

## Ras Gas /CPC Second Correlation Test (Part-A)

Minutes of Meeting / Activities :  
RasGas Company Limited - Laboratory  
April 8<sup>th</sup> & 9<sup>th</sup> 2008

CPC Representative and RasGas Laboratory Team have agreed to the process of conducting part "A" of the correlation test.

Presents:

Mr. Chiang, Chien Chang	Manager/Technical Dep./Taichung	CPC
Ms. Chen, Hsiao Chi	Superintendent / Lab. / Taichung	CPC
Mr. Hung, Hsien-Jung	Superintendent / Lab. / Yung-An	CPC
Mr. Chuck Chen	Advisor / Taiwan	ExxonMobil
Mr. Darwish Shala	Head of Lab.	RasGas
Mr. Mohammad Eid	Chief Chemist	RasGas
Mr. Dendi Hadiat	Lab. Supervisor	RasGas
Mr. Ghanim A. Al-Shahwani	Head of LNG (East Suez) C&S	RasGas
Capt. Narinder Bhalla	Manager ( Surveyor ),	SGS / QATAR

Three Gas Chromatographs were used, Varian GCs system 10, 12&13. The Calibration Gas Mixture and the test Sample were analyzed in the three GCs.

RasGas / CPC Correlation Test Part "A" was Completed Successfully in RasGas Laboratory on Apr 9th, 2008.

Details of Gas Chromatographs:

	<u>Model</u>	<u>Serial No.</u>
1- Varian GC system-10	CP-3800	103806
2- Varian GC system-12	CP-3800	104448
3- Varian GC system-13	CP-3800	104447

The Correlation Test Samples were sealed again after measuring the pressure by SGS Surveyor as follows:

	<u>Cylinder no.</u>	<u>Seal no.</u>	<u>Pressure</u>
Sample -1	BB 5078	BB 640420	5.5 Barg.
Sample -2	BE 5023	BB 640421	6.0 Barg

RasGas Laboratory has enhanced a minor components integration at all GCs, to improve performance repeatability. During the meeting, the two teams have reviewed the quality measurements and performance in general for the comings, continuous cooperation and smooth communication channels are presenting a great deal of satisfaction. On completion of analysis, all parties signed the gas chromatograms, the comparison sheet and the correlation report which shows the successive repeatability for the three GCs as per GPA 2261.

The week of 14<sup>th</sup> April , 2008 is agreed for completing part "B" of the Correlation Test for 2008 at CPC / Taiwan in Yung-An and Taichung receiving terminals respectively.

*Chiang, Chien Chang*



Mr. Chiang, Chien Chang

For CPC / TAIWAN

*Moh'd Eid*

Mr. Darwish Shala,

For RasGas Co. Ltd.

*for: / ni*

Capt. Narinder Bhalla,

For SGS (Surveyor)



**UPDATE GREEN SHADED CELLS**

**LOG SHEET FOR CORRELATION TEST**

<b>SAMPLE</b>	REFERENCE STANDARD GAS
<b>CYLINDER No.</b>	8702186
<b>Correlation Test No.</b>	
<b>LOCATION</b>	RAS GAS LAB / VAR. SYS-13
<b>GC- MODEL</b>	VARIAN CP-3800
<b>GC- SERIAL No.</b>	104447
<b>DATE CERTIFIED</b>	11-May-07
<b>SAMPLED BY</b>	
<b>ANALYSIS DATE</b>	8-Apr-08
<b>ANALYST</b>	Dendi Hadiat
<b>ANALYSIS METHOD</b>	GC, GPA 2281
	RasGas Lean LNG (Sample No-1)
	BE 5076 (Seal No: BB/607422)
	2
	RAS GAS LAB / VAR / SYS-13
	VARIAN CP-3800
	104447
	8-Apr-08
	RasGas
	8-Apr-08
	Dendi Hadiat
	GC, GPA 2281

COMPONENT	CERTIFICATE MOL% A	COUNT 1			COUNT 2			DIFF RESPONSE FACTOR H=(D-G)*100/I	AVERAGE RESPONSE FACTOR I=(D+G)/2	SAMPLE PRESSURE J	PEAK AREA K	MOL% L=M/KJ	SAMPLE PRESSURE M	PEAK AREA N	MOL% O=N/M	DIFF MOL% P=(L-O)*100/Q	TEST RESULT UNORMALIZED VALUE Q=(L+O)/2	TEST RESULT (MOL%) REPORTED VALUE
		PEAK AREA C	RESPONSE FACTOR D=A*B/C	SAMPLE PRESSURE E(mmHg)	PEAK AREA F	RESPONSE FACTOR G=A*E/F												
O2	0.0000	0	0	760	0	0	0	0	760	0	0	760	0	0	0	0.000	0.00	
N2	0.7000	0.0154732	0.0154732	760	34263	0.01552695	0.35	0.015500083	760	34850	0.710760385	760	34871	0.711188677	0.06	0.711	0.71	
CH4	92.4666	0.0179086	0.0179086	760	5922868	0.01791471	0.05	0.017910647	760	5922964	92.45108107	760	5929968	92.61614182	0.18	92.534	93.06	
CO2	0.1200	0.0179568	0.0179568	760	5074	0.01797999	0.10	0.017965138	760	0	0	760	0	0	0	0.000	0.00	
C2H6	0.0000	0.0137121	0.0137121	760	332506	0.01371404	0.01	0.013713049	760	328646	5.929919138	760	329208	5.940059574	0.17	5.935	5.97	
C6H14*	0.0000	0	0	760	0	0	0	0	760	0	0	760	0	0	0	0.000	0.00	
C3H8	0.5000	0.0001071	0.0001071	760	5555199	0.00010689	0.19	0.000106988	760	543064	0.259454174	760	1844416	0.259644499	0.07	0.260	0.26	
I-C4H10	0.0151	8.417E-05	8.417E-05	760	6654	8.3078E-05	1.31	8.38244E-05	760	6541	0.000697714	760	5064	0.00057203	-	0.001	0.00	
N-C4H10	0.1500	8.483E-05	8.483E-05	760	134723	8.465E-05	0.22	8.4741E-05	760	5943	0.000662853	760	6561	0.000731561	-	0.001	0.00	
I-C5H12	0.0150	6.554E-05	6.554E-05	760	174109	6.5478E-05	0.10	6.55088E-05	760	0	0	760	0	0	-	0.000	0.00	
N-C5H12	0.0150	6.591E-05	6.591E-05	760	172607	6.6046E-05	0.20	6.59797E-05	760	0	0	760	0	0	-	0.000	0.00	
<b>TOTAL</b>	<b>99.9849</b>				<b>9881484</b>					<b>6141808</b>	<b>99.35257513</b>		<b>6150088</b>	<b>99.52832333</b>		<b>99.442</b>	<b>100.00</b>	
<b>HHV(BTU/SCF)</b>																		

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**SGS QATAR**

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# RasGas Company Limited Laboratory

## CORRELATION TEST - COMPARISON OF RESULTS

Sample	: RasGas Lean LNG (Sample No-1)
Correlation Test Cyl. No.	: BE 5078 (Seal No: BB 607422)
Location	: RasGas / Laboratory
Analysis Date	: 8-Apr-2008
Analyst	: Dendi Hadiat
Analysis Method	: GC, GPA 2261

COMPONENT	Unit	Gas Chromatograph Nos.			DIFFERENCE			CorrelationLimit*
		VAR. No. 10 (A)	VAR. No. 12 (B)	VAR. No. 13 (C)	(A)-(B)	(A)-(C)	(B)-(C)	
CH4	% MOL	93.06	93.06	93.06	0.00	0.00	0.00	0.30
C2H6	% MOL	5.97	5.97	5.97	0.00	0.00	0.00	0.10
C3H8	% MOL	0.26	0.26	0.26	0.00	0.00	0.00	0.05
I-C4H10	% MOL	0.00	0.00	0.00	0.00	0.00	0.00	0.03
N-C4H10	% MOL	0.00	0.00	0.00	0.00	0.00	0.00	0.03
I-C5H12	% MOL	0.00	0.00	0.00	0.00	0.00	0.00	0.03
N-C5H12	% MOL	0.00	0.00	0.00	0.00	0.00	0.00	0.03
C6H14	% MOL	0.00	0.00	0.00	0.00	0.00	0.00	0.00
N2	% MOL	0.71	0.71	0.71	0.00	0.00	0.00	0.03
CO2	% MOL	0.00	0.00	0.00	0.00	0.00	0.00	0.03
O2	% MOL	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>TOTAL</b>	<b>% MOL</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

# Lean LNG Standard - Certificate

 **Scott Specialty Gases**

**Certificate of Accuracy**

RAS LAFFAN LNG COMPANY LIMITED PO No. 4500041182

CAS Reg. Component No.	Component	Certified Analysis
105-97-8	N-BUTANE	0,150 PCT/
124-38-9	CARBON DIOXIDE	0,120 PCT/
74-84-0	ETHANE	0,0 PCT/
75-28-5	ISOBUTANE	151, PPM/
78-78-4	ISOPENTANE	150, PPM/
463-82-1	NEOPENTANE	151, PPM/
7727-97-9	NITROGEN	0,78 PCT/
109-66-0	N-PENTANE	150, PPM/
74-98-6	PROPANE	0,50 PCT/
74-82-0	METHANE	BAL.

