

Laboratory Analysis Report

CLIENT PROJECT NO : SCEC : 160012 MATRIX : AIR : PPB (v/v) UNITS

DATE RECEIVED DATE REPORTED : 01/06/2016 : 01/10/2016

HYDROCARBONS (C1-C12) SPECIATED

Client ID AAC ID Date Sampled Date Analyzed Can Dilution Eactor	ľ	Porter Ridge 160012-864 01/05/2010 01/07/2010 1.56	Park 37 6 6	Sample Reporting Limit (SRL)	St	arter Set Pre 160012-864 01/05/2010 01/07/2010 1.57	school 38 6 6	Sample Reporting Limit (SRL)	Method Reporting Limit (MRL)
Cur Dimion Factor	Result	Qualifier	Analysis DF	(WIRLADT S)	Result	Qualifier	Analysis DF	(MRLxDF's)	(
Methane*	2220		1.0	781	2390		1.0	787	500
Benzene	<srl< td=""><td>U</td><td>1.0</td><td>0.26</td><td><srl< td=""><td>U</td><td>1.0</td><td>0.26</td><td>0.17</td></srl<></td></srl<>	U	1.0	0.26	<srl< td=""><td>U</td><td>1.0</td><td>0.26</td><td>0.17</td></srl<>	U	1.0	0.26	0.17
Toluene	<srl< td=""><td>U</td><td>1.0</td><td>0.22</td><td><srl< td=""><td>U</td><td>1.0</td><td>0.22</td><td>0.14</td></srl<></td></srl<>	U	1.0	0.22	<srl< td=""><td>U</td><td>1.0</td><td>0.22</td><td>0.14</td></srl<>	U	1.0	0.22	0.14
Ethylbenzene	<srl< td=""><td>U</td><td>1.0</td><td>0.20</td><td><srl< td=""><td>U</td><td>1.0</td><td>0.20</td><td>0.13</td></srl<></td></srl<>	U	1.0	0.20	<srl< td=""><td>U</td><td>1.0</td><td>0.20</td><td>0.13</td></srl<>	U	1.0	0.20	0.13
m/n-Xylenes	<srl< td=""><td>U</td><td>1.0</td><td>0.20</td><td><srl< td=""><td>U</td><td>1.0</td><td>0.20</td><td>0.13</td></srl<></td></srl<>	U	1.0	0.20	<srl< td=""><td>U</td><td>1.0</td><td>0.20</td><td>0.13</td></srl<>	U	1.0	0.20	0.13
o-Xvlene	<srl< td=""><td>Ū</td><td>1.0</td><td>0.20</td><td><srl< td=""><td>U</td><td>1.0</td><td>0.20</td><td>0.13</td></srl<></td></srl<>	Ū	1.0	0.20	<srl< td=""><td>U</td><td>1.0</td><td>0.20</td><td>0.13</td></srl<>	U	1.0	0.20	0.13

U - Compound was analyzed for, but was not detected at or above the SRL.

* - Results from EPA Method 18 modified analysis on 01/06/2016.
 J- Result is below method reporting limit.

Marcus Hueppe

Laboratory Director

Page 7





Laboratory Analysis Report

CLIENT PROJECT NO : SCEC : 160012 MATRIX : AIR UNITS : PPB (v/v)

DATE RECEIVED DATE REPORTED : 01/06/2016 : 01/10/2016

HYDROCARBONS (C1-C12) SPECIATED

Client ID AAC ID Date Sampled Date Analyzed Can Dilution Factor	Castle	bay Element 160012-864 01/05/201 01/07/201 1.53	ary School 39 6 6	Sample Reporting Limit (SRL) (MRLxDF's)		Highlands 160012-864 01/05/201 01/07/201 1.53	2 (40) 6 6	Sample Reporting Limit (SRL)	Method Reporting Limit (MRL)
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis DF	(MRLxDF's)	(
Methane*	2400		1.0	765	2350		1.0	763	500
Benzene	<srl< td=""><td>U</td><td>1.0</td><td>0.26</td><td><srl< td=""><td>U</td><td>1.0</td><td>0.25</td><td>0.17</td></srl<></td></srl<>	U	1.0	0.26	<srl< td=""><td>U</td><td>1.0</td><td>0.25</td><td>0.17</td></srl<>	U	1.0	0.25	0.17
Toluene	<srl< td=""><td>U</td><td>1.0</td><td>0.22</td><td><srl< td=""><td>U</td><td>1.0</td><td>0.22</td><td>0.14</td></srl<></td></srl<>	U	1.0	0.22	<srl< td=""><td>U</td><td>1.0</td><td>0.22</td><td>0.14</td></srl<>	U	1.0	0.22	0.14
Ethylbenzene	<srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td><srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td>0.13</td></srl<></td></srl<>	U	1.0	0.19	<srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td>0.13</td></srl<>	U	1.0	0.19	0.13
m/p-Xylenes	<srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td><srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td>0.13</td></srl<></td></srl<>	U	1.0	0.19	<srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td>0.13</td></srl<>	U	1.0	0.19	0.13
o-Xylene	<srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td><srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td>0.13</td></srl<></td></srl<>	U	1.0	0.19	<srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td>0.13</td></srl<>	U	1.0	0.19	0.13

U - Compound was analyzed for, but was not detected at or above the SRL.

* - Results from EPA Method 18 modified analysis on 01/06/2016. J- Result is below method reporting limit.

Marcus Hueppe Laboratory Director



Laboratory Analysis Report

 CLIENT
 : SCEC

 PROJECT NO
 : 160012

 MATRIX
 : AIR

 UNITS
 : PPB (v/v)

DATE RECEIVED DATE REPORTED : 01/06/2016 : 01/10/2016

HYDROCARBONS (C1-C12) SPECIATED

Client ID AAC ID Date Sampled Date Analyzed	Porter R	anch Comm 160012-864 01/05/201 01/07/201	unity School 41 6 6	Sample Reporting Limit (SRL)	Ho	lleigh Bernso 160012-864 01/05/2010 01/07/2010 1.53	on Park 42 6 6	Sample Reporting Limit (SRL)	Method Reporting Limit
Can Dullion Factor	Result	Oualifier	Analysis DF	(MRLXDF'S)	Result	Qualifier	Analysis DF	(MRLxDF's)	(WIKL)
Methane*	2260		1.0	763	2370		1.0	764	500
Benzene	<srl< td=""><td>U . ·</td><td>1.0</td><td>0.25</td><td><srl< td=""><td>U</td><td>1.0</td><td>0.25</td><td>0.17</td></srl<></td></srl<>	U . ·	1.0	0.25	<srl< td=""><td>U</td><td>1.0</td><td>0.25</td><td>0.17</td></srl<>	U	1.0	0.25	0.17
Toluene	<srl< td=""><td>U</td><td>1.0</td><td>0.22</td><td><srl< td=""><td>U</td><td>1.0</td><td>0.22</td><td>0.14</td></srl<></td></srl<>	U	1.0	0.22	<srl< td=""><td>U</td><td>1.0</td><td>0.22</td><td>0.14</td></srl<>	U	1.0	0.22	0.14
Ethylbenzene	<srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td><srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td>0.13</td></srl<></td></srl<>	U	1.0	0.19	<srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td>0.13</td></srl<>	U	1.0	0.19	0.13
m/n-Xylenes	<srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td><srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td>0.13</td></srl<></td></srl<>	U	1.0	0.19	<srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td>0.13</td></srl<>	U	1.0	0.19	0.13
o-Xylene	<srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td><srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td>0.13</td></srl<></td></srl<>	U	1.0	0.19	<srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td>0.13</td></srl<>	U	1.0	0.19	0.13

()

U - Compound was analyzed for, but was not detected at or above the SRL.

