Texas Brine Company, LLC
1301 Highway 70
Belle Rose, LA 70341
Phone: 985-369-6657
Fax: 985-369-7873

January 18, 2013

Commissioner James H. Welsh
P.O. Box 94275
Baton Rouge, LA 70804

RE: In response to State of Louisiana Department of Natural Resources Office of Conservation's Second Amendment to Declaration of Emergency and Directive

Commissioner Welsh,

In response to the Second Amendment and Declaration of Emergency and Directive order issued by the Louisiana Department of Natural Resources (LDNR), Office of Conservation on September 25, 2012, Texas Brine Company, LLC (TPC) understands the seven items listed in the document.

In the above mentioned, TBC was specifically directed and ordered to perform certain tasks outlined in the above mentioned document. Below are the required responses, as directed.

1. TBC's counsel provided LDNR legal counsel with a response to Directives 1-3 on September 28, 2012.
2. TBC understands Directive 4, which is to provide all daily logs and field notes from all contractors conducting investigation into subsidence and natural gas bubbling. The Daily Action Summary and results for current information can be found in the Attachment section of this report.
3. TBC understands Directive 5, which directs TBC to immediately allow for split or share any sample taken on site related to Well 3A (Serial Number 974265), the cavern, other wells facilities or other site locations. The Daily Action Summary of today's collection can be found in Attachment section of this report.
4. TBC understands Directive 6, which directs TBC to immediately report the results (final and preliminary) of any tests, logs samples or data collection performed on Well 3A, the cavern, other wells, facilities or site locations that indicate a change in any previously known conditions related to the investigation of the subsidence or natural gas bubbling

events, and continue to report any such results. The Daily Action Summary and the Results related to this Directive can be found in Attachment section of this report.

5. TBC understands the Directive 7, which states that TBC will provide a daily summary of all tests, or logs performed or samples taken from Well 3A and the cavern as well as any results of those tests or logs, including preliminary as of September 25, 2012 and going forward. The Daily Summary and Results related to this Directive can be found in Attachment section of this report.

Please note that the drilling rig used for the Observation Well 3A has been removed and the site is being rigged down and returned to pre-drilling condition. As such, daily drilling reports for this well have ceased. Plans are being made for longer term potential gas venting/flaring requirements and possible hydrocarbon material recover from Well 3A.

In addition, previous daily summary reports issued to LDNR have included significant duplicate information as there is a fair amount of overlap in the information requested in each of the Directives included in the September 25, 2012 order. All requested information associated with the Directives issued in the September 25, 2012 order are included in the Attachment section of this report.

TBC believes that the submittal of this report satisfies the requirements of the Declaration of Emergency and Directive issued on September 25, 2012. As directed this report is submitted by email to conservationorder@la.gov, ref. "Emergency Declaration-Texas Brine Company LLC-9/25/2012.

Bruce E. Martin

Vice President, Operations

Texas Brine Company, LLC

Summary Table for Daily Events

TBC Oxy Grand Bayou Data Management-Environmental								
Contractor	**Responsibilities**	**Collected By / Work Completed**	**Date Collected**	**Delivered to Lab**	**Results from Lab**	**Laboratory**	**Method**	**Date to Agencies**
Sage	Stationary Air Monitoring	Sam Coker - 07:45 - 09:20 Ricky Provost (Code Red) - 07:00 - 17:00	1/17/2013	No	No	No	AreaRAE Monitors	1/18/2013
	Residential Air Monitoring	No work performed	1/17/2013	NA	NA	NA	NA	NA
	Gas Seep Sampling	No work performed	1/17/2013	NA	NA	NA	NA	NA
	Well Gas Sampling	No work performed	1/17/2013	NA	NA	NA	NA	NA
	Indoor Air Monitoring	Jill Martin & Eric Rucinski Site 121 - 10:08-10:23 Site 143 -11:33-11:57 Site 43 - 13:17-13:40	1/17/2013	NA	NA	NA	Hand held Multipro Monitor	1/18/2013
Respec	Inclinometers/Tilt Meters	W. Goodman	1/18/2013	NA	Read from Atlas	NA	NA	NA
	InSAR Reflector Installations	No work performed	1/18/2013	NA	NA	NA	NA	NA
	Geophone Installation	No work performed	1/18/2013	NA	NA	NA	NA	NA
	Amendment #3, Directive #2	Work completed; No work conducted	1/18/2013	NA	NA	NA	NA	NA
Miller	Weekly Stability Survey	No work performed	1/17/2013	NA	NA	NA	NA	NA
	Misc. Survey Work	Joel Miller	1/17/2013	NA	NA	NA	NA	NA
	Sinkhole Hydro/Perimeter Survey	Matt Fore	1/17/2013	NA	NA	NA	NA	NA
Pisani	Surface Water	ABF	12/28/2012	12/28/2012	1/9/2013	GCAL	Chloride - SW-846 9056A, Conductivity – SM 2510B, TDS – SM 2540C, BTEX – SW-846 8260B, TPH Fractions – TX 1006/LA 1006, Hydrogen Sulfide - SM4500S H	NA
	Well Water	PMR	12/27/2012	12/28/2012	1/15/2013	GCAL	Chloride, Bromide and Sulfate (Inorganic Anions) – SW-846 9056A, Conductivity – SM 2510B, TDS – SM 2540C, Cations/metals – SW-846 6010B, Carbonate & Bicarbonate Alkalinity – SM 2320B, BTEX – SW-846 8260B, TPH Fractions – TX 1006/LA 1006, and Dissolved Gases - RSK-175	NA
	Geoprobe Wells	PMR	1/2/2013	1/3/2013	1/17/2013	GCAL	DRO, GRO - SW 846-8015C, BTEX – SW-846 8260B, Chloride - SW-846 9056A	NA
	TBC-2	Peter Smith	12/17/2012	12/18/2012	1/16/2013	GCAL/ALS	FOC - Walkley-Black	NA