CONTINUED FROM OTHER SIDE

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CERTIFIED ANALYSIS LABEL

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RASGAS MATERIAL NUMBER 1535436

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Analysis Date 11May2007	Project No: 20-04069
Analyst R.M. VAN DER LINDEN	Cylinder # 9702186
Expiration Date 10May2010	Item No: 2002N000362P10

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Grade CERTIFIED MASTER CLASS

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Reorder/Service Contact 076-5711829 THE NETHERLANDS



Data File: c:\sys\_10 results\cpc correlation 2008\lean lng std002.run



Sample ID: LEAN LNG STD

Run Mode: Analysis

Operator (Inj): DENDI HADIAT

Peak Measurement: Peak Area

Injection Notes: 760 mmHg

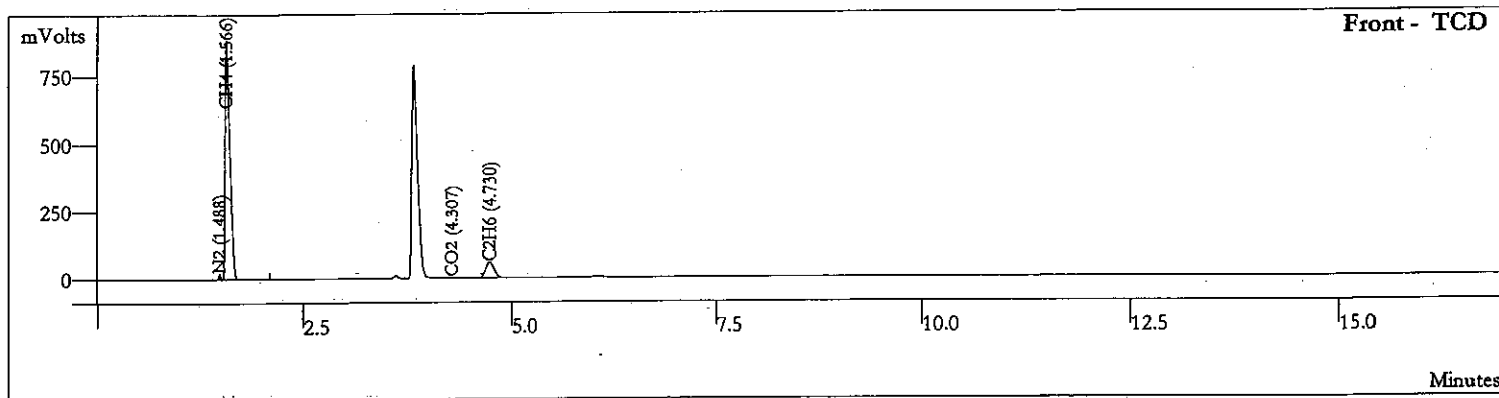
Peak Area External Std.

Injection Date: 04/08/2008 08:30:28 AM

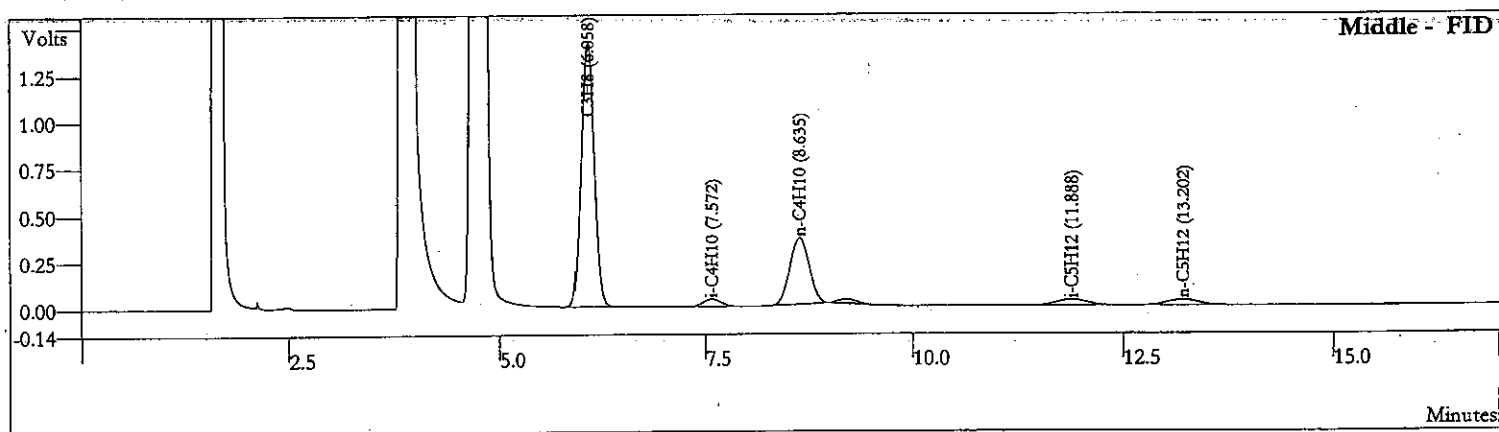
Injection Method: c:\sys\_10 methods\apr08\_sys10.mth

Instrument (Inj): SYS\_10

Calculation Method: c:\sys\_10 methods\apr08\_sys10.mth



Peak No	Peak Name	Ret. Time (min)	Area (counts)	Result (mole %)
1	N2	1.488	30690	0.7022
2	CH4	1.566	3523984	92.7263
3	CO2	4.307	5403	0.1201
4	C2H6	4.730	391749	6.0164
Totals			3951826	99.5650



Peak No	Peak Name	Ret. Time (min)	Area (counts)	Result (mole %)
1	C3H8	6.058	15146992	0.4961
2	i-C4H10	7.572	601144	0.0150
3	n-C4H10	8.635	5803274	0.1490
4	i-C5H12	11.888	775488	0.0149
5	n-C5H12	13.202	771990	0.0149
Totals			23098888	0.6899

**SGS QATAR**

Data File: c:\sys\_10 results\cpc correlation 2008\lean lng std003.run



Sample ID: LEAN LNG STD

Run Mode: Analysis

Operator (Inj): DENDI HADIAT

Peak Measurement: Peak Area

Injection Notes: 760 mmHg

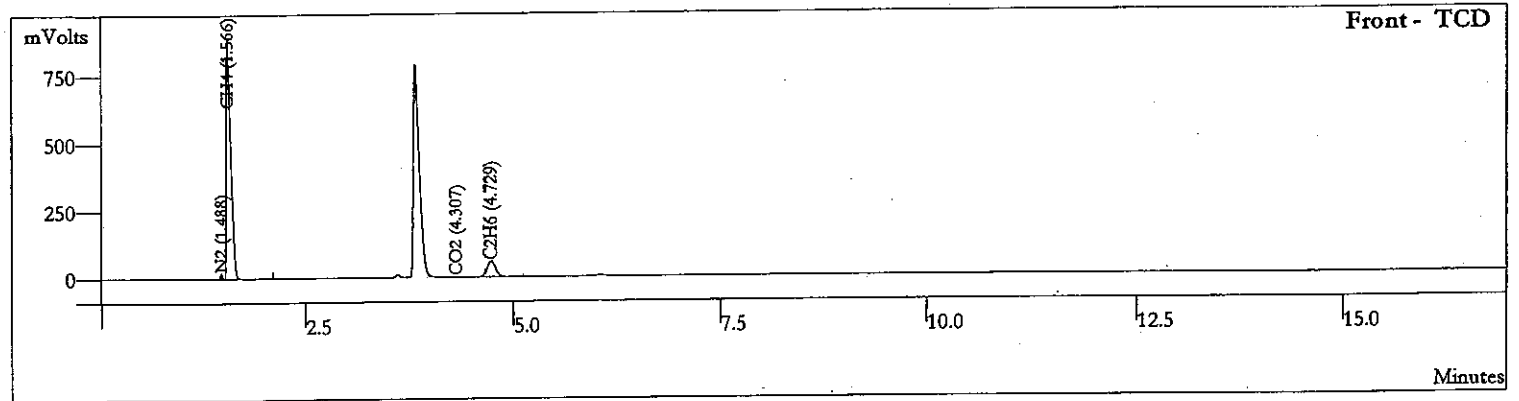
Peak Area External Std.

Injection Date: 04/08/2008 08:49:47 AM

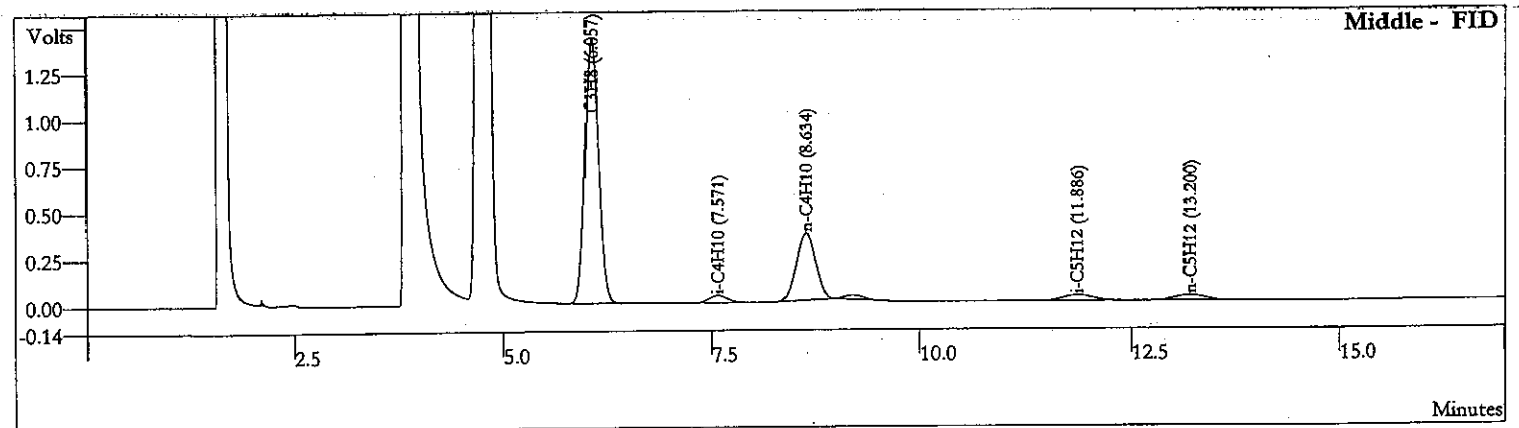
Injection Method: c:\sys\_10 methods\apr08\_sys10.mth

Instrument (Inj): SYS\_10

Calculation Method: c:\sys\_10 methods\apr08\_sys10.mth



Peak No	Peak Name	Ret. Time (min)	Area (counts)	Result (mole %)
1	N2	1.488	30606	0.7003
2	CH4	1.566	3526256	92.7861
3	CO2	4.307	5431	0.1208
4	C2H6	4.729	393084	6.0369
	<b>Totals</b>		<b>3955377</b>	<b>99.6441</b>



Peak No	Peak Name	Ret. Time (min)	Area (counts)	Result (mole %)
1	C3H8	6.057	15187114	0.4974
2	i-C4H10	7.571	602322	0.0150
3	n-C4H10	8.634	5807526	0.1491
4	i-C5H12	11.886	776245	0.0149
5	n-C5H12	13.200	771366	0.0149
	<b>Totals</b>		<b>23144574</b>	<b>0.6913</b>

Handwritten signatures and the SGS QATAR logo are present at the bottom of the page.