* - Results from EPA Method 18 modified analysis on 01/06/2016.

J- Result is below method reporting limit.

Marcus Hueppe Laboratory Director

Page 9

1534 Eastman Ave., Ste. A • Ventura, • CA 93003

www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644



Laboratory Analysis Report

: SCEC : 160012 CLIENT PROJECT NO : AIR MATRIX : PPB (v/v) UNITS

DATE RECEIVED DATE REPORTED : 01/06/2016 : 01/10/2016

HYDROCARBONS (C1-C12) SPECIATED

Client ID AAC ID Date Sampled	Po	orter Ranch I 160012-864 01/05/201	Estates 43 6	Sample Reporting		Highlands 160012-864 01/05/2010 01/07/2010	1 44 6 6	Sample Reporting Limit	Method Reporting Limit
Can Dilution Factor		1.52		(MRLxDF's)		1.51		(SRL)	(MRL)
	Result	Qualifier	Analysis DF		Result	Qualifier	Analysis Dr	(MINEADT 3)	500
Methane*	2330		1.0	760	3530		1.0	151	500
Benzene	<srl< td=""><td>U</td><td>1.0</td><td>0.25</td><td><srl< td=""><td>U</td><td>1.0</td><td>0.25</td><td>0.17</td></srl<></td></srl<>	U	1.0	0.25	<srl< td=""><td>U</td><td>1.0</td><td>0.25</td><td>0.17</td></srl<>	U	1.0	0.25	0.17
Toluene	<srl< td=""><td>U</td><td>1.0</td><td>0.22</td><td><srl< td=""><td>U</td><td>1.0</td><td>0.22</td><td>0.14</td></srl<></td></srl<>	U	1.0	0.22	<srl< td=""><td>U</td><td>1.0</td><td>0.22</td><td>0.14</td></srl<>	U	1.0	0.22	0.14
Ethylhanzana	< <u>SRI</u>	Ū	1.0	0.19	<srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td>0.13</td></srl<>	U	1.0	0.19	0.13
m/n Vylanas	< <u>SRI</u>	U U	1.0	0.19	<srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td>0.13</td></srl<>	U	1.0	0.19	0.13
o-Xvlene	<srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td><srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td>0.13</td></srl<></td></srl<>	U	1.0	0.19	<srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td>0.13</td></srl<>	U	1.0	0.19	0.13

U - Compound was analyzed for, but was not detected at or above the SRL. * - Results from EPA Method 18 modified analysis on 01/06/2016.

J- Result is below method reporting limit.

Marcus Hueppe

Laboratory Director

Page 10





Laboratory Analysis Report

: SCEC CLIENT PROJECT NO : 160012 MATRIX : AIR UNITS : PPB (v/v)

DATE RECEIVED DATE REPORTED : 01/06/2016 : 01/10/2016

HYDROCARBONS (C1-C12) SPECIATED

Client ID AAC ID Date Sampled Date Analyzed Can Dilution Factor	Por	rter Ranch E. 160012-864 01/05/2010 01/07/2010 1.39	states 2 45 6 6	Sample Reporting Limit (SRL) (MRLxDF's)		Highlands 160012-864 01/05/201 01/07/201 1.51	3 (46 6 6	Sample Reporting Limit (SRL)	Method Reporting Limit (MRL)
	Result	Qualifier	Analysis DF	(Result	Qualifier	Analysis DF	(MRLxDF's)	(ITTINE)
Methane*	2590		1.0	695	2250		1.0	756	500
Benzene	<srl< td=""><td>U</td><td>1.0</td><td>0.23</td><td><srl< td=""><td>U</td><td>1.0</td><td>0.25</td><td>0.17</td></srl<></td></srl<>	U	1.0	0.23	<srl< td=""><td>U</td><td>1.0</td><td>0.25</td><td>0.17</td></srl<>	U	1.0	0.25	0.17
Toluene	<srl< td=""><td>U</td><td>1.0</td><td>0.20</td><td><srl< td=""><td>U</td><td>1.0</td><td>0.22</td><td>0.14</td></srl<></td></srl<>	U	1.0	0.20	<srl< td=""><td>U</td><td>1.0</td><td>0.22</td><td>0.14</td></srl<>	U	1.0	0.22	0.14
Ethylbenzene	<srl< td=""><td>U</td><td>1.0</td><td>0.17</td><td><srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td>0.13</td></srl<></td></srl<>	U	1.0	0.17	<srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td>0.13</td></srl<>	U	1.0	0.19	0.13
m/p-Xylenes	<srl< td=""><td>U</td><td>1.0</td><td>0.17</td><td><srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td>0.13</td></srl<></td></srl<>	U	1.0	0.17	<srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td>0.13</td></srl<>	U	1.0	0.19	0.13
o-Xylene	< <u>SRL</u>	U	1.0	0.17	<srl< td=""><td>U</td><td>1.0</td><td>0.19</td><td>0.13</td></srl<>	U	1.0	0.19	0.13

U - Compound was analyzed for, but was not detected at or above the SRL. * - Results from EPA Method 18 modified analysis on 01/06/2016.

J- Result is below method reporting limit.

Marcus Hueppe Laboratory Director

Page 11





LABORATORY ANALYSIS REPORT

CLIENT	:	SCEC
PROJECT NO.	:	160012
MATRIX	:	AIR
UNITS	:	ppbV

SAMPLING DATE : 01/05/2016 RECEIVING DATE : 01/06/2016 ANALYSIS DATE : 01/06/2016 REPORT DATE : 01/07/2016

Total Reduced Sulfur Compounds Analysis by SCAQMD 307.91

Client ID	Porter Ridge Park	Starter Set Preschool	Castlebay Elementary School	Highlands 2	Porter Ranch Community School	Holleigh Bernson Park
AAC ID	160012-86437	160012-86438	160012-86439	160012-86440	160012-86441	160012-86442
Canister Dil. Fac.	1.56	1.57	1.53	1.53	1.53	1.53
Analyte	Result	Result	Result	Result	Result	Result
Hydrogen Sulfide	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41
Carbonyl Sulfide	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41
Sulfur Dioxide	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41
Methyl Mercaptan	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41
Ethyl Mercaptan	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41
Dimethyl Sulfide	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41
Carbon Disulfide	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41
Isopropyl Mercaptan	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41
tert-Butyl Mercaptan	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41
n-Propyl Mercaptan	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41
Methylethylsulfide	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41
sec-Butyl Mercaptan	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41
Thiophene	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41
iso-Butyl Mercaptan	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41
Diethyl Sulfide	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41
n-Butyl Mercaptan	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41
Dimethyl Disulfide	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41
2-Methylthiophene	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41
3-Methylthiophene	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41
Tetrahydrothiophene	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41
Bromothiophene	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41
Thiophenol	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41
Diethyl disulfide	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41
Total Unidentified Sulfur	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41
Total Reduced Sulfurs as HS	< 2.47	< 2.49	< 2.42	< 2.41	< 2.41	< 2.41

 (\not)

All compound's concentrations expressed in terms of [4 (TRS does not include COS and SQ) Sample Detection Limit (SDL) is equal to Detection Limit (1.58 ppbV) x Canister Dil. Fac. x Analysis Dil. Fac.