Grand Bayou Well 3A

Daily Operations at 3A	**Summary of Today's events**
1/17/2013	

OXY 3A

7 am	12/17/12	T.D. @ 4216'
924.14 casing	1/17/13	T.D. @ 4173'
1/18/2013	Lost 43' of hole since last logs.	
	Bleeding down hydrocarbon out of well	
	48 bbls. out as of 3p.m. with 916 psi on well.	

Relief Well # 1

1/16-17/2013	7:00 AM	7:00 AM	24.00	.500"	103.20	2476.70	2476.70	15.55	.85psi	Metered CFM
1/17-18/2013	7:00 AM	7:00 AM	24.00	.500"	1.03	24.79	2501.49	15.67	.97 psi	Metered CFM

Attachments

Daily Action Summary

January 17, 2013

Stationary Air Monitoring

- Sam Coker onsite from 07:45 to 09:20. Changed out the monitors between 08:31 and 09:07. Collected data from the monitoring database and forwarded to Jill Martin in the Baton Rouge office for processing.

- Ricky Provost of Code Red (monitor sub-contractor) onsite from 07:00 to 17:00. Assisted in battery change outs and maintenance of the monitoring equipment.

Residential Air Monitoring

- Not Scheduled

Gas Seep Sampling

- Not Scheduled

Well Gas Sampling

- Not Scheduled

Air Indoor Monitoring

- Jill Martin and Eric Rucinski performed the in-home LEL monitoring between 10:08 to 10:23 for Site 121, 11:33 to 11:57 for Site 143, and 13:17 to 13:40 for Site 43. Data collected from the monitoring was forwarded to Jill Martin in the Baton Rouge office for processing.

  Note: Site TBD1 is now Site 174 and Site TBD2 is now Site 136.

Texas Brine - Belle Rose, Louisiana
Hourly Air Monitoring Data

*Time indicates start of time period (ex. 12:00:00 AM gives the time period 12:00:00 AM to 12:59:59 AM)