Data File: c:\sys\_10 results\cpc correlation 2008\llng sample no-1002.run



Sample ID: LLNG SAMPLE NO-1

Run Mode: Analysis

Operator (Inj): DENDI HADIAT

Peak Measurement: Peak Area

Injection Notes: 760 mmHg

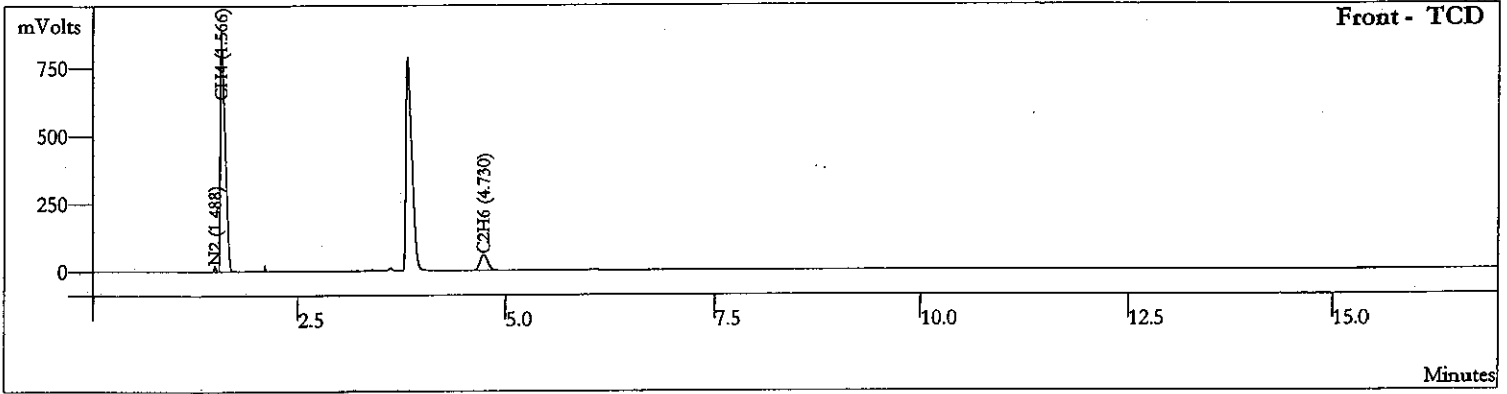
Peak Area External Std.

Injection Date: 04/08/2008 11:46:11 AM

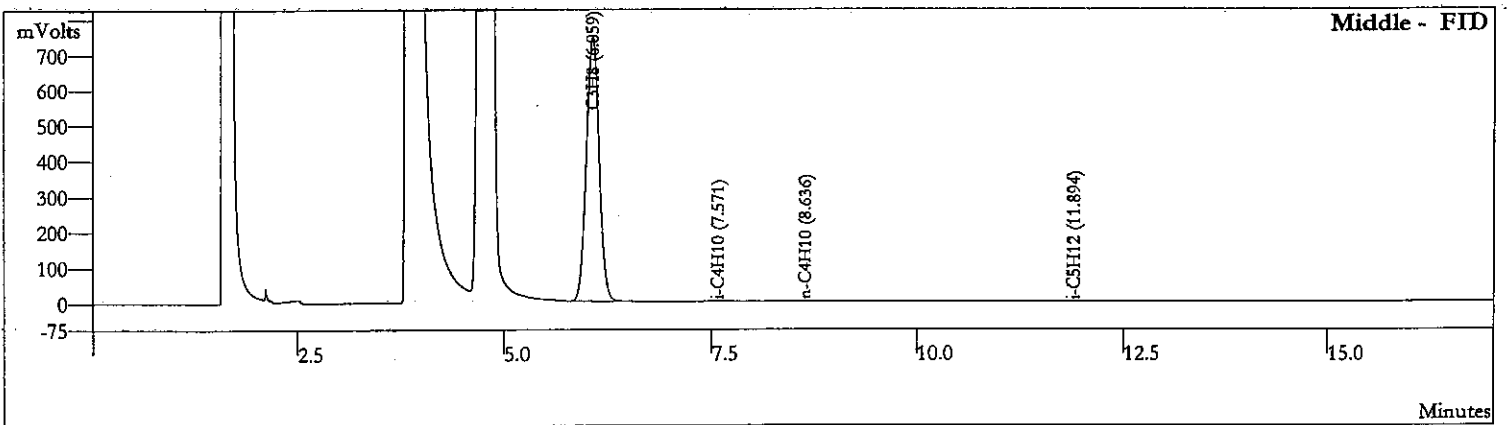
Injection Method: c:\sys\_10 methods\apr08\_sys10.mth

Instrument (Inj): SYS\_10

Calculation Method: c:\sys\_10 methods\apr08\_sys10.mth



Peak No	Peak Name	Ret. Time (min)	Area (counts)	Result (mole %)
1	N2	1.488	31080	0.7111
2	CH4	1.566	3532593	92.9529
3	C2H6	4.730	388559	5.9674
Totals			3952232	99.6314



Peak No	Peak Name	Ret. Time (min)	Area (counts)	Result (mole %)
1	C3H8	6.059	7963634	0.2608
2	i-C4H10	7.571	28336	0.0007
3	n-C4H10	8.636	27307	0.0007
4	i-C5H12	11.894	3043	0.0001
Totals			8022320	0.2623

**SGS QATA**

Data File: c:\sys\_10 results\cpc correlation 2008\llng sample no-1003.run



Sample ID: LLNG SAMPLE NO-1

Run Mode:

Analysis

Operator (Inj): DENDI HADIAT

Peak Measurement:

Peak Area

Injection Notes: 760 mmHg

Peak Area

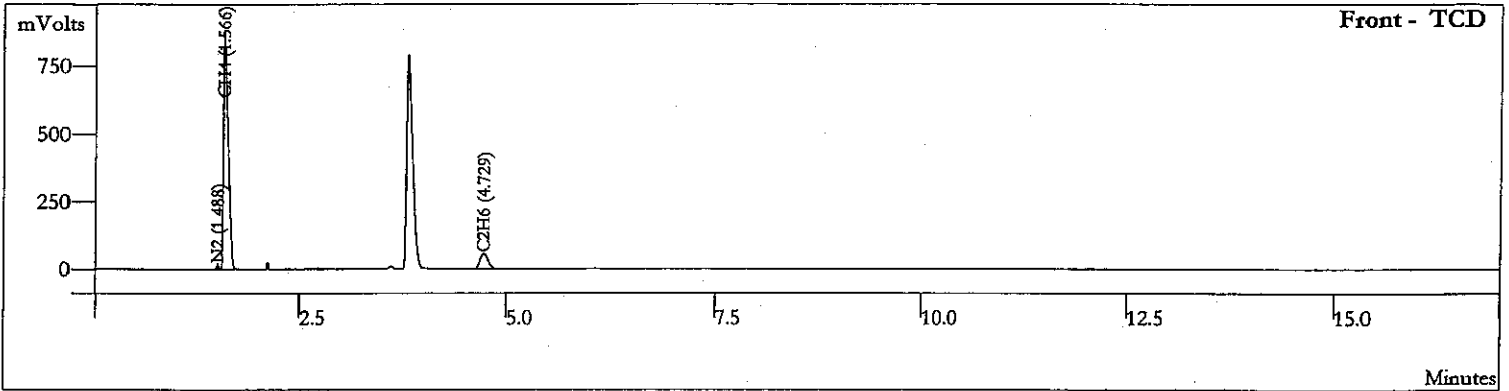
External Std.

Injection Date: 04/08/2008 12:05:33 PM

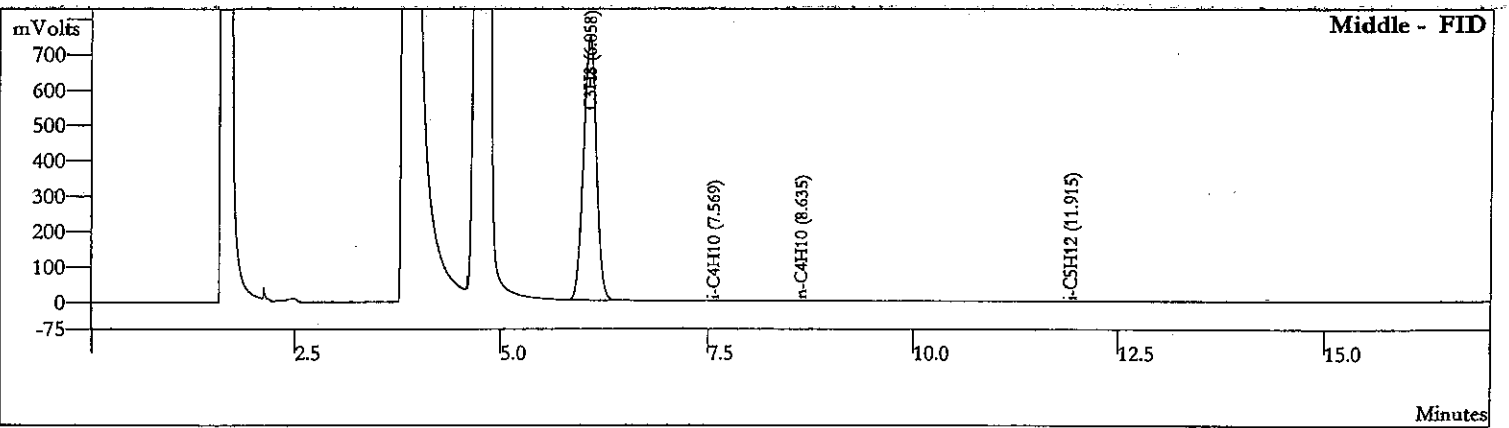
Injection Method: c:\sys\_10 methods\apr08\_sys10.mth