Marcus Hueppe

Laboratory Director



LABORATORY ANALYSIS REPORT

CLIENT: SCECPROJECT NO. :160012MATRIX: AIRUNITS: ppbV

SAMPLING DATE : 01/05/2016 RECEIVING DATE : 01/06/2016 ANALYSIS DATE : 01/06/2016 REPORT DATE : 01/07/2016

Total Reduced Sulfur Compounds Analysis by SCAQMD 307.91

Client ID	Porter Ranch Estates	Highlands 1	Porter Ranch Estates 2	Highlands 3
AAC ID	160012-86443	160012-86444	160012-86445	160012-86446
Canister Dil. Fac.	1.52	1.51	1.39	1.51
Analyte	Result	Result	Result	Result
Hydrogen Sulfide	< 2.40	< 2.39	< 2.19	< 2.39
Carbonyl Sulfide	< 2.40	< 2.39	< 2.19	< 2.39
Sulfur Dioxide	< 2.40	< 2.39	< 2.19	< 2.39
Methyl Mercaptan	< 2.40	< 2.39	< 2.19	< 2.39
Ethyl Mercaptan	< 2.40	< 2.39	< 2.19	< 2.39
Dimethyl Sulfide	< 2.40	< 2.39	< 2.19	< 2.39
Carbon Disulfide	< 2.40	< 2.39	< 2.19	< 2.39
Isopropyl Mercaptan	< 2.40	< 2.39	< 2.19	< 2.39
tert-Butyl Mercaptan	< 2.40	< 2.39	< 2.19	< 2.39
n-Propyl Mercaptan	< 2.40	< 2.39	< 2.19	< 2.39
Methylethylsulfide	< 2,40	< 2.39	< 2.19	< 2.39
sec-Butyl Mercaptan	< 2.40	< 2.39	< 2.19	< 2.39
Thiophene	< 2.40	< 2.39	< 2.19	< 2.39
iso-Butyl Mercaptan	< 2.40	< 2.39	< 2.19	< 2.39
Diethyl Sulfide	< 2.40	< 2.39	< 2.19	< 2.39
n-Butyl Mercaptan	< 2.40	< 2.39	< 2.19	< 2.39
Dimethyl Disulfide	< 2.40	< 2.39	< 2.19	< 2.39
2-Methylthiophene	< 2.40	< 2.39	< 2.19	< 2.39
3-Methylthiophene	< 2.40	< 2.39	< 2.19	< 2.39
Tetrahydrothiophene	< 2.40	< 2.39	< 2.19	< 2.39
Bromothiophene	< 2.40	< 2.39	< 2.19	< 2.39
Thiophenol	< 2.40	< 2.39	< 2.19	< 2.39
Diethyl disulfide	< 2.40	< 2.39	< 2.19	< 2.39
Total Unidentified Sulfur	< 2.40	< 2.39	< 2.19	< 2.39
Total Reduced Sulfurs as HS	< 2.40	< 2.39	< 2.19	< 2.39

All compound's concentrations expressed in terms of 45 (TRS does not include COS and SQ)

Sample Detection Limit (SDL) is equal to Detection Limit (1.58 ppbV) x Canister Dil. Fac. x Analysis Dil. Fac.

Marcus Hueppe

Laboratory Director



So Cal Gas Company Aliso Canyon 2045.1063 AAC REV.3

A r Im Z t RETURNED IOX CANS,

Client/Project Name: So Cal Gas Compar	Y	Client Pr	oject No.: 20	45.1063		ANALYSE	SREQUE	STED	Laboratory Name: Atm	ospheric Analysis
Project Location: Aliso Canyon					d		d	_	and Consulting, Inc	
Contact: Rudy Nunez	Sampler (Signa	iture)			QMD ogen luced inds)	S or	ethod	1	Lab Contact: Marcus	Hueppe
		1			SCAC Hydro d Red mpou	PAM TO-15	PA Mo		Lab Phone No.: 805-6	50-1642
Sample		~			lified .91 (i le and ur Co	S's by	ed El 8 Me		Turnaround Time 24 H	lour
Description	994 - Lyndd				Vlod 307. ulfid Sulfu	/OC E	odifi 1	2797-75.760-		
	Date	Start Time	End Time	Type	N Si Si	V	Mo		0	
	1-5-2016	1206	1823	Canister	×	×	×	120%	QA/QC DATA PA	CKAGE ON ALL
Z Starter Set Preschool		523	1244	Canister	×	×	×	0 2 %	SAMP	LES
3 Castlebay Elementary School		54X1	202	Canister	×	×	×	00100	Email data to: munou	
4 Highlands 2		1908	1922	Canister	×	×	×	- Chor	Email data to: Me	Blith Cintono
		1531	1948	Canister	×	×	×	544	Email Address: RCusta	Ince@Geosyntec.com
7 Dortor Datable Estation		1852	2005	Canister	×	×	×	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
2 Lighlande 4		2102	5202	Canister	×	×	×	5443		
		2032	2049	Canister	×	×	×	14A		
		2053	0112	Canister	×	×	×	2422		
	<	2112	2129	Canister	×	×	×	2445		
			-							•
Relinquished by (Signature):	Company:									ala.
	S C	ς Γ		1-S-2616		 	Received by	(Signature):	Company:	Date: / Time: > +
Reininguissing by (Signature)	Company:			Date	Time / 'MV-		Received by ((Signature):	Company	die: Time:
Kelinfquished by (Signature):	Company:			Jafe	Time	- 77	Received by (Signature):	Company:	Date: Time:
								- Martin - All Street and All Street and All		Color Mine

SCEC 1631 E. Saint Andrew Place Santa Ana, CA 92705 (714) 282-8240 phone, (714) 282-8247 fax

AAC # 160012

Analytical Services Request Chain of Custody Record

Page 1



2655 Park Center Dr., Suite A Simi Valley, CA 93065 T: +1 805 526 7161 F: +1 805 526 7270 www.alsglobal.com

LABORATORY REPORT

January 7, 2016

Glenn La Fevers Southern California Gas Company 12801 Tampa Ave Northridge, CA 91326-1045

RE: So Cal Gas Company / 2045.1063

Dear Glenn:

Enclosed are the results of the samples submitted to our laboratory on January 5, 2016. For your reference, these analyses have been assigned our service request number P1600038.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at <u>www.alsglobal.com</u>. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Sue Anderson at 1:01 pm, Jan 07, 2016

Sue Anderson Project Manager



2655 Park Center Dr., Suite A Simi Valley, CA 93065 T: +1 805 526 7161 F: +1 805 526 7270 www.alsglobal.com

Client: Southern California Gas Company Project: So Cal Gas Company / 2045.1063 Service Request No: P1600038

CASE NARRATIVE

The samples were received intact under chain of custody on January 5, 2016 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

<u>C1 through C6 Hydrocarbon and TGNMO Analysis</u>

The samples were analyzed per modified EPA Method TO-3 for C1 through >C6 hydrocarbons and total gaseous non-methane organics as methane using a gas chromatograph equipped with a flame ionization detector (FID). This procedure is described in laboratory SOP VOA-TO3C1C6. This method is included on the laboratory's DoD-ELAP scope of accreditation, however it is not part of the NELAP or AIHA-LAP accreditation.

Sulfur Analysis

The samples were also analyzed for seven sulfur compounds and total reduced sulfur as hydrogen sulfide (TRS as H₂S) per ASTM D 5504-12 using a gas chromatograph equipped with a sulfur chemiluminescence detector (SCD). All compounds with the exception of hydrogen sulfide and carbonyl sulfide are quantitated against the initial calibration curve for methyl mercaptan. The results for TRS as H₂S were determined by obtaining the total response for all chromatographic peaks and quantitating the value against the initial calibration curve for hydrogen sulfide thus generating a result specified as "Total Reduced Sulfur as Hydrogen Sulfide". This method is included on the laboratory's NELAP scope of accreditation, however it is not part of the DoD-ELAP or AIHA-LAP accreditation.

Volatile Organic Compound Analysis

The samples were also analyzed for selected volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph/mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. According to the method, the use of Tedlar bags is considered a method modification. This



2655 Park Center Dr., Suite A Simi Valley, CA 93065 **T:** +1 805 526 7161 **F:** +1 805 526 7270 <u>www.alsglobal.com</u>

Client:Southern California Gas CompanyProject:So Cal Gas Company / 2045.1063

Service Request No: P1600038

CASE NARRATIVE

method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation, however it is not part of the AIHA-LAP accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.