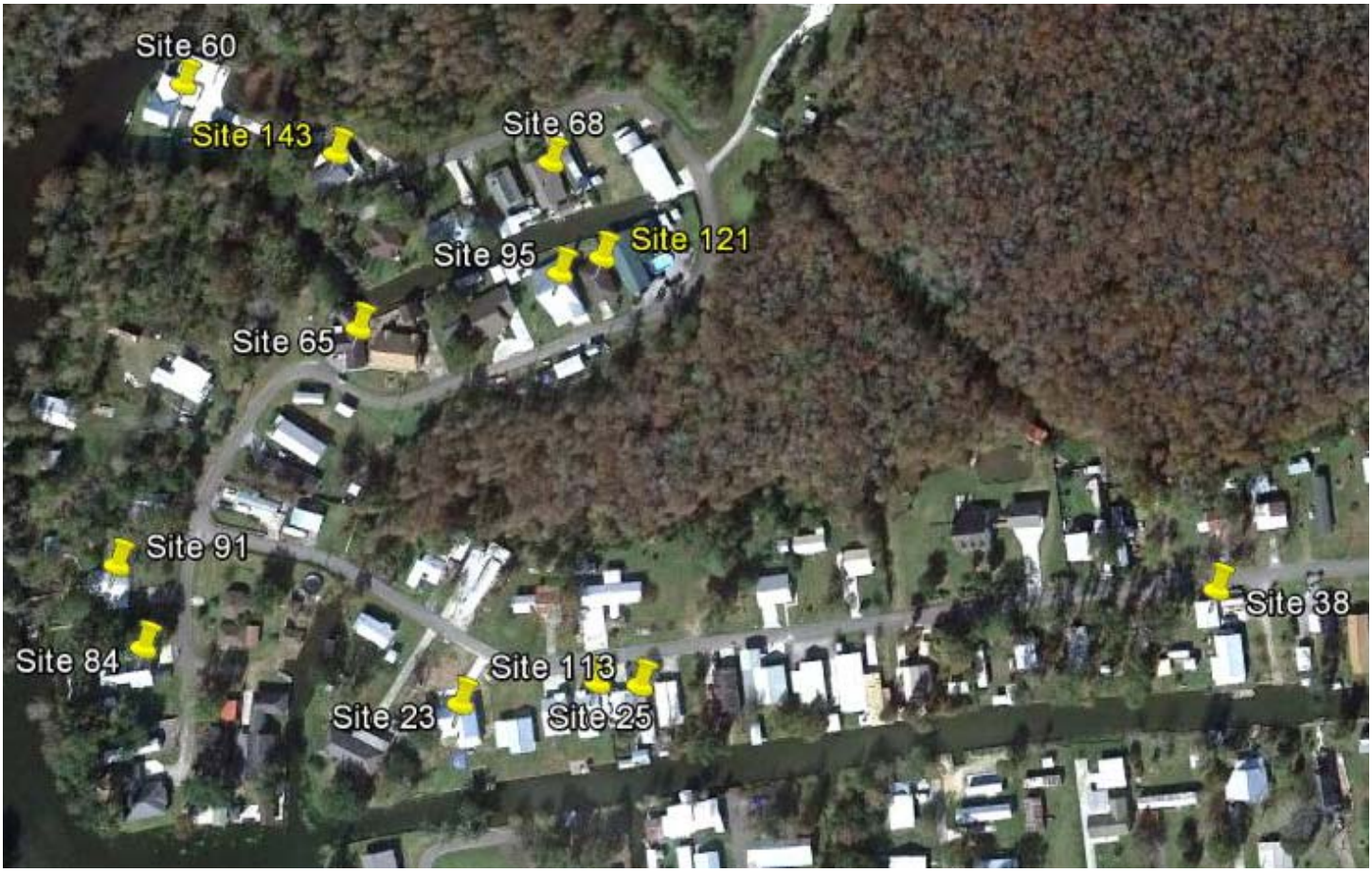
	South-most Pipeline Site					Middle-most Pipeline Site					North-most Pipeline Site					On Drill Rig Boom					Relief Well				
	AM-3					AM-2					AM-1					OG 3A-1					RW-1				
Date-Time *	CO (ppm)	Non-Methane VOC (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CO (ppm)	Non-Methane VOC (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CO (ppm)	Non-Methane VOC (ppm)	H2S (ppm)	LEL (%)	O2 (%)	SO2 (ppm)	Non-Methane VOC (ppm)	H2S (ppm)	LEL (%)	O2 (%)	CO (ppm)	Non-Methane VOC (ppm)	H2S (ppm)	LEL (%)	O2 (%)
01/17/2013 01:00:00 AM	<1.0	0.0	<1.0	0.0	20.9	<1.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	0.0	<1.0	0.0	20.9
01/17/2013 02:00:00 AM	0.0	0.0	<1.0	0.0	20.9	<1.0	0.0	<1.0	0.0	21.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	0.0	<1.0	0.0	20.9
01/17/2013 03:00:00 AM	0.0	0.0	<1.0	0.0	20.9	<1.0	0.0	<1.0	0.0	21.2	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	0.0	<1.0	0.0	20.9
01/17/2013 04:00:00 AM	<1.0	0.0	<1.0	0.0	20.9	<1.0	0.0	<1.0	0.0	21.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	0.0	<1.0	0.0	20.9
01/17/2013 05:00:00 AM	0.0	0.0	<1.0	0.0	20.9	<1.0	0.0	<1.0	0.0	21.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9
01/17/2013 06:00:00 AM	<1.0	0.0	<1.0	0.0	20.9	<1.0	0.0	<1.0	0.0	21.0	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	0.0	<1.0	0.0	20.9
01/17/2013 07:00:00 AM	0.0	0.0	<1.0	0.0	20.9	<1.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	<1.0	<1.0	0.0	20.9
01/17/2013 08:00:00 AM	0.0	0.0	<1.0	0.0	20.8	<1.0	0.0	<1.0	0.0	20.8	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9	<1.0	0.0	<1.0	0.0	20.9
01/17/2013 09:00:00 AM	0.0	0.0	0.0	0.0	20.9	<1.0	0.0	<1.0	0.0	20.8	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9	<1.0	0.0	<1.0	0.0	20.9
01/17/2013 10:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	<1.0	0.0	21.1	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9	<1.0	0.0	<1.0	0.0	20.9
01/17/2013 11:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	<1.0	0.0	21.3	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	0.0	<1.0	0.0	20.9
01/17/2013 12:00:00 PM	0.0	<1.0	0.0	0.0	20.9	0.0	0.0	<1.0	0.0	21.3	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	21.0	<1.0	0.0	<1.0	0.0	20.9
01/17/2013 01:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	<1.0	0.0	21.2	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	21.1	0.0	0.0	<1.0	0.0	21.1
01/17/2013 02:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	<1.0	0.0	21.1	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	<1.0	0.0	21.1	0.0	0.0	<1.0	0.0	21.3
01/17/2013 03:00:00 PM	0.0	0.0	0.0	0.0	21.1	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	<1.0	<1.0	0.0	21.2
01/17/2013 04:00:00 PM	0.0	0.0	0.0	0.0	21.2	0.0	0.0	0.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	<1.0	<1.0	0.0	21.3
01/17/2013 05:00:00 PM	0.0	0.0	0.0	0.0	21.0	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	<1.0	<1.0	0.0	21.2
01/17/2013 06:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	<1.0	<1.0	0.0	20.9
01/17/2013 07:00:00 PM	0.0	0.0	0.0	0.0	20.9	<1.0	0.0	0.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	0.0	<1.0	0.0	20.9
01/17/2013 08:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.7	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	<1.0	0.0	20.9
01/17/2013 09:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.6	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	<1.0	<1.0	0.0	20.9
01/17/2013 10:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.5	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	<1.0	<1.0	0.0	20.9
01/17/2013 11:00:00 PM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.5	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	<1.0	0.0	<1.0	0.0	20.9
01/18/2013 12:00:00 AM	0.0	0.0	0.0	0.0	20.9	0.0	0.0	0.0	0.0	20.5	0.0	0.0	<1.0	0.0	20.9	0.0	0.0	0.0	0.0	20.9	0.0	<1.0	<1.0	0.0	20.9