Instrument (Inj): SYS\_10

Calculation Method: c:\sys\_10 methods\apr08\_sys10.mth



Peak No	Peak Name	Ret. Time (min)	Area (counts)	Result (mole %)
1	N2	1.488	30966	0.7085
2	CH4	1.566	3535753	93.0360
3	C2H6	4.729	388889	5.9725
Totals			3955608	99.7170



Peak No	Peak Name	Ret. Time (min)	Area (counts)	Result (mole %)
1	C3H8	6.058	7967956	0.2610
2	i-C4H10	7.569	28253	0.0007
3	n-C4H10	8.635	26657	0.0007
4	i-C5H12	11.915	1952	0.0000
Totals			8024818	0.2624

IGS QATAR

UPDATE GREEN SHADED CELLS

LOG SHEET FOR CORRELATION TEST

SAMPLE	REFERENCE STANDARD GAS	
CYLINDER No.	9702186	Ras Gas Lab (Sample No-1) BE 6078 (Serial No. BE 607422)
Correlation Test No.		2
LOCATION	RAS GAS LAB / VAR. SYS-12	RAS GAS LAB / VAR / SYS-12
GC- MODEL	VARIAN CP-3800	VARIAN CP-3800
GC- SERIAL No.	104448	104448
DATE CERTIFIED	11-May-07	8-Apr-08
SAMPLED BY	SCOTT SPECIALITY GASES	Rasgas
ANALYSIS DATE	8-Apr-08	8-Apr-08
ANALYST	Dendi Hadati	Dendi Hadati
ANALYSIS METHOD	GC, GPA 2281	GC, GPA 2281

COMPONENT	CERTIFICATE MOL.%	SAMPLE PRESSURE (BmmHg)	COUNT 1			DIFF RESPONSE FACTOR	AVERAGE RESPONSE FACTOR	DIFF RESPONSE FACTOR	AVERAGE RESPONSE FACTOR	COUNT 1			COUNT 2			DIFF MOL.%	TEST RESULT UNORMALIZED	REPORTED VALUE
			PEAK AREA	RESPONSE FACTOR	SAMPLE PRESSURE (E(mmHg))					PEAK AREA	RESPONSE FACTOR	PEAK AREA	MOL.%	SAMPLE PRESSURE	PEAK AREA			
O2	0.0000	760	0.0000	0	760	0	0	#DIV/0!	0	760	0	0	0	0	0.000	0.00		
N2	0.7000	760	30650	0.0174084	760	30620	0.01737427	0.20	0.017391321	760	31053	0.710595649	31114	0.711991531	0.20	0.711		
CH4	92.4998	760	3491256	0.0201284	760	3493463	0.02011673	0.06	0.020123087	760	3496012	92.5865192	3497050	92.5840031	0.03	92.580		
CO2	0.1200	760	5228	0.0174179	760	5222	0.01745455	0.21	0.017438211	760	0	0	0	0	#DIV/0!	0.00		
C2H6	6.0000	760	83294	0.0137211	760	83243	0.01372242	0.01	0.013721776	760	829885	5.934397285	828832	5.937051386	0.04	5.936		
C8H14*	0.0000	760	0	0	760	0	0	#DIV/0!	0	760	0	0	0	0	#DIV/0!	0.00		
C3H8	0.5000	760	482415	8.218E-05	760	483203	8.2037E-05	0.17	8.21073E-05	760	2372867	0.25836574	2370779	0.256128358	0.09	0.256		
I-C4H10	0.0151	760	83375	6.816E-05	760	83860	6.7984E-05	0.25	6.80708E-05	760	7020	0.000628759	7543	0.000675802	0.001	0.001		
N-C4H10	0.1500	760	7897400	6.718E-05	760	792808	6.698E-05	0.30	6.70608E-05	760	6764	0.000596841	6811	0.00058334	0.001	0.001		
I-C5H12	0.0150	760	214008	5.327E-05	760	215305	5.2948E-05	0.80	5.31098E-05	760	0	0	0	0	-	0.000		
N-C5H12	0.0150	760	245886	5.293E-05	760	245816	5.2823E-05	0.21	5.2878E-05	760	0	0	0	0	-	0.000		
TOTAL	99.9849		10778686			10796079					6242501	99.46910348	6241928	99.5004343		99.485		
HHV(BTU/SCF)																100.00		

SGS QATAR

Data File: c:\star\sys\_12 data\cpc correlation 2008\lean lng std002.run



Sample ID: LEAN LNG STD

Run Mode: Analysis

Operator (Inj): DENDI HADIAT

Peak Measurement: Peak Area

Injection Notes: 760 mmHg

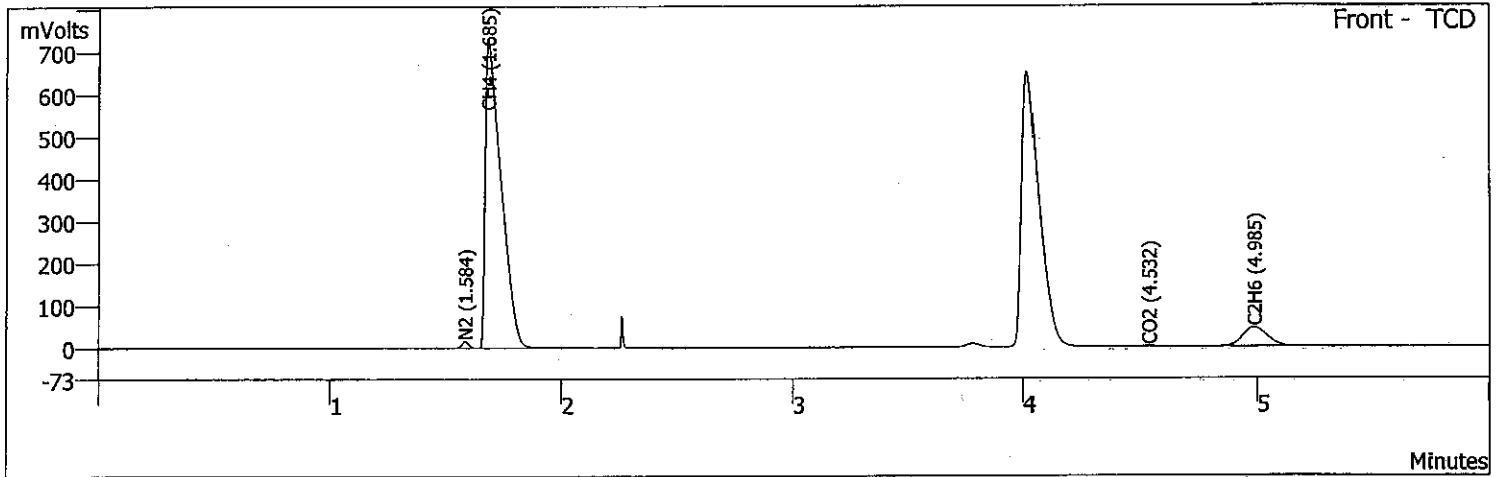
Peak Area External Std.

Injection Date: 04/08/2008 09:46:53 AM

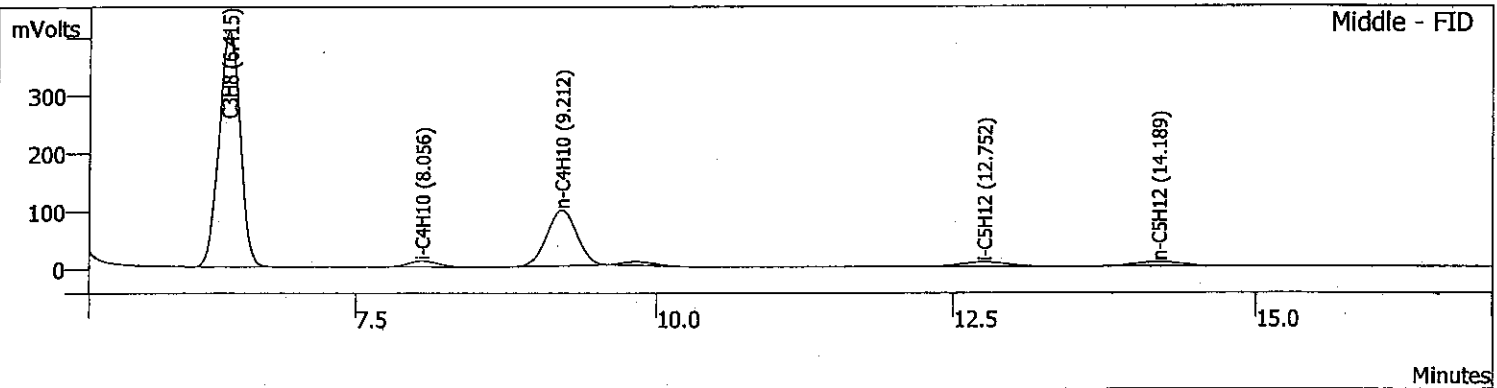
Injection Method: c:\star\sys\_12\apr08\_sys 12.mth

Instrument (Inj): SYS\_12

Calculation Method: c:\star\sys\_12\apr08\_sys 12.mth



Peak No	Peak Name	Ret. Time (min)	Area (counts)	Result ( mole %)
1	N2	1.584	30560	0.6929
2	CH4	1.685	3491256	92.7713
3	CO2	4.532	5236	0.1205
4	C2H6	4.985	332334	6.0290
<b>Totals</b>			<b>3859386</b>	<b>99.6137</b>



Peak No	Peak Name	Ret. Time (min)	Area (counts)	Result ( mole %)
1	C3H8	6.415	4624151	0.4967
2	i-C4H10	8.056	168375	0.0147
3	n-C4H10	9.212	1697400	0.1493
4	i-C5H12	12.752	214008	0.0147
5	n-C5H12	14.189	215366	0.0149
<b>Totals</b>			<b>6919300</b>	<b>0.6903</b>