2655 Park Center Dr., Suite A Simi Valley, CA 93065 T: +1 805 526 7161 F: +1 805 526 7270 www.alsglobal.com

ALS Environmental - Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
AIHA	http://www.aihaaccreditedlabs.org	101661
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0694
DoD ELAP	http://www.pjlabs.com/search-accredited-labs	L15-398
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm_	E871020
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp- services/labcert/labcert.htm	2014025
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	977273
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaborat oryAccreditation/Pages/index.aspx	4068-001
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413- 15-6
Utah DOH (NELAP)	http://www.health.utah.gov/lab/labimp/certification/index.html	CA01627201 5-5
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at <u>www.alsglobal.com</u>, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

DETAIL SUMMARY REPORT

Client:	Southern Califor	rnia Gas (Company		Service Request: P1600038
Project ID:	So Cal Gas Con	npany / 20	45.1063		
Date Received: Time Received:	1/5/2016 21:35				odified - C1C6+ Bag 5504-12 - Sulfur Bag fodified - VOC Bags
			Date	Time	3 Ma 15 M
Client Sample ID	Lab Code	Matrix	Collected	Collected	
SS-09	P1600038-001	Air	1/5/2016	16:55	X X X
SS-3H	P1600038-002	Air	1/5/2016	17:01	X X X
SF-2/5	P1600038-003	Air	1/5/2016	17:17	X X X
SF-1	P1600038-004	Air	1/5/2016	17:24	X X X
P-40	P1600038-005	Air	1/5/2016	17:32	X X X
MA1-A	P1600038-006	Air	1/5/2016	17:46	X X X
T-3 Low Road	P1600038-007	Air	1/5/2016	17:58	X X X

Chain of Custody Record Analytical Services Request

.

SCEC 1631 E. Saint Andrew Place Santa Ana, CA 92705 (714) 282-8240 phone, (714) 282-8247 fax

91000312

¥,

Client/Project Na	tme: So Cal Gas Compan	Ϋ́,	Client Pr	oject No.: 20	15.1063		ANALY	SES REQUESTED	Laborator	y Name: ALS		I
Project Location.	: Aliso Canyon					12 -10	x	s r RS	Lab Conts	ict: Kelly Hori	uchi	
Contact: Rudy	Nunez	Sampler (Sign	ature)	:7		bəñibon 6 OMM3 9n6r	918 ĉt	r-passi 2 SSH 2 SSH 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Lab Phon	a No.: 805-577	-2088	
Sample				SAMPLE		л 6-0 9Т <i>8</i> ФеМ	-01/	IPM D as i as i ss	Turnarour	id Time 24 Ho	ur	
	Description					PA T(₹₽≽	drno: ∋S SA				
*		Date	Start Time	End Time	Type	EI		•		Rema	irks:	
() 1 SS-0	9	9102-5-1	1653	1655	Tediar Bag	×	×	. x		DATA PACKAG	SE ON ALL S	SAMPLES
2 SS-3	Η.	-	1659	1061	Tediar Bag	×	×	×				
Э. В. 1- Л			NOT ACC	QSC ARI E	Tedlar Bag	×	×	×	Email	data to: munez(@montrose-	env.com
T 4 SF-2	/5		111		Tedlar Bag	×	×	×	Ē	nail data to: Ms.	. Ruth Custa	Ince
5 SF-1			177.7.	T-LI-1	Tediar Bag	×	×	×	Email A	ddress: RCusta	Ince@Geos)	yntec.com
(5) 6 P-40			1730	1732	Tedlar Bag	×	×	×				
6) 7 MA1.	Υ-		1744	7221	Tedlar Bag	×	×	×				
1) 87-31	.ow Road		1756	17.51	Tedlar Bag	×	×	×				
9 7-3 1	High Road	≥	NOT ACC	7551212	Tediar Bag	×	×	× •				
							•					
									1			
	1					j.		a Chin		ł.		
Relinquished by (Si	Constituent -	Company: S	CEC		Date 1-5-20/6	Time Z13	6	Received by (Standing	for Company:	the st	1/19/	2000
Relinquished by (Si	gnature): 0	Company:			Oate	Time	-	Received by (Signature):	Company:	μ Ω	ate: Tim	1e:
Relinquished by (Si	gnature):	Company:			Oata	Time		Received by (Signature):	Company:	đ	ate: Tim	1e:

So Cal Gas Company Aliso Canyon 2045.1063 ALS REV.1

1

Page 1

题:李 ··

ĩ

ALS Environmental Sample Acceptance Check Form

Client:	Southern Calif	fornia Gas Company	~F	· · · · · · · · · · · · · · · · · · ·		Work order:	P1600038			
Project:	So Cal Gas Co	ompany / 2045.1063			-					
Sample((s) received on:	1/5/16]	Date opened:	1/5/16	by:	KKEL	PE	
<u>Note</u> : This compliance	<i>Note:</i> This form is used for <u>all</u> samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not a compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/S						ot as an in od/SOP.	dication	of	
					_			Yes	<u>No</u>	<u>N/A</u>
1	Were sample	containers properly n	narked with cli	ient sample ID	?					
2	Did sample co	ontainers arrive in go	od condition?					×		
3	Were chain-of	f-custody papers used	and filled out	?				X		
4	Did sample co	ontainer labels and/or	tags agree wi	th custody pap	ers?			×		
5	Was sample v	olume received adequ	ate for analysi	is?				\mathbf{X}		
6	Are samples w	vithin specified holdin	g times?					X		
7	Was proper te	mperature (thermal p	preservation) o	f cooler at rece	eipt adhered t	o?				X
8 9 10 11	Were custody Were signature Were seals int Do containe Is there a clien Were <u>VOA v</u> Does the clien Tubes: Badges:	seals on outside of co Location of seal(s)? e and date included? act? rs have appropriate pr nt indication that the s ials checked for prese t/method/SOP require Are the tubes capp Are the badges pr Are dual bed badg	coler/Box/Con reservation, ac ubmitted samp nce/absence of that the analy ped and intact? roperly capped ges separated a	tainer? ccording to me bles are pH pre f air bubbles? st check the sa and intact? and intact?	ethod/SOP or eserved? mple pH and y capped and	Client specified i <u>if necessary</u> alter intact?	_Sealing Lid?		\boxtimes	N N N N N N N N N N N N N N N N N N N
Lab	Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Recei	pt / Pres Commer	ervation nts	l
P160003	8-001.01	5L tedlar								
P160003	8-002.01	5L tedlar								

Explain any discrepancies: (include lab sample ID numbers):

5L tedlar

5L tedlar

5L tedlar

5L tedlar

5L tedlar

P1600038-003.01

P1600038-004.01

P1600038-005.01

P1600038-006.01

P1600038-007.01

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

RESULTS OF ANALYSIS

Page 1 of 1

Client: Client Sample ID: Client Project ID:	Southern California Gas Company SS-09 So Cal Gas Company / 2045.1063	ALS Project ID: P1600038 ALS Sample ID: P1600038-001
Test Code:	EPA TO-3 Modified	Date Collected: 1/5/16
Instrument ID:	HP5890 II/GC8/FID	Date Received: 1/5/16
Analyst:	Mike Conejo	Date Analyzed: 1/6/16
Sampling Media:	5.0 L Tedlar Bag	Volume(s) Analyzed: 1.0 ml(s)