Indoor Monitoring Locations

Through 1/17/2013

Sportsman Drive Locations

SAGE
ENVIRONMENTAL CONSULTING



Indoor Monitoring Locations

Through 1/17/2013

Crawfish Stew Street and Sauce Piquante Lane Locations

SAGE
ENVIRONMENTAL CONSULTING

Indoor Monitoring Locations

Through 1/17/2013

Grand Bayou Street Locations

SAGE
ENVIRONMENTAL CONSULTING

Indoor Residential Monitoring - 121 Bayou Corne, LA January 17, 2013				
Index	Rooms Monitored	Number of Readings Taken In Reach Area/Room	LEL Reading Results (%)	H_2S Reading Results (ppm)
1	Storage Room	1	No Detectable Readings	No Detectable Readings
2	Single Door Closet in Storage Room	3	No Detectable Readings	No Detectable Readings
3	Double Door Closet in Storage Room	2	No Detectable Readings	No Detectable Readings
4	Bedroom	1	No Detectable Readings	No Detectable Readings
5	Closet in Bedroom	3	No Detectable Readings	No Detectable Readings
6	Living Room	3	No Detectable Readings	No Detectable Readings
7	Closet in Living Room	2	No Detectable Readings	No Detectable Readings
8	Bathroom	4	No Detectable Readings	No Detectable Readings
9	Closet in Bathroom	2	No Detectable Readings	No Detectable Readings
10	Kitchen	4	No Detectable Readings	No Detectable Readings
11	Pantry	2	No Detectable Readings	No Detectable Readings
12	Outdoor Storage Room (includes Half Bathroom)	4	No Detectable Readings	No Detectable Readings

Indoor Residential Monitoring - 143 Bayou Corne, LA January 17, 2013				
Index	Rooms Monitored	Number of Readings Taken In Reach Area/Room	LEL Reading Results (%)	H_2S Reading Results (ppm)
1	Second Story Office	2	No Detectable Readings	No Detectable Readings
2	Second Story Closet in Office	2	No Detectable Readings	No Detectable Readings
3	Second Story Master Bedroom	1	No Detectable Readings	No Detectable Readings
4	Second Story Closet in Master Bedroom	3	No Detectable Readings	No Detectable Readings
5	Second Story Bathroom	4	No Detectable Readings	No Detectable Readings
6	Second Story Guest Bedroom	2	No Detectable Readings	No Detectable Readings
7	Second Story Closet in Guest Bedroom	2	No Detectable Readings	No Detectable Readings
8	Second Story Kitchen	5	No Detectable Readings	No Detectable Readings
9	Second Story Living Room	2	No Detectable Readings	No Detectable Readings
10	First Story Living Room	4	No Detectable Readings	No Detectable Readings
11	First Story Laundry Room/Bathroom	5	No Detectable Readings	No Detectable Readings
12	First Story Closet in Laundry Room/Bathroom	2	No Detectable Readings	No Detectable Readings
13	First Story Storage Room	3	No Detectable Readings	No Detectable Readings
14	Garage	4	No Detectable Readings	No Detectable Readings
15	Outdoor Storage Closet	3	No Detectable Readings	No Detectable Readings
16	Above Foundation Crack (outside screen door to downstairs living area)	2	No Detectable Readings	No Detectable Readings