**SGS QATAR**

Data File: c:\star\sys\_12 data\cpc correlation 2008\lean lng std003.run



Sample ID: LEAN LNG STD

Run Mode: Analysis

Operator (Inj): DENDI HADIAT

Peak Measurement: Peak Area

Injection Notes: 760 mmHg

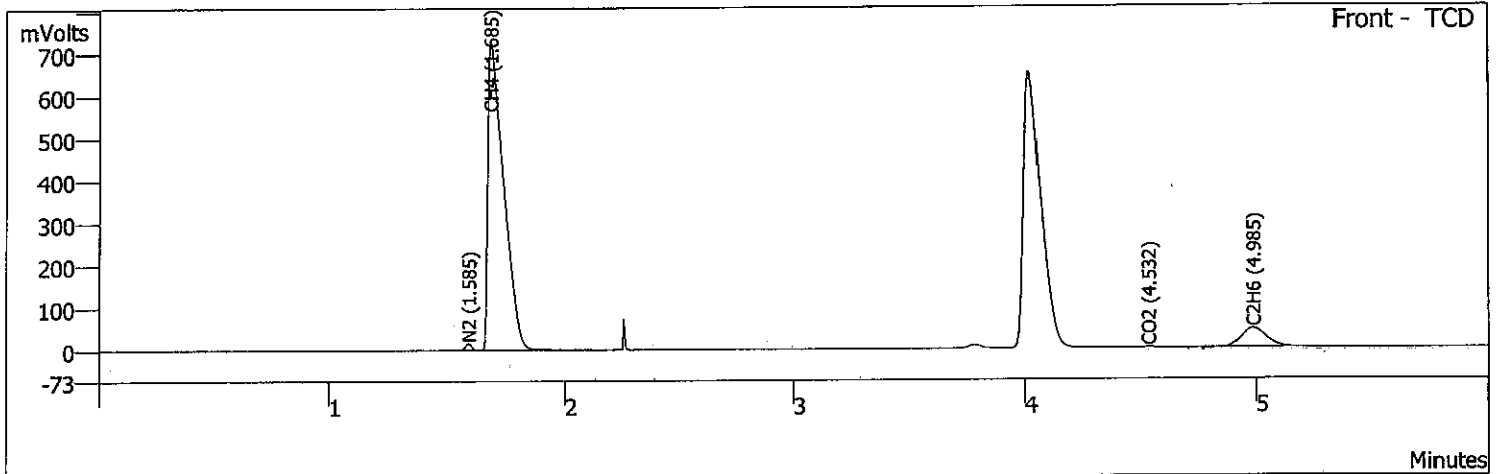
Peak Area External Std.

Injection Date: 04/08/2008 10:07:15 AM

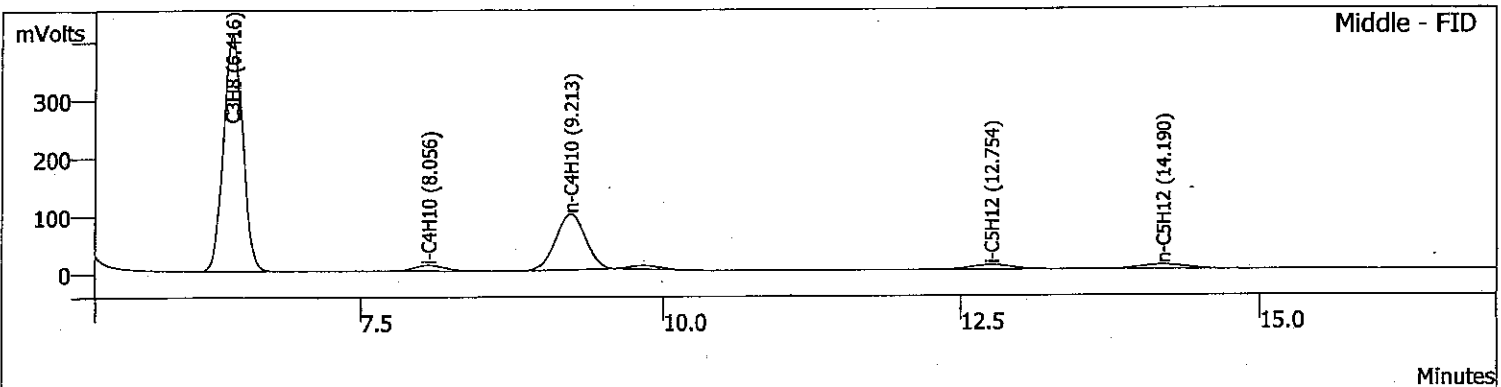
Injection Method: c:\star\sys\_12\apr08\_sys 12.mth

Instrument (Inj): SYS\_12

Calculation Method: c:\star\sys\_12\apr08\_sys 12.mth



Peak No	Peak Name	Ret. Time (min)	Area (counts)	Result ( mole %)
1	N2	1.585	30620	0.6942
2	CH4	1.685	3493463	92.8299
3	CO2	4.532	5225	0.1202
4	C2H6	4.985	332303	6.0284
<b>Totals</b>			<b>3861611</b>	<b>99.6727</b>



Peak No	Peak Name	Ret. Time (min)	Area (counts)	Result ( mole %)
1	C3H8	6.416	4632034	0.4976
2	i-C4H10	8.056	168804	0.0147
3	n-C4H10	9.213	1702509	0.1497
4	i-C5H12	12.754	215305	0.0148
5	n-C5H12	14.190	215816	0.0149
<b>Totals</b>			<b>6934468</b>	<b>0.6917</b>

**SGS QATAR**

Data File: c:\star\sys\_12 data\cpc correlation 2008\llng sample no-1001.run



Sample ID: LLNG SAMPLE NO-1

Run Mode: Analysis

Operator (Inj): DENDI HADIAT

Peak Measurement: Peak Area

Injection Notes: 760 mmHg

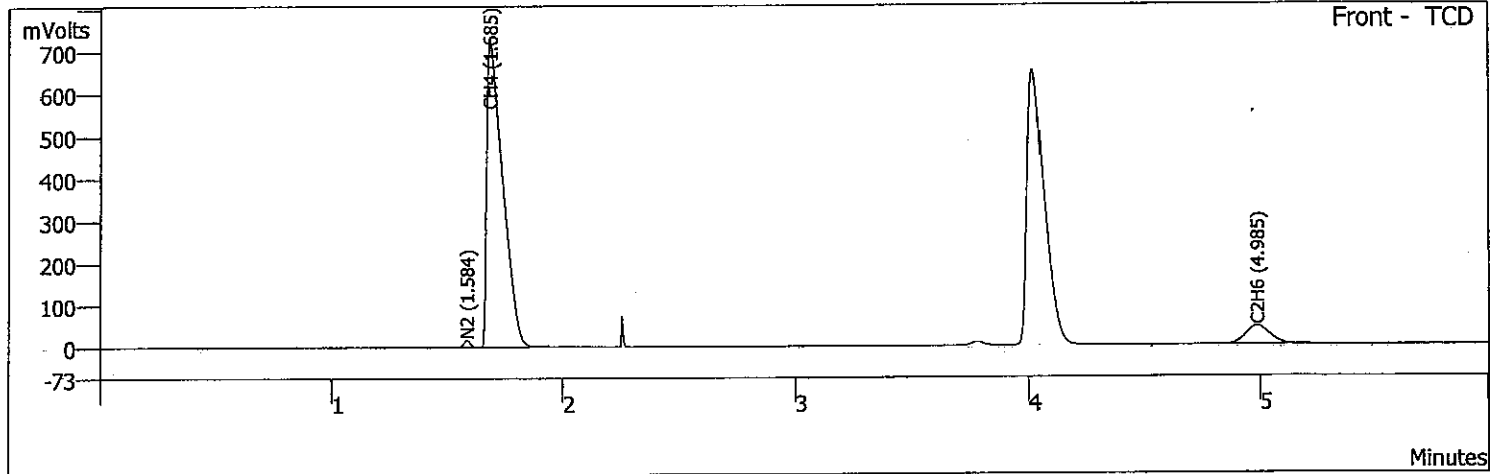
Peak Area External Std.

Injection Date: 04/08/2008 12:43:46 PM

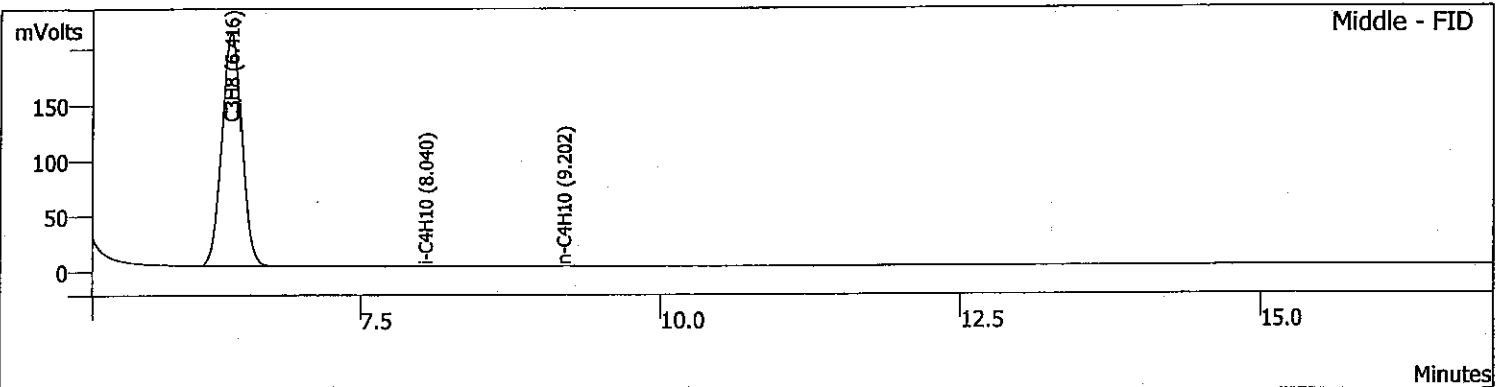
Injection Method: c:\star\sys\_12\apr08\_sys 12.mth