Compound	Result	MRL	Data
	ppmV	ppmV	Qualifier
Methane	2.4	0.50	
C_2 as Ethane	ND	0.50	
C_3 as Propane	ND	0.50	
C ₄ as n-Butane	ND	0.50	
C_5 as n-Pentane	ND	0.50	
C_6 as n-Hexane	ND	0.50	
C ₆ + as n-Hexane	1.3	0.50	
Total Gaseous Nonmethane Organics (TGNMO) as Methane	7.9	1.0	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Client Sample ID: Client Project ID:	Southern California Gas Company SS-3H So Cal Gas Company / 2045.1063	ALS Project ID: P1600038 ALS Sample ID: P1600038-002
Test Code:	EPA TO-3 Modified	Date Collected: 1/5/16
Instrument ID:	HP5890 II/GC8/FID	Date Received: 1/5/16
Analyst:	Mike Conejo	Date Analyzed: 1/6/16
Sampling Media:	5.0 L Tedlar Bag	Volume(s) Analyzed: 1.0 ml(s)

Compound	Result	MRL	Data
	ppmV	ppmV	Qualifier
Methane	2.6	0.50	
C_2 as Ethane	ND	0.50	
C_3 as Propane	ND	0.50	
C ₄ as n-Butane	ND	0.50	
C_5 as n-Pentane	ND	0.50	
C_6 as n-Hexane	ND	0.50	
C ₆ + as n-Hexane	1.2	0.50	
Total Gaseous Nonmethane Organics (TGNMO) as Methane	7.0	1.0	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Client Sample ID: Client Project ID:	Southern California Gas Company SF-2/5 So Cal Gas Company / 2045.1063	ALS Project ID: P1600038 ALS Sample ID: P1600038-003
Test Code:	EPA TO-3 Modified	Date Collected: 1/5/16
Instrument ID:	HP5890 II/GC8/FID	Date Received: 1/5/16
Analyst:	Mike Conejo	Date Analyzed: 1/6/16
Sampling Media:	5.0 L Tedlar Bag	Volume(s) Analyzed: 1.0 ml(s)

Compound	Result	MRL	Data
	ppmV	ppmV	Qualifier
Methane	1.9	0.50	
C_2 as Ethane	ND	0.50	
C_3 as Propane	ND	0.50	
C ₄ as n-Butane	ND	0.50	
C_5 as n-Pentane	ND	0.50	
C_6 as n-Hexane	ND	0.50	
C ₆ + as n-Hexane	0.90	0.50	
Total Gaseous Nonmethane Organics (TGNMO) as Methane	5.4	1.0	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Page 1 of 1

Client:	Southern California Gas Company	
Client Sample ID:	SF-1	ALS Project ID: P1600038
Client Project ID:	So Cal Gas Company / 2045.1063	ALS Sample ID: P1600038-004
Test Code:	EPA TO-3 Modified	Date Collected: 1/5/16
Instrument ID:	HP5890 II/GC8/FID	Date Received: 1/5/16
Analyst:	Mike Conejo	Date Analyzed: 1/6/16
Sampling Media:	5.0 L Tedlar Bag	Volume(s) Analyzed: 1.0 ml(s)

Compound	Result	MRL	Data
	ppmV	ppmV	Qualifier
Methane	2.0	0.50	
C_2 as Ethane	ND	0.50	
C_3 as Propane	ND	0.50	
C ₄ as n-Butane	ND	0.50	
C_5 as n-Pentane	ND	0.50	
C_6 as n-Hexane	ND	0.50	
C ₆ + as n-Hexane	1.4	0.50	
Total Gaseous Nonmethane Organics (TGNMO) as Methane	8.5	1.0	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Page 1 of 1

Client:	Southern California Gas Company	
Client Sample ID:	P-40	ALS Project ID: P1600038
Client Project ID:	So Cal Gas Company / 2045.1063	ALS Sample ID: P1600038-005
Test Code:	EPA TO-3 Modified	Date Collected: 1/5/16
Instrument ID:	HP5890 II/GC8/FID	Date Received: 1/5/16
Analyst:	Mike Conejo	Date Analyzed: 1/6/16
Sampling Media:	5.0 L Tedlar Bag	Volume(s) Analyzed: 1.0 ml(s)

Compound	Result	MRL	Data
	ppmV	ppmV	Qualifier
Methane	2.1	0.50	
C_2 as Ethane	ND	0.50	
C_3 as Propane	ND	0.50	
C ₄ as n-Butane	ND	0.50	
C_5 as n-Pentane	ND	0.50	
C ₆ as n-Hexane	ND	0.50	
C ₆ + as n-Hexane	2.7	0.50	
Total Gaseous Nonmethane Organics (TGNMO) as Methane	16	1.0	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Client Sample ID: Client Project ID:	Southern California Gas Company MA1-A So Cal Gas Company / 2045,1063	ALS Project ID: P1600038 ALS Sample ID: P1600038-0	06
Test Code	FPA TO-3 Modified	Date Collected: 1/5/16	
Instrument ID: Analyst:	HP5890 II/GC8/FID Mike Conejo	Date Received: 1/5/16 Date Analyzed: 1/6/16	
Sampling Media:	5.0 L Tedlar Bag	Volume(s) Analyzed: 1.0 m	nl(s)

Compound	Result	MRL	Data
	ppmV	ppmV	Qualifier
Methane	2.0	0.50	
C_2 as Ethane	ND	0.50	
C_3 as Propane	ND	0.50	
C ₄ as n-Butane	ND	0.50	
C_5 as n-Pentane	ND	0.50	
C ₆ as n-Hexane	ND	0.50	
C ₆ + as n-Hexane	1.5	0.50	
Total Gaseous Nonmethane Organics (TGNMO) as Methane	8.8	1.0	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Client Sample ID: Client Project ID:	Southern California Gas Company T-3 Low Road So Cal Gas Company / 2045.1063	ALS Project ID: P1600038 ALS Sample ID: P1600038-007
Test Code:	EPA TO-3 Modified	Date Collected: 1/5/16
Instrument ID:	HP5890 II/GC8/FID	Date Received: 1/5/16
Analyst:	Mike Conejo	Date Analyzed: 1/6/16
Sampling Media:	5.0 L Tedlar Bag	Volume(s) Analyzed: 1.0 ml(s)

Compound	Result	MRL	Data
	ppmV	ppmV	Qualifier
Methane	2.0	0.50	
C_2 as Ethane	ND	0.50	
C ₃ as Propane	ND	0.50	
C ₄ as n-Butane	ND	0.50	
C ₅ as n-Pentane	ND	0.50	
C ₆ as n-Hexane	ND	0.50	
C ₆ + as n-Hexane	1.3	0.50	
Total Gaseous Nonmethane Organics (TGNMO) as Methane	8.0	1.0	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Client Sample ID: Client Project ID:	Southern California Gas Company Method Blank So Cal Gas Company / 2045.1063	ALS Project ID: P1600038 ALS Sample ID: P160106-MB
Test Code:	EPA TO-3 Modified	Date Collected: NA
Instrument ID:	HP5890 II/GC8/FID	Date Received: NA
Analyst:	Mike Conejo	Date Analyzed: 1/06/16
Sampling Media:	5.0 L Tedlar Bag	Volume(s) Analyzed: 1.0 ml(s)

Compound	Result	MRL	Data
	ppmV	ppmV	Qualifier
Methane	ND	0.50	
C_2 as Ethane	ND	0.50	
C_3 as Propane	ND	0.50	
C ₄ as n-Butane	ND	0.50	
C ₅ as n-Pentane	ND	0.50	
C_6 as n-Hexane	ND	0.50	
C ₆ + as n-Hexane	ND	0.50	
Total Gaseous Nonmethane Organics (TGNMO) as Methane	ND	1.0	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 1

Client:	Southern California Gas Company
Client Sample ID:	Lab Control Sample
Client Project ID:	So Cal Gas Company / 2045.1063