Indoor Residential Monitoring - Site 43 Bayou Corne, LA January 17, 2013				
Index	Rooms Monitored	Number of Readings Taken In Reach Area/Room	LEL Reading Results (%)	H_2S Reading Results (ppm)
1	Dining Room	2	No Detectable Readings	No Detectable Readings
2	Foyer Closet	3	No Detectable Readings	No Detectable Readings
3	Kitchen	7	No Detectable Readings	No Detectable Readings
4	Pantry	3	No Detectable Readings	No Detectable Readings
5	Living Room	3	No Detectable Readings	No Detectable Readings
6	Guest Bedroom	1	No Detectable Readings	No Detectable Readings
7	Closet in Guest Bedroom	3	No Detectable Readings	No Detectable Readings
8	Water Heater Closet	2	No Detectable Readings	No Detectable Readings
9	Hall Bathroom	4	No Detectable Readings	No Detectable Readings
10	Hall Closet	3	No Detectable Readings	No Detectable Readings
11	Laundry Room	3	No Detectable Readings	No Detectable Readings
12	Closet in Laundry Room	2	No Detectable Readings	No Detectable Readings
13	Master Bedroom	1	No Detectable Readings	No Detectable Readings
14	Right Closet in Master Bedroom	3	No Detectable Readings	No Detectable Readings
15	Left Closet in Master Bedroom	2	No Detectable Readings	No Detectable Readings
16	Master Bathroom	5	No Detectable Readings	No Detectable Readings
17	Closet in Master Bathroom	2	No Detectable Readings	No Detectable Readings
18	Outdoor Storage Room	3	No Detectable Readings	No Detectable Readings
19	Outdoor Half Bathroom	3	No Detectable Readings	No Detectable Readings

NELAP CERTIFICATE NUMBER 01955
DOD ELAP CERTIFICATE NUMBER ADE - 1482

ANALYTICAL RESULTS

PERFORMED BY

GULF COAST ANALYTICAL LABORATORIES, INC.

7979 GSRI Avenue

Baton Rouge, LA 70820

Report Date 01/16/2013

GCAL Report 212121903

Deliver To	Texas Brine 4800 San Felipe Houston, TX 77074
Attn	Bruce Martin

Project 80-05 Assumption Parish Sinkho

CASE NARRATIVE

Client: Michael Pisani & Associates **Report:** 212121903

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the sample cross-reference page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

MISCELLANEOUS

See Subcontract report for any case narrative.

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

Common Abbreviations Utilized in this Report

ND	Indicates the result was Not Detected at the specified RDL
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
RDL	Reporting Detection Limit
00:00	Reported as a time equivalent to 12:00 AM

Reporting Flags Utilized in this Report

J	Indicates the result is between the MDL and RDL
U	Indicates the compound was analyzed for but not detected
B	Indicates the analyte was detected in the associated Method Blank

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with the NELAC standard and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.

_____

Robyn Migues
Technical Director
GCAL REPORT 212121903

Report Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212190301	TBC-2 (109-110)	Solid	12/17/2012 13:45	12/18/2012 15:05
21212190302	TBC-2 (114-115)	Solid	12/17/2012 14:00	12/18/2012 15:05
21212190303	TBC-2 (129-130)	Solid	12/17/2012 15:00	12/18/2012 15:05

Summary of Compounds Detected

There were no detects

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212190301	**TBC-2 (109-110)**	Solid	12/17/2012 13:45	12/18/2012 15:05

Subcontract Work

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/08/2013 13:53	SMG	

CAS#	Parameter	Result	RDL	REG LIMIT	Units
SHIP-001	Ship Result	*			mg/L

RESULTS REPORTED ON A WET WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212190302	**TBC-2 (114-115)**	Solid	12/17/2012 14:00	12/18/2012 15:05

Subcontract Work

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/08/2013 13:54	SMG	

CAS#	Parameter	Result	RDL	REG LIMIT	Units
SHIP-001	Ship Result	*			mg/L

RESULTS REPORTED ON A WET WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212190303	**TBC-2 (129-130)**	Solid	12/17/2012 15:00	12/18/2012 15:05