Instrument (Inj): SYS\_12

Calculation Method: c:\star\sys\_12\apr08\_sys 12.mth



Peak No	Peak Name	Ret. Time (min)	Area (counts)	Result ( mole %)
1	N2	1.584	31053	0.7041
2	CH4	1.685	3496012	92.8977
3	C2H6	4.985	328685	5.9628
<b>Totals</b>			<b>3855750</b>	<b>99.5646</b>



Peak No	Peak Name	Ret. Time (min)	Area (counts)	Result ( mole %)
1	C3H8	6.416	2372967	0.2549
2	i-C4H10	8.040	7020	0.0006
3	n-C4H10	9.202	6764	0.0006
<b>Totals</b>			<b>2386751</b>	<b>0.2561</b>

**SGS QATAR**

Data File: c:\star\sys\_12 data\cpc correlation 2008\llng sample no-1002.run



Sample ID: LLNG SAMPLE NO-1

Run Mode: Analysis

Operator (Inj): DENDI HADIAT

Peak Measurement: Peak Area

Injection Notes: 760 mmHg

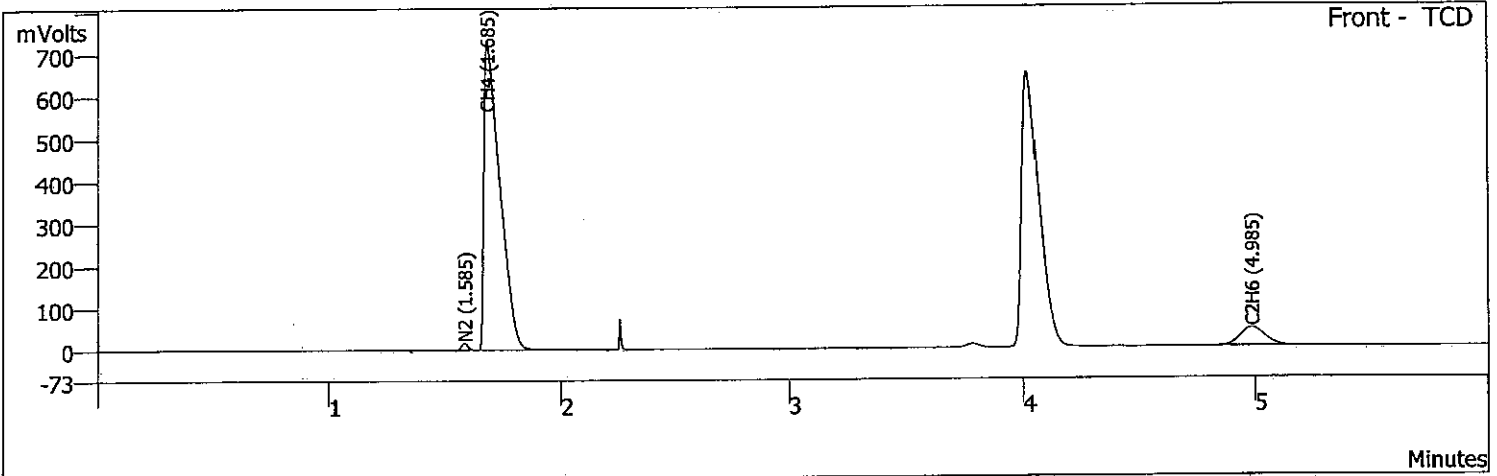
Peak Area External Std.

Injection Date: 04/08/2008 01:04:07 PM

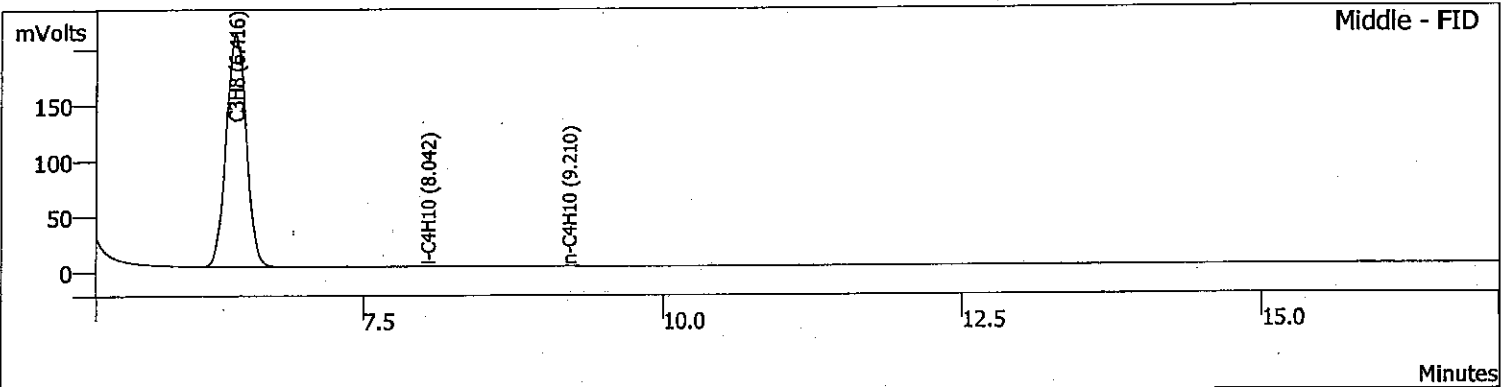
Injection Method: c:\star\sys\_12\apr08\_sys 12.mth

Instrument (Inj): SYS\_12

Calculation Method: c:\star\sys\_12\apr08\_sys 12.mth



Peak No	Peak Name	Ret. Time (min)	Area (counts)	Result ( mole %)
1	N2	1.585	31114	0.7054
2	CH4	1.685	3497050	92.9252
3	C2H6	4.985	328832	5.9655
	<b>Totals</b>		<b>3856996</b>	<b>99.5961</b>



Peak No	Peak Name	Ret. Time (min)	Area (counts)	Result ( mole %)
1	C3H8	6.416	2370779	0.2547
2	i-C4H10	8.042	7543	0.0007
3	n-C4H10	9.210	6611	0.0006
	<b>Totals</b>		<b>2384933</b>	<b>0.2560</b>

**SGS QATAR**

Data File: c:\star\sys\_13 data\cpc correlation 2008\lean lng std002.run



Sample ID: LEAN LNG STD

Run Mode: Analysis

Operator (Inj): DENDI HADIAT

Peak Measurement: Peak Area

Injection Notes: 760 mmHg

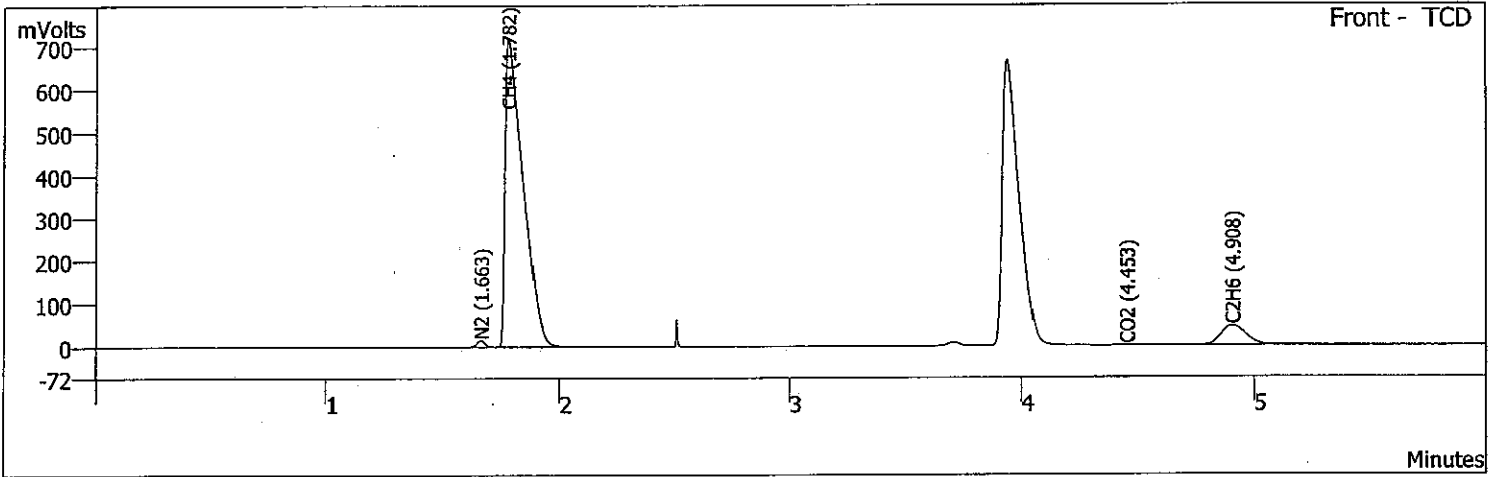
Peak Area External Std.