ALS Project ID: P1600038 ALS Sample ID: P160106-LCS

Test Code:	EPA TO-3 Modified	Date Collected: NA	
Instrument ID:	HP5890 II/GC8/FID	Date Received: NA	
Analyst:	Mike Conejo	Date Analyzed: 1/06/16	
Sampling Media:	5.0 L Tedlar Bag	Volume(s) Analyzed: NA m	l(s)
Test Notes:			

				ALS	
Compound	Spike Amount	Result	% Recovery	Acceptance	Data
	ppmV	ppmV		Limits	Qualifier
Methane	1,020	884	87	83-107	
Ethane	1,010	963	95	77-111	
Propane	1,010	969	96	78-110	
n-Butane	1,010	971	96	73-109	
n-Pentane	1,010	1,040	103	75-115	
n-Hexane	1,020	1,100	108	73-121	

RESULTS OF ANALYSIS

Page 1 of 1

Client: Client Sample ID: Client Project ID:	Southern California Gas Company SS-09 So Cal Gas Company / 2045.1063	mpany ALS Project ID: P1600038 53 ALS Sample ID: P1600038-001		
Test Code:	ASTM D 5504-12	Date Collected: 1/5/16		
Instrument ID:	Agilent 7890A/GC22/SCD	Time Collected: 16:55		
Analyst:	Mike Conejo	Date Received: 1/5/16		
Sample Type:	5.0 L Tedlar Bag	Date Analyzed: 1/6/16		
Test Notes:		Time Analyzed: 08:19		
		Volume(s) Analyzed: 2.0 ml(s)		

CAS #	Compound	Result	MRL	Data
		ppbV	ppbV	Qualifier
7783-06-4	Hydrogen Sulfide	ND	5.0	
463-58-1	Carbonyl Sulfide	ND	5.0	
74-93-1	Methyl Mercaptan	ND	2.5	
75-08-1	Ethyl Mercaptan	ND	2.5	
75-15-0	Carbon Disulfide	ND	2.5	
75-66-1	tert-Butyl Mercaptan	ND	2.5	
110-01-0	Tetrahydrothiophene	ND	2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Client Sample ID: Client Project ID:	Southern California Gas Company SS-3H So Cal Gas Company / 2045.1063	ALS Project ID: P1600038 ALS Sample ID: P1600038-002
Test Code:	ASTM D 5504-12	Date Collected: 1/5/16
Instrument ID:	Agilent 7890A/GC22/SCD	Time Collected: 17:01
Analyst:	Mike Conejo	Date Received: 1/5/16
Sample Type:	5.0 L Tedlar Bag	Date Analyzed: 1/6/16
Test Notes:		Time Analyzed: 08:37
		Volume(s) Analyzed: 2.0 ml(s)

CAS #	Compound	Result	MRL	Data
		ppbV	ppbV	Qualifier
7783-06-4	Hydrogen Sulfide	ND	5.0	
463-58-1	Carbonyl Sulfide	ND	5.0	
74-93-1	Methyl Mercaptan	ND	2.5	
75-08-1	Ethyl Mercaptan	ND	2.5	
75-15-0	Carbon Disulfide	ND	2.5	
75-66-1	tert-Butyl Mercaptan	ND	2.5	
110-01-0	Tetrahydrothiophene	ND	2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Client Sample ID: Client Project ID:	Southern California Gas Company SF-2/5 So Cal Gas Company / 2045.1063	ALS Project ID: P1600038 ALS Sample ID: P1600038-003
Test Code:	ASTM D 5504-12	Date Collected: 1/5/16
Instrument ID:	Agilent 7890A/GC22/SCD	Time Collected: 17:17
Analyst:	Mike Conejo	Date Received: 1/5/16
Sample Type:	5.0 L Tedlar Bag	Date Analyzed: 1/6/16
Test Notes:		Time Analyzed: 08:53
		Volume(s) Analyzed: 2.0 ml(s)

CAS #	Compound	Result	MRL	Data
		ppbV	ppbV	Qualifier
7783-06-4	Hydrogen Sulfide	ND	5.0	
463-58-1	Carbonyl Sulfide	ND	5.0	
74-93-1	Methyl Mercaptan	ND	2.5	
75-08-1	Ethyl Mercaptan	ND	2.5	
75-15-0	Carbon Disulfide	ND	2.5	
75-66-1	tert-Butyl Mercaptan	ND	2.5	
110-01-0	Tetrahydrothiophene	ND	2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Client Sample ID: Client Project ID:	Southern California Gas Company SF-1 So Cal Gas Company / 2045.1063	ALS Project ID: P1600038 ALS Sample ID: P1600038-004
Test Code:	ASTM D 5504-12	Date Collected: 1/5/16
Instrument ID:	Agilent 7890A/GC22/SCD	Time Collected: 17:24
Analyst:	Mike Conejo	Date Received: 1/5/16
Sample Type:	5.0 L Tedlar Bag	Date Analyzed: 1/6/16
Test Notes:		Time Analyzed: 09:08
		Volume(s) Analyzed: 2.0 ml(s)

CAS #	Compound	Result	MRL	Data
		ppbV	ppbV	Qualifier
7783-06-4	Hydrogen Sulfide	ND	5.0	
463-58-1	Carbonyl Sulfide	ND	5.0	
74-93-1	Methyl Mercaptan	ND	2.5	
75-08-1	Ethyl Mercaptan	ND	2.5	
75-15-0	Carbon Disulfide	ND	2.5	
75-66-1	tert-Butyl Mercaptan	ND	2.5	
110-01-0	Tetrahydrothiophene	ND	2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Client Sample ID: Client Project ID:	Southern California Gas Company P-40 So Cal Gas Company / 2045.1063	ALS Project ID: P1600038 ALS Sample ID: P1600038-005		
Test Code:	ASTM D 5504-12	Date Collected: 1/5/16		
Instrument ID:	Agilent 7890A/GC22/SCD	Time Collected: 17:32		
Analyst:	Mike Conejo	Date Received: 1/5/16		
Sample Type:	5.0 L Tedlar Bag	Date Analyzed: 1/6/16		
Test Notes: Time Analyzed: 09				
		Volume(s) Analyzed: 2.0 ml(s)		

CAS #	Compound	Result	MRL	Data
		ppbV	ppbV	Qualifier
7783-06-4	Hydrogen Sulfide	ND	5.0	
463-58-1	Carbonyl Sulfide	ND	5.0	
74-93-1	Methyl Mercaptan	ND	2.5	
75-08-1	Ethyl Mercaptan	ND	2.5	
75-15-0	Carbon Disulfide	ND	2.5	
75-66-1	tert-Butyl Mercaptan	ND	2.5	
110-01-0	Tetrahydrothiophene	ND	2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Client Sample ID: Client Project ID:	Southern California Gas Company MA1-A So Cal Gas Company / 2045.1063	ALS Project ID: P1600038 ALS Sample ID: P1600038-006			
Test Code:	ASTM D 5504-12	Date Collected: 1/5/16			
Instrument ID:	Agilent 7890A/GC22/SCD	Time Collected: 17:46			
Analyst:	Mike Conejo	Date Received: 1/5/16			
Sample Type:	5.0 L Tedlar Bag	Date Analyzed: 1/6/16			
Test Notes: Time Analyzed: 0					
		Volume(s) Analyzed: 2.0 ml(s)			