Subcontract Work

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/08/2013 13:54	SMG	

CAS#	Parameter	Result	RDL	REG LIMIT	Units
SHIP-001	Ship Result	*			mg/L

RESULTS REPORTED ON A WET WEIGHT BASIS

GCAL

GULF COAST ANALYTICAL LABORATORIES, INC
7979 GSRI Avenue, Baton Rouge, Louisiana 70820-7402
Phone 225.769.4900 • Fax 225.767.5717

CHAIN OF CUSTODY RECORD

Lab use only

Client Name	Client #	Workorder #	Due Date
Michael Pisani	4271	212121903	12/28/12

Report to:
Client: Michael Pisani + Assoc.
Address: 1100 Poydras St. 1430
NOLA 70013
Contact: Dave Angle
Phone: 281-242-5700
Fax:

Bill to:
Client:
Address:
Contact:
Phone:
Fax:

P.O. Number: 80-05
Project Name/Number: Assumption Parish Sinkhole
Sampled By: Peter Smith

Analytical Requests & Method

Lab use only:
Custody Seal used ☐ yes ☐ no
intact ☐ yes ☐ no
Temperature °C 4.1

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	Preservatives	No Containers	FOC (Walkley-Black Method)	Grain Size (Hydrometer) 2-18-12	Remarks:	Lab ID
Soil	12-17-12	1345		X	TBC-2 (109'-110')	None	1	X	X		1
Soil	12-17-12	1400		X	TBC-2 (114'-115')	None	1	X	X		2
Soil	12-17-12	1500		X	TBC-2 (129'-130')	None	1	X	X		3

Turn Around Time: ☐ 24-48 hrs. ☐ 3 days ☐ 1 week ☒ Standard ☐ Other

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
[signature]	[signature]		
[signature]	[signature]	12.18.12	15:05

Note:

By submitting these samples, you agree to the terms and conditions contained in our most recent schedule of services.

Matrix[1]: W = water, S = soil, SD = solid, L = liquid, SL = sludge, o = oil, CT = charcoal tube, A = air bag

We cannot accept verbal changes. Please fax written changes to (225) 767-5717

WHITE: CLIENT FINAL REPORT — CANARY: LABORATORY — PINK: CLIENT

GCAL-06 11/98

GCAL
GULF COAST ANALYTICAL LABORATORIES, INC

SAMPLE RECEIVING CHECKLIST

SAMPLE DELIVERY GROUP	212121903
Client 4271 - Michael Pisani & Associates	**Transport Method** CUST
Profile 233926 - 80-05 Assumption Parish Sinkhole	**Received By** Pfeifer, Ben J.
Line Item(s) 4 - SOIL	**Receive Date(s)** 12/18/12

CHECKLIST			
Were all samples received using proper thermal preservation?	☑ Yes	☐ No	☐ NA
When used, were all custody seals intact?	☐ Yes	☐ No	☑ NA
Were all samples received in proper containers?	☑ Yes	☐ No	☐ NA
Were all samples received using proper chemical preservation?	☑ Yes	☐ No	☐ NA
Was preservative added to any container at the lab?	☐ Yes	☑ No	☐ NA
Were all containers received in good condition?	☑ Yes	☐ No	☐ NA
Were all VOA vials received with no head space?	☐ Yes	☐ No	☑ NA
Do all sample labels match the Chain of Custody?	☑ Yes	☐ No	☐ NA
Did the Chain of Custody list the sampling technician?	☑ Yes	☐ No	☐ NA
Was the COC maintained i.e. all signatures, dates and time of receipt included?	☑ Yes	☐ No	☐ NA

COOLERS

Airbill	Temp(oC)
	4.1

DISCREPANCIES

None

LABORATORY PRESERVATIONS

None

NOTES

16-Jan-2013

Shannon Gautreau
Gulf Coast Analytical Labs
7979 GSRI Avenue
Baton Rouge, LA 70820

Tel: (225) 214-7077
Fax: (225) 767-5717

Re: FOC Walkley Black Work Order: **1301379**

Dear Shelley,

ALS Environmental received 3 samples on 12-Jan-2013 02:27 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 12.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Electronically approved by: Jumoke M. Lawal

Sonia West
Project Manager

Certificate No: T104704231-09A-TX

ALS Environmental

Date: 16-Jan-13

Client: Gulf Coast Analytical Labs
Project: FOC Walkley Black
Work Order: **1301379**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1301379-01	TBC-2 (109-110)	Soil		12/17/2012 13:45	1/12/2013 14:30	☐
1301379-02	TBC-2 (114-115)	Soil		12/17/2012 14:00	1/12/2013 14:30	☐
1301379-03	TBC-2 (129-130)	Soil		12/17/2012 15:00	1/12/2013 14:30	☐

ALS Environmental

Date: 16-Jan-13

Client: Gulf Coast Analytical Labs
Project: FOC Walkley Black
Work Order: 1301379