Injection Date: 04/08/2008 09:53:10 AM

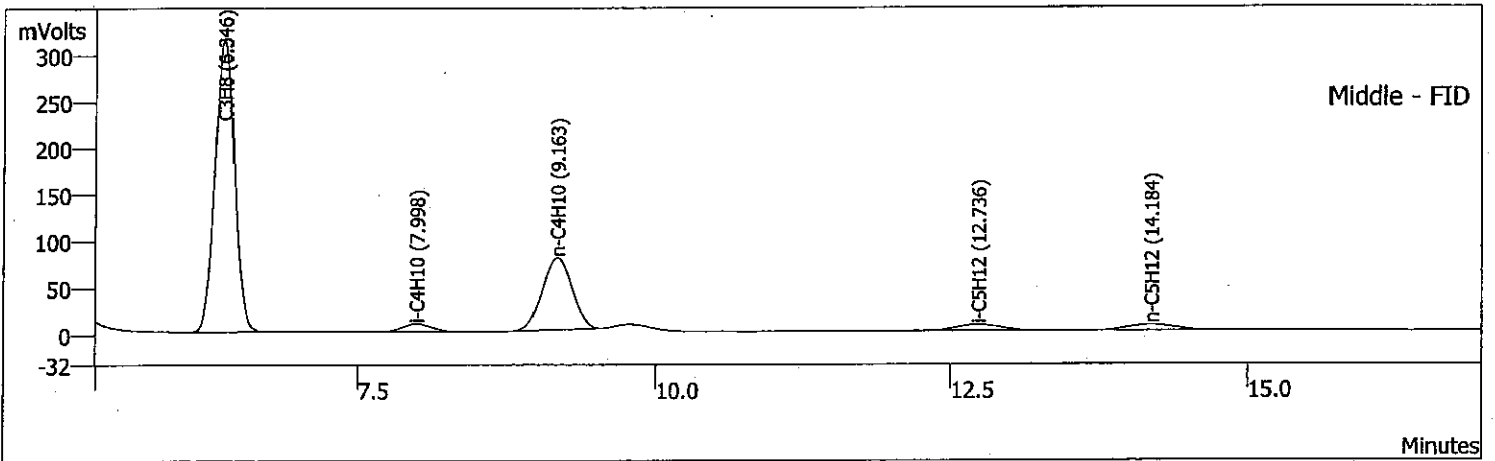
Injection Method: c:\star\sys\_13\apr08\_sys 13.mth

Instrument (Inj): SYS\_13

Calculation Method: c:\star\sys\_13\apr08\_sys 13.mth



Peak No	Peak Name	Ret. Time (min)	Area (counts)	Result ( mole %)
1	N2	1.663	34382	0.6973
2	CH4	1.782	3924649	92.7904
3	CO2	4.453	5079	0.1199
4	C2H6	4.908	332554	6.0237
<b>Totals</b>			<b>4296664</b>	<b>99.6313</b>



Peak No	Peak Name	Ret. Time (min)	Area (counts)	Result ( mole %)
1	C3H8	6.346	3548429	0.4941
2	i-C4H10	7.998	136341	0.0149
3	n-C4H10	9.163	1343828	0.1479
4	i-C5H12	12.736	173936	0.0146
5	n-C5H12	14.184	172954	0.0151
<b>Totals</b>			<b>5375488</b>	<b>0.6866</b>

**SGS QATAR**



Data File: c:\star\sys\_13 data\cpc correlation 2008\lean lng std003.run



Sample ID: LEAN LNG STD

Run Mode: Analysis

Operator (Inj): DENDI HADIAT

Peak Measurement: Peak Area

Injection Notes: 760 mmHg

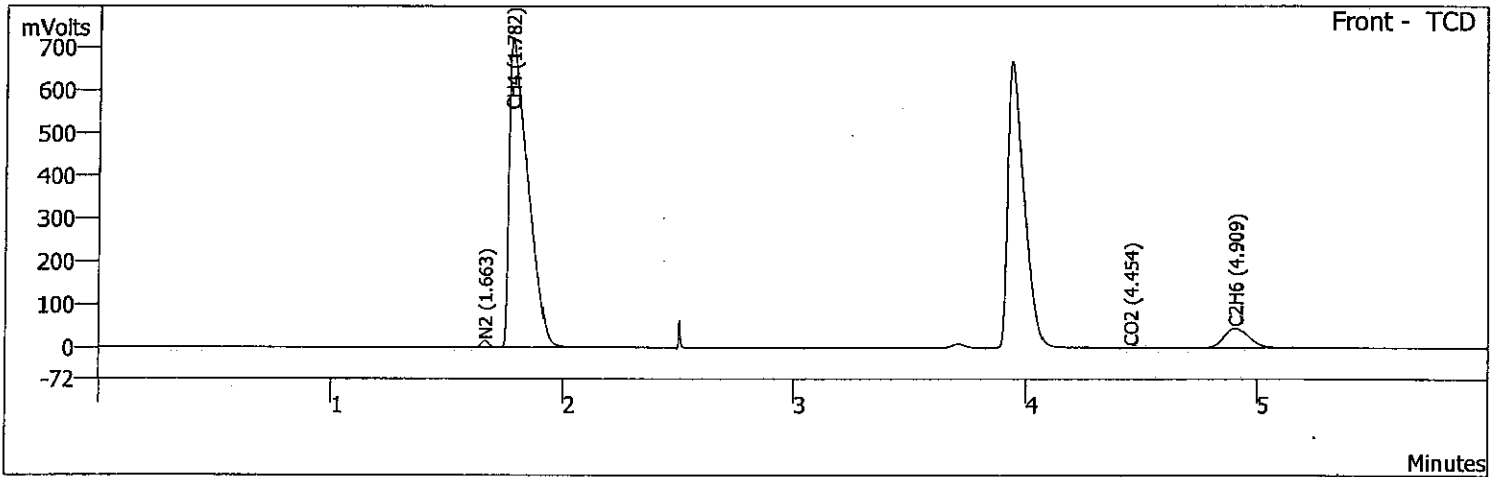
Peak Area External Std.

Injection Date: 04/08/2008 10:13:31 AM

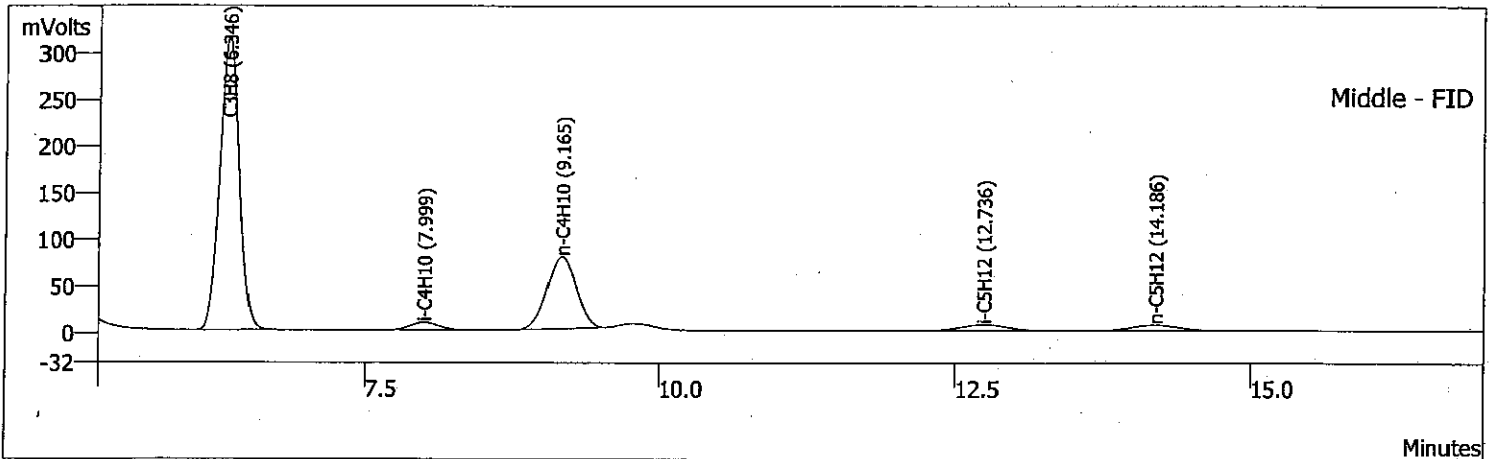
Injection Method: c:\star\sys\_13\apr08\_sys 13.mth

Instrument (Inj): SYS\_13

Calculation Method: c:\star\sys\_13\apr08\_sys 13.mth



Peak No	Peak Name	Ret. Time (min)	Area (counts)	Result ( mole %)
1	N2	1.663	34263	0.6949
2	CH4	1.782	3922868	92.7483
3	CO2	4.454	5074	0.1198
4	C2H6	4.909	332506	6.0228
<b>Totals</b>			<b>4294711</b>	<b>99.5858</b>



Peak No	Peak Name	Ret. Time (min)	Area (counts)	Result ( mole %)
1	C3H8	6.346	3555198	0.4950
2	i-C4H10	7.999	138136	0.0151
3	n-C4H10	9.165	1346723	0.1482
4	i-C5H12	12.736	174109	0.0146
5	n-C5H12	14.186	172607	0.0151
<b>Totals</b>			<b>5386773</b>	<b>0.6880</b>

**SGS QATAR**

Data File: c:\star\sys\_13 data\cpc correlation 2008\lmg sample no-1001.run



Sample ID: LLNG SAMPLE NO-1

Run Mode: Analysis

Operator (Inj): DENDI HADIAT

Peak Measurement: Peak Area

Injection Notes: 760 mmHg

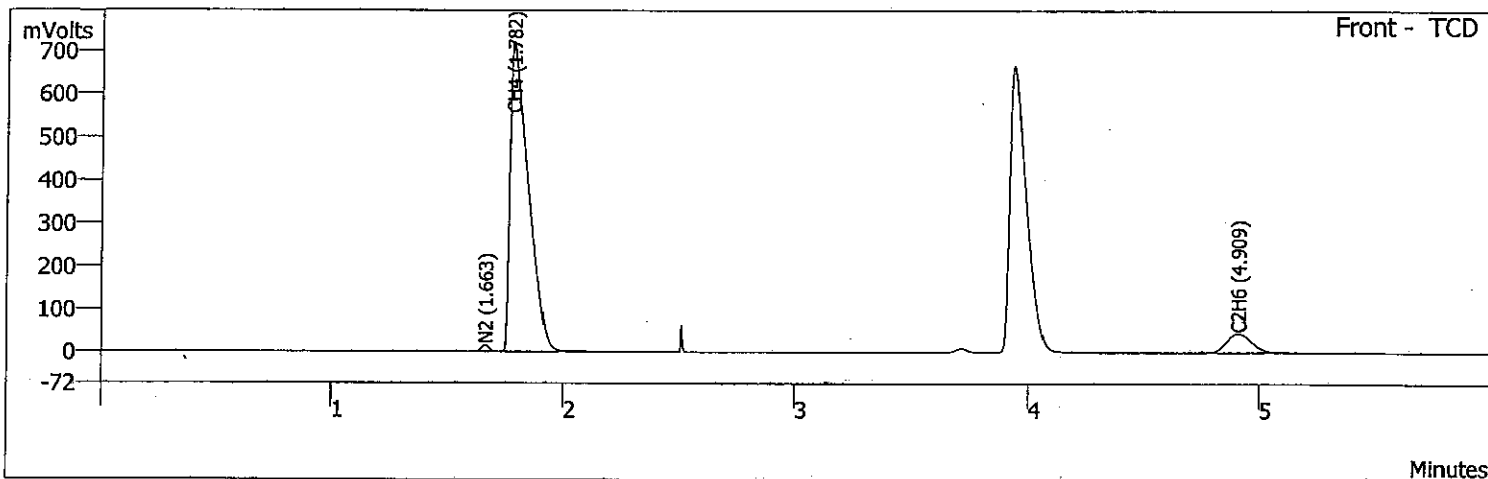
Peak Area External Std.

