	22.42	0.00	11.21	11.54	11.17	0.04	10.78	0.39	10.78	0.27	0.14	11.37	0.04	0.00	22.42
H ₂ S	2.40	2.40	0.00	0.00	2.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.40	0.00	0.00	2.40
C ₁	561.91	561.91	0.00	560.57	0.67	559.84	0.73	540.55	19.33	540.55	12.10	7.19	9.25	0.70	0.00	561.91
C ₂	31.14	31.14	0.00	31.09	0.05	30.76	0.33	29.69	1.06	29.69	0.67	0.40	0.77	0.32	0.00	31.14
C ₃	8.52	8.52	0.00	8.43	0.09	8.03	0.40	7.75	0.28	7.75	0.18	0.10	0.59	0.39	0.00	8.52
iC ₄	2.79	2.79	0.00	2.77	0.03	2.41	0.36	2.33	0.08	2.33	0.06	0.03	0.41	0.34	0.00	2.79
nC ₄	2.20	2.20	0.00	2.17	0.03	1.76	0.41	1.70	0.06	1.70	0.04	0.02	0.43	0.37	0.02	2.20
iC ₅	0.73	0.73	0.00	0.72	0.01	0.42	0.29	0.41	0.01	0.41	0.01	0.00	0.06	0.04	0.26	0.73
nC ₅	0.60	0.60	0.00	0.58	0.02	0.29	0.29	0.27	0.01	0.27	0.00	0.00	0.03	0.00	0.29	0.60
C ₆	0.40	0.40	0.00	0.37	0.03	0.08	0.30	0.06	0.00	0.06	0.00	0.00	0.03	0.00	0.31	0.40
C ₇₊	0.63	0.53	0.00	0.46	0.08	0.03	0.42	0.02	0.00	0.02	0.00	0.00	0.07	0.00	0.44	0.63
TOTAL	665.30	665.30	0.00	650.00	15.30	646.42	3.58	624.09	22.33	624.09	14.02	8.31	25.85	2.21	1.33	665.30
MMSCFD	13.4	13.4	---	13.09	0.31	13.02	0.07	12.57	0.45	12.57	0.28	0.17	0.52	0.04	0.03	---
10 ⁶ M ³ /DAY	379.5	379.5	---	370.7	8.7	368.7	2.0	356.0	12.7	356.0	8.0	4.7	14.8	1.3	0.8	---
BAR/DAY	---	---	---	---	---	---	---	---	---	---	---	---	---	---	24.8	---
M/DAY	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3.9	---
PSIA	430	430	---	420	6	400	410	400	400	1200	100	100	5	70	12	---
KPa	2965	2965	---	2896	41	2758	2827	2758	2758	8274	690	690	34	483	83	---
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'C	16	16	---	27	21	21	-29	21	21	32	13	13	18	14	38	---

DWG. NO.	REFERENCE DRAWING	REV.	BY	DESCRIPTION	DATE	APP'D
		A	BY	ISSUED FOR REVIEW	OCT-28-04	D.W.

PROJECT:	SIGNALTA RESOURCES LIMITED FORESTBURG GAS PLANT	
DRAWN:	J.T.H.	DATE: OCTOBER-2004
CHECKED:	K.O.	DATE: OCTOBER-2004
APPROVED:	D.W.	DATE: OCTOBER-2004
N.T.S. SCALE:	1540	
PROJECT NO.		

CUSTOMER:	SIGNALTA RESOURCES LIMITED	
TITLE:	PLANT MATERIAL BALANCE	

SIGMA 3 ENGINEERING LIMITED
CONSULTING ENGINEERS
EDMONTON ALBERTA

DRAWING NO. **D-M-101**