Case Narrative

No Exceptions

ALS Environmental

Date: *16-Jan-13*

Client:	Gulf Coast Analytical Labs		
Project:	FOC Walkley Black	**Work Order:**	1301379
Sample ID:	TBC-2 (109-110)	**Lab ID:**	1301379-01
Collection Date:	12/17/2012 01:45 PM	**Matrix:**	SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
FRACTIONAL ORGANIC CARBON BY WB			**WALKLEY-BLACK**			Analyst: **JKP**
Fractional Organic Carbon	**0.00412**		**0.000200**	**g-C/g-soil**	1	1/14/2013 09:50 AM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *16-Jan-13*

Client:	Gulf Coast Analytical Labs		
Project:	FOC Walkley Black	**Work Order:**	1301379
Sample ID:	TBC-2 (114-115)	**Lab ID:**	1301379-02
Collection Date:	12/17/2012 02:00 PM	**Matrix:**	SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
FRACTIONAL ORGANIC CARBON BY WB			**WALKLEY-BLACK**			Analyst: **JKP**
Fractional Organic Carbon	**0.00203**		**0.000200**	**g-C/g-soil**	1	1/14/2013 09:50 AM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *16-Jan-13*

Client:	Gulf Coast Analytical Labs		
Project:	FOC Walkley Black	**Work Order:**	1301379
Sample ID:	TBC-2 (129-130)	**Lab ID:**	1301379-03
Collection Date:	12/17/2012 03:00 PM	**Matrix:**	SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
FRACTIONAL ORGANIC CARBON BY WB			**WALKLEY-BLACK**			Analyst: **JKP**
Fractional Organic Carbon	**0.00655**		**0.000200**	**g-C/g-soil**	1	1/14/2013 09:50 AM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 16-Jan-13

Client: Gulf Coast Analytical Labs
Work Order: 1301379
Project: FOC Walkley Black

QC BATCH REPORT

Batch ID: **R141185** Instrument ID **WetChem** Method: **WALKLEY-BLACK (Dissolve)**

MBLK Sample ID: **WBLKS1-011413-R141185** Units: **g-C/g-soil** Analysis Date: **1/14/2013 09:50 AM**

Client ID: Run ID: **WETCHEM_130114E** SeqNo: **3082718** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fractional Organic Carbon	ND	0.00020								

LCS Sample ID: **WLCSS1-011413-R141185** Units: **g-C/g-soil** Analysis Date: **1/14/2013 09:50 AM**

Client ID: Run ID: **WETCHEM_130114E** SeqNo: **3082719** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fractional Organic Carbon	0.008357	0.00020	0.01	0	83.6	60-110	0			

LCSD Sample ID: **WLCSDS1-011413-R141185** Units: **g-C/g-soil** Analysis Date: **1/14/2013 09:50 AM**

Client ID: Run ID: **WETCHEM_130114E** SeqNo: **3082723** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Fractional Organic Carbon	0.008088	0.00020	0.01	0	80.9	60-110	0.008357	3.27	20	

The following samples were analyzed in this batch: 1301379-01A 1301379-02A 1301379-03A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

ALS Environmental

Date: 16-Jan-13

Client: Gulf Coast Analytical Labs
Project: FOC Walkley Black
WorkOrder: **1301379**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Units Reported	Description
g-C/g-soil	

ALS Environmental

Sample Receipt Checklist

Client Name: **GULF COAST ANALYTICAL LAB** Date/Time Received: **12-Jan-13 14:27**

Work Order: **1301379** Received by: **DNP**

Checklist completed by Johnnie B. Allen (eSignature) 14-Jan-13 (Date) Reviewed by: (eSignature) (Date)

Matrices: soil
Carrier name: FedEx Saturday Priority

	Yes	No	Not Present
Shipping container/cooler in good condition?	☑	☐	☐
Custody seals intact on shipping container/cooler?	☐	☐	☑
Custody seals intact on sample bottles?	☐	☐	☑
Chain of custody present?	☑	☐	
Chain of custody signed when relinquished and received?	☑	☐	
Chain of custody agrees with sample labels?	☑	☐	
Samples in proper container/bottle?	☑	☐	
Sample containers intact?	☑	☐	
Sufficient sample volume for indicated test?	☑	☐	
All samples received within holding time?	☑	☐	
Container/Temp Blank temperature in compliance?	☑	☐	

Temperature(s)/Thermometer(s): 5.9 C/uc 005
Cooler(s)/Kit(s): Small Red/White
Date/Time sample(s) sent to storage: 1/14/13 08:30