CAS #	Compound	Result	MRL	Data
		ppbV	ppbV	Qualifier
7783-06-4	Hydrogen Sulfide	ND	5.0	
463-58-1	Carbonyl Sulfide	ND	5.0	
74-93-1	Methyl Mercaptan	ND	2.5	
75-08-1	Ethyl Mercaptan	ND	2.5	
75-15-0	Carbon Disulfide	ND	2.5	
75-66-1	tert-Butyl Mercaptan	ND	2.5	
110-01-0	Tetrahydrothiophene	ND	2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Client Sample ID: Client Project ID:	Southern California Gas Company T-3 Low Road So Cal Gas Company / 2045.1063	ALS Project ID: P1600038 ALS Sample ID: P1600038-007
Test Code:	ASTM D 5504-12	Date Collected: 1/5/16
Instrument ID:	Agilent 7890A/GC22/SCD	Time Collected: 17:58
Analyst:	Mike Conejo	Date Received: 1/5/16
Sample Type:	5.0 L Tedlar Bag	Date Analyzed: 1/6/16
Test Notes:		Time Analyzed: 09:57
		Volume(s) Analyzed: 2.0 ml(s)

CAS #	Compound	Result	MRL	Data
		ppbV	ppbV	Qualifier
7783-06-4	Hydrogen Sulfide	ND	5.0	
463-58-1	Carbonyl Sulfide	ND	5.0	
74-93-1	Methyl Mercaptan	ND	2.5	
75-08-1	Ethyl Mercaptan	ND	2.5	
75-15-0	Carbon Disulfide	ND	2.5	
75-66-1	tert-Butyl Mercaptan	ND	2.5	
110-01-0	Tetrahydrothiophene	ND	2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

RESULTS OF ANALYSIS

Page 1 of 1

Client:Southern California Gas CompanyClient Project ID:So Cal Gas Company / 2045.1063

ALS Project ID: P1600038

Total Reduced Sulfur as Hydrogen Sulfide

Test Code:	ASTM D 5504-12	
Instrument ID:	Agilent 7890A/GC22/SCD	Date(s) Collected: 1/5/16
Analyst:	Mike Conejo	Date Received: 1/5/16
Sample Type:	5.0 L Tedlar Bag(s)	Date Analyzed: 1/6/16
Test Notes:		

		Injection				
Client Sample ID	ALS Sample ID	Volume	Time	Result	MRL	Data
		ml(s)	Analyzed	\mathbf{ppbV}	ppbV	Qualifier
SS-09	P1600038-001	2.0	08:19	ND	5.0	
SS-3H	P1600038-002	2.0	08:37	ND	5.0	
SF-2/5	P1600038-003	2.0	08:53	ND	5.0	
SF-1	P1600038-004	2.0	09:08	ND	5.0	
P-40	P1600038-005	2.0	09:24	ND	5.0	
MA1-A	P1600038-006	2.0	09:39	ND	5.0	
T-3 Low Road	P1600038-007	2.0	09:57	ND	5.0	
Method Blank	P160106-MB	2.0	07:58	ND	5.0	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Client Sample ID: Client Project ID:	Southern California Gas Company Method Blank So Cal Gas Company / 2045.1063	ALS Project ID: P1600038 ALS Sample ID: P160106-MB		
Test Code:	ASTM D 5504-12	Date Collected: NA		
Instrument ID:	Agilent 7890A/GC22/SCD	Time Collected: NA		
Analyst:	Mike Conejo	Date Received: NA		
Sample Type:	5.0 L Tedlar Bag	Date Analyzed: 1/06/16		
Test Notes:		Time Analyzed: 07:58		
		Volume(s) Analyzed: 2.0 ml(s)		

CAS #	Compound	Result	MRL	Data
		ppbV	ppbV	Qualifier
7783-06-4	Hydrogen Sulfide	ND	5.0	
463-58-1	Carbonyl Sulfide	ND	5.0	
74-93-1	Methyl Mercaptan	ND	2.5	
75-08-1	Ethyl Mercaptan	ND	2.5	
75-15-0	Carbon Disulfide	ND	2.5	
75-66-1	tert-Butyl Mercaptan	ND	2.5	
110-01-0	Tetrahydrothiophene	ND	2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 1

Client:	Southern California Gas Company
Client Sample ID:	Lab Control Sample
Client Project ID:	So Cal Gas Company / 2045.1063

ALS Project ID: P1600038 ALS Sample ID: P160106-LCS

Test Code:	ASTM D 5504-12	Date Collected: NA		
Instrument ID:	Agilent 7890A/GC22/SCD	Date Received: NA		
Analyst:	Mike Conejo	Date Analyzed: 1/06/16		
Sample Type:	5.0 L Tedlar Bag	Volume(s) Analyzed: NA ml(s)		
Test Notes:				

					ALS	
CAS #	Compound	Spike Amount	Result	% Recovery	Acceptance	Data
		ppbV	ppbV		Limits	Qualifier
7783-06-4	Hydrogen Sulfide	1,000	1,150	115	65-138	
463-58-1	Carbonyl Sulfide	1,000	1,060	106	60-135	
74-93-1	Methyl Mercaptan	1,000	1,080	108	57-140	

RESULTS OF ANALYSIS

Page 1 of 1

Client:	Southern California Gas Company				
Client Sample ID:	SS-09	ALS Project ID: P1600038			
Client Project ID:	So Cal Gas Company / 2045.1063	ALS Sample ID: P1600038-001			
Test Code:	EPA TO-15 Modified	Date Collected: 1/5/16			
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received: 1/5/16			
Analyst:	Simon Cao	Date Analyzed: 1/6/16			
Sample Type:	5.0 L Tedlar Bag	Volume(s) Analyzed: 0.10 Liter(s)			
Test Notes:					

CAS #	Compound	Result	MRL	Data
		ppbV	ppbV	Qualifier
71-43-2	Benzene	0.82	0.31	
108-88-3	Toluene	ND	1.3	
100-41-4	Ethylbenzene	ND	1.2	
179601-23-1	m,p-Xylenes	ND	1.2	
95-47-6	o-Xylene	ND	1.2	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

RESULTS OF ANALYSIS

Page 1 of 1

Client:	Southern California Gas Company				
Client Sample ID:	SS-3H	ALS Project ID: P1600038			
Client Project ID:	So Cal Gas Company / 2045.1063	ALS Sample ID: P1600038-002			
Test Code:	EPA TO-15 Modified	Date Collected: 1/5/16			
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received: 1/5/16			
Analyst:	Simon Cao	Date Analyzed: 1/6/16			
Sample Type:	5.0 L Tedlar Bag	Volume(s) Analyzed: 0.10 Liter(s)		
Test Notes:					

CAS #	Compound	Result	MRL	Data
		ppbV	ppbV	Qualifier
71-43-2	Benzene	ND	0.31	
108-88-3	Toluene	ND	1.3	
100-41-4	Ethylbenzene	ND	1.2	
179601-23-1	m,p-Xylenes	ND	1.2	
95-47-6	o-Xylene	ND	1.2	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

RESULTS OF ANALYSIS

Page 1 of 1

Client:	Southern California Gas Company				
Client Sample ID:	SF-2/5	ALS Project ID: P1600038			
Client Project ID:	So Cal Gas Company / 2045.1063	ALS Sample ID: P1600038-003			
Test Code:	EPA TO-15 Modified	Date Collected: 1/5/16			
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received: 1/5/16			
Analyst:	Simon Cao	Date Analyzed: 1/6/16			
Sample Type:	5.0 L Tedlar Bag	Volume(s) Analyzed: 0.10 Liter(s)			
Test Notes:					

CAS #	Compound	Result	MRL	Data
		ppbV	ppbV	Qualifier
71-43-2	Benzene	ND	0.31	
108-88-3	Toluene	ND	1.3	
100-41-4	Ethylbenzene	ND	1.2	
179601-23-1	m,p-Xylenes	ND	1.2	
95-47-6	o-Xylene	ND	1.2	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

RESULTS OF ANALYSIS

Page 1 of 1

Client:	Southern California Gas Company				
Client Sample ID:	SF-1	ALS Project ID: P1600038			
Client Project ID:	So Cal Gas Company / 2045.1063	ALS Sample ID: P1600038-004			
Test Code:	EPA TO-15 Modified	Date Collected: 1/5/16			
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received: 1/5/16			
Analyst:	Simon Cao	Date Analyzed: 1/6/16			
Sample Type:	5.0 L Tedlar Bag	Volume(s) Analyzed: 0.10 Liter	(s)		
Test Notes:					