Injection Date: 04/08/2008 12:50:05 PM

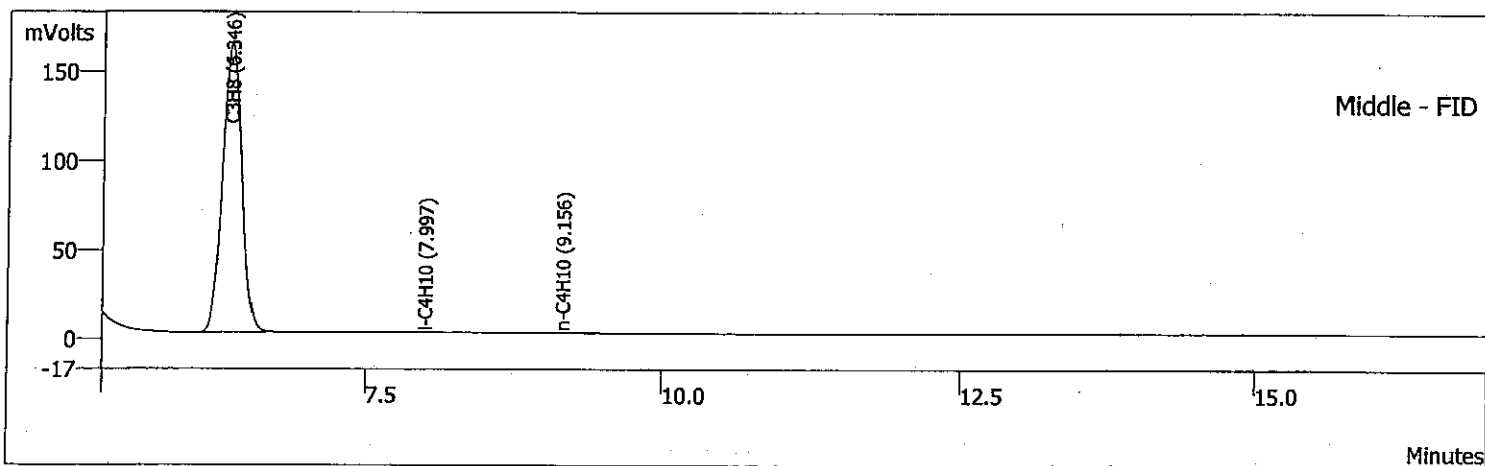
Injection Method: c:\star\sys\_13\apr08\_sys 13.mth

Instrument (Inj): SYS\_13

Calculation Method: c:\star\sys\_13\apr08\_sys 13.mth



Peak No	Peak Name	Ret. Time (min)	Area (counts)	Result ( mole %)
1	N2	1.663	34850	0.7068
2	CH4	1.782	3922964	92.7506
3	C2H6	4.909	328646	5.9529
<b>Totals</b>			<b>4286460</b>	<b>99.4103</b>



Peak No	Peak Name	Ret. Time (min)	Area (counts)	Result ( mole %)
1	C3H8	6.346	1843064	0.2566
2	i-C4H10	7.997	6341	0.0007
3	n-C4H10	9.156	5943	0.0007
<b>Totals</b>			<b>1855348</b>	<b>0.2580</b>

**SGS QATAR**

Data File: c:\star\sys\_13 data\cpc correlation 2008\llng sample no-1002.run



Sample ID: LLNG SAMPLE NO-1

Run Mode: Analysis

Operator (Inj): DENDI HADIAT

Peak Measurement: Peak Area

Injection Notes: 760 mmHg

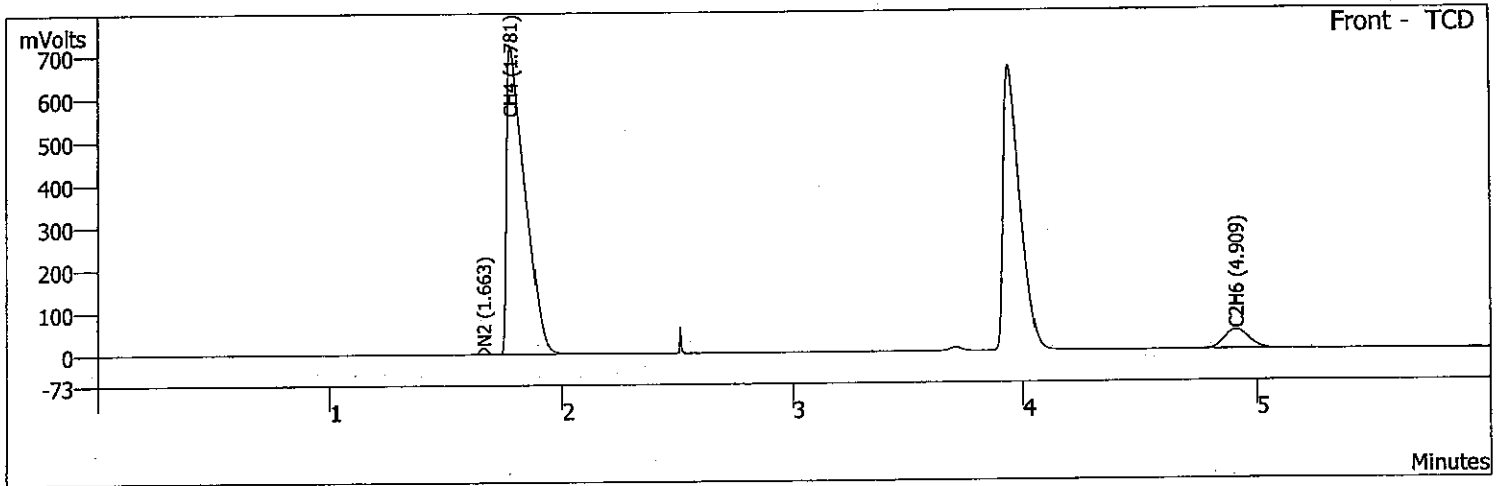
Peak Area External Std.

Injection Date: 04/08/2008 01:10:25 PM

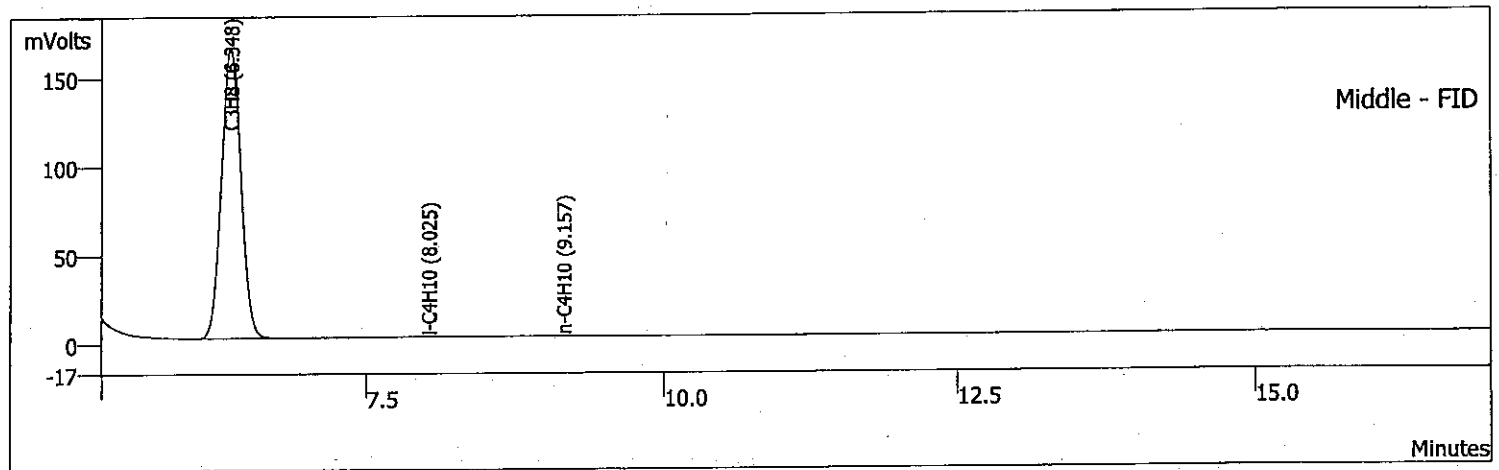
Injection Method: c:\star\sys\_13\apr08\_sys 13.mth

Instrument (Inj): SYS\_13

Calculation Method: c:\star\sys\_13\apr08\_sys 13.mth



Peak No	Peak Name	Ret. Time (min)	Area (counts)	Result (mole %)
1	N2	1.663	34871	0.7072
2	CH4	1.781	3929968	92.9162
3	C2H6	4.909	329208	5.9631
<b>Totals</b>			<b>4294047</b>	<b>99.5865</b>



Peak No	Peak Name	Ret. Time (min)	Area (counts)	Result (mole %)
1	C3H8	6.348	1844416	0.2568
2	i-C4H10	8.025	5064	0.0006
3	n-C4H10	9.157	6561	0.0007
<b>Totals</b>			<b>1856041</b>	<b>0.2581</b>

**SGS QATAR**