	Yes	No	No VOA vials submitted	N/A
Water - VOA vials have zero headspace?	☐	☐	☑	
Water - pH acceptable upon receipt?	☐	☐		☑
pH adjusted?	☐	☐		☑

pH adjusted by: _

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

SRC Page 1 of 1

GCAL
GULF COAST ANALYTICAL LABORATORIES, INC
7979 GSRI AVE, BATON ROUGE LA 70820-7402
(225) 769-4900 FAX (225) 767-5717

1301379

GULF COAST ANALYTICAL LABS: Gulf Coast Analytical Labs

Project: FOC Walkley Black

Chain of Custody Record

Submitted by
Client: Gulf Coast Analytical Labs
Address: 7979 GSRI Avenue
Baton Rouge, LA 70820
Contact: Shannon Gautreau
Phone: (225)769-4900
Fax: (225)767-5717

Bill to
Client: Gulf Coast Analytical Labs
Address: 7979 GSRI Avenue
Baton Rouge, LA 70820
Contact: Shannon Gautreau
Phone: (225)769-4900
Fax: (225)767-5717

P.O. Number: 13-0035
Project Name/Number: 212121903
Sampled By:

Analysis Requested

* Our P. O. Number must appear on the Invoice.

* Our Project Number must appear on the final report.

Matrix	Date	Time (2400)	Comp	Grab	Sample Description	Preservatives	No. Containers	Walkley-Black									Remarks:	Lab ID
s	12/17/2012	13:45		X	TBC-2 (109-110)	NONE	1	X										
s	12/17/2012	14:00		X	TBC-2 (114-115)	NONE	1	X										
s	12/17/2012	15:00		X	TBC-2 (129-130)	NONE	1	X										

Turn Around Time: 24 - 48 hrs X 3 days 1 week standard other

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
[signature]	[signature]	1/11/13	1700
[signature]	[signature]	1/12/13	1427
[signature]	[signature]	1/14/13	0710

Note:

Please fax results to (225)767-5717
PLEASE RETURN ICE CHESTS TO 7979 GSRI AVE.

Matrix: W = water, S=Soil, SD=Solid, L=Liquid, SL=Sludge, O=Oil, CT=Charcoal Tube, OVM=Organic Vapor Monitor, XT=XAD Tube, A=Air Bag, SUM=Summa Canister

ORIGIN ID: OPLA (225) 767-5717
CHARLOTTE SAUCIER
GULF COAST ANALYTICAL LLC
7979 GSRI

BATON ROUGE, LA 70806
UNITED STATES US

SHIP DATE: 11JAN13
ACTWGT: 15.0 LB MAN
CAD: 0116316/CAFE2605

BILL SENDER

TO

ALS
10450 STANCLIFF RD
SUITE 210
HOUSTON TX 77099

(210) 530-5656 REF:
INV:
PO: DEPT:

FedEx Express

J12131208316012E

SATURDAY ### A1
PRIORITY OVERNIGHT

TRK# 0201 5499 0042 6114

XO SGRA

77099
TX-US IAH

ORIGIN ID: OPLA (225) 767-5717
CHARLOTTE SAUCIER
GULF COAST ANALYTICAL LLC
7979 GSRI

BATON ROUGE, LA 70806
UNITED STATES US

Ship Date: 11JAN13
ActWgt: 15.0 LB MAN
CAD: 0116316/CAFE2605

TO

(218) 530-5656

ALS
10450 STANCLIFF RD
SUITE 210
HOUSTON, TX 77099

FedEx Express

(US)

J12120616126

Trk# 5499 0042 6114

PRIORITY OVERNIGHT

10450 STANCLIFF RD

PLACE THIS LABEL ON PACKAGE
NEXT TO THE SHIPPING LABEL

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SDR

FedEx® Saturday Delivery

151966 10/04 MWI

NELAP CERTIFICATE NUMBER 01955
DOD ELAP CERTIFICATE NUMBER ADE - 1482

ANALYTICAL RESULTS

PERFORMED BY

GULF COAST ANALYTICAL LABORATORIES, INC.

7979 GSRI Avenue

Baton Rouge, LA 70820

Report Date 01/15/2013

GCAL Report 212122828

Deliver To	Texas Brine 4800 San Felipe Houston, TX 77074
Attn	Bruce Martin

Project 80-05 Assumption Parish Sinkho

CASE NARRATIVE

Client: Michael Pisani & Associates **Report:** 212122828

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the sample cross-reference page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

VOLATILES GAS CHROMATOGRAPHY

In the RSK 175 analysis, samples 21212282801 (OXY 1), 21212282802 (OXY 2), 21212282803 (WW 1), 21212282804 (WW 2) and 21212282805 (WW 3) had to be diluted to bracket the concentrations within the calibration range of the instrument. The recoveries for the surrogates are not applicable for those analyses performed at a 10 or higher dilution.

In the RSK 175 analysis for analytical batch 498476, the MS/MSD recoveries and surrogates are not applicable for Methane and Ethane