CAS #	Compound	Result	MRL	Data
		ppbV	ppbV	Qualifier
71-43-2	Benzene	ND	0.31	
108-88-3	Toluene	ND	1.3	
100-41-4	Ethylbenzene	ND	1.2	
179601-23-1	m,p-Xylenes	ND	1.2	
95-47-6	o-Xylene	ND	1.2	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

RESULTS OF ANALYSIS

Page 1 of 1

Client:	Southern California Gas Company		
Client Sample ID:	P-40	ALS Project ID: F	1600038
Client Project ID:	So Cal Gas Company / 2045.1063	ALS Sample ID: F	1600038-005
Test Code:	EPA TO-15 Modified	Date Collected: 1	/5/16
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received: 1	/5/16
Analyst:	Simon Cao	Date Analyzed: 1	/6/16
Sample Type:	5.0 L Tedlar Bag	Volume(s) Analyzed:	0.10 Liter(s)
Test Notes:			

CAS #	Compound	Result	MRL	Data
		ppbV	ppbV	Qualifier
71-43-2	Benzene	ND	0.31	
108-88-3	Toluene	ND	1.3	
100-41-4	Ethylbenzene	ND	1.2	
179601-23-1	m,p-Xylenes	ND	1.2	
95-47-6	o-Xylene	ND	1.2	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

RESULTS OF ANALYSIS

Page 1 of 1

Client:	Southern California Gas Company		
Client Sample ID:	MA1-A	ALS Project ID: P1600038	
Client Project ID:	So Cal Gas Company / 2045.1063	ALS Sample ID: P1600038-000	5
Test Code:	EPA TO-15 Modified	Date Collected: 1/5/16	
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received: 1/5/16	
Analyst:	Simon Cao	Date Analyzed: 1/6/16	
Sample Type:	5.0 L Tedlar Bag	Volume(s) Analyzed: 0.10 Lite	r(s)
Test Notes:			

CAS #	Compound	Result	MRL	Data
		ppbV	ppbV	Qualifier
71-43-2	Benzene	ND	0.31	
108-88-3	Toluene	ND	1.3	
100-41-4	Ethylbenzene	ND	1.2	
179601-23-1	m,p-Xylenes	ND	1.2	
95-47-6	o-Xylene	ND	1.2	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

RESULTS OF ANALYSIS

Page 1 of 1

Client:	Southern California Gas Company	
Client Sample ID:	T-3 Low Road	ALS Project ID: P1600038
Client Project ID:	So Cal Gas Company / 2045.1063	ALS Sample ID: P1600038-007
Test Code:	EPA TO-15 Modified	Date Collected: 1/5/16
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received: 1/5/16
Analyst:	Simon Cao	Date Analyzed: 1/6/16
Sample Type:	5.0 L Tedlar Bag	Volume(s) Analyzed: 0.10 Liter(s
Test Notes:		

CAS #	Compound	Result	MRL	Data
		ppbV	ppbV	Qualifier
71-43-2	Benzene	ND	0.31	
108-88-3	Toluene	ND	1.3	
100-41-4	Ethylbenzene	ND	1.2	
179601-23-1	m,p-Xylenes	ND	1.2	
95-47-6	o-Xylene	ND	1.2	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

RESULTS OF ANALYSIS

Page 1 of 1

Client:	Southern California Gas Company		
Client Sample ID:	Method Blank	ALS Project ID: P1600038	
Client Project ID:	So Cal Gas Company / 2045.1063	ALS Sample ID: P160106-M	1B
Test Code:	EPA TO-15 Modified	Date Collected: NA	
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received: NA	
Analyst:	Simon Cao	Date Analyzed: 1/6/16	
Sample Type:	5.0 L Tedlar Bag	Volume(s) Analyzed: 1.00 I	Liter(s)
Test Notes:			

CAS #	Compound	Result	MRL	Data
		ppbV	ppbV	Qualifier
71-43-2	Benzene	ND	0.031	
108-88-3	Toluene	ND	0.13	
100-41-4	Ethylbenzene	ND	0.12	
179601-23-1	m,p-Xylenes	ND	0.12	
95-47-6	o-Xylene	ND	0.12	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.

SURROGATE SPIKE RECOVERY RESULTS

Page 1 of 1

Client:Southern California Gas CompanyClient Project ID:So Cal Gas Company / 2045.1063

ALS Project ID: P1600038

Test Code:	EPA TO-15 Modified	
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date(s) Collected: 1/5/16
Analyst:	Simon Cao	Date(s) Received: 1/5/16
Sample Type:	5.0 L Tedlar Bag(s)	Date(s) Analyzed: 1/6/16
Test Notes:		

		1,2-Dichloroethane-d4	Toluene-d8	Bromofluorobenzene		
Client Sample ID	ALS Sample ID	Percent	Percent	Percent	Acceptance	Data
		Recovered	Recovered	Recovered	Limits	Qualifier
Method Blank	P160106-MB	86	107	104	70-130	
Lab Control Sample	P160106-LCS	84	102	106	70-130	
SS-09	P1600038-001	85	107	115	70-130	
SS-3H	P1600038-002	85	107	114	70-130	
SF-2/5	P1600038-003	84	107	114	70-130	
SF-1	P1600038-004	83	107	116	70-130	
P-40	P1600038-005	87	106	116	70-130	
MA1-A	P1600038-006	86	106	118	70-130	
T-3 Low Road	P1600038-007	86	106	115	70-130	
T-3 Low Road	P1600038-007DUP	83	107	116	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.

Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

LABORATORY CONTROL SAMPLE SUMMARY

Page 1 of 1

Client:	Southern California Gas Company	
Client Sample ID:	Lab Control Sample	ALS Project ID: P1600038
Client Project ID:	So Cal Gas Company / 2045.1063	ALS Sample ID: P160106-LCS
Test Code:	EPA TO-15 Modified	Date Collected: NA
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received: NA
Analyst:	Simon Cao	Date Analyzed: 1/6/16
Sample Type:	5.0 L Tedlar Bag	Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:		

				ALS			
CAS #	Compound	Spike Amount	Result	% Recovery	Acceptance	Data	
		ppbV	ppbV		Limits	Qualifier	
71-43-2	Benzene	70.8	59.4	84	61-110		
108-88-3	Toluene	57.9	51.0	88	67-117		
100-41-4	Ethylbenzene	50.2	45.4	90	69-123		
179601-23-1	m,p-Xylenes	98.6	89.0	90	67-125		
95-47-6	o-Xylene	48.4	42.9	89	67-124		

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result. Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

LABORATORY DUPLICATE SUMMARY RESULTS

Page 1 of 1

Client:	Southern California Gas Company				
Client Sample ID:	T-3 Low Road	ALS Project ID: P1600038 ALS Sample ID: P1600038-007DUP			
Client Project ID:	So Cal Gas Company / 2045.1063				
Test Code:	EPA TO-15 Modified	Date Collected: 1/5/16			
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received: 1/5/16			
Analyst:	Simon Cao	Date Analyzed: 1/6/16			
Sample Type:	5.0 L Tedlar Bag	Volume(s) Analyzed: 0.10 Liter(s)			
Test Notes:					

	Duplicate					
Compound	Sample Result	Sample Result	Average	% RPD	RPD	Data
	ppbV	ppbV			Limit	Qualifier
Benzene	ND	ND	-	-	25	
Toluene	ND	ND	-	-	25	
Ethylbenzene	ND	ND	-	-	25	
m,p-Xylenes	ND	ND	-	-	25	
o-Xylene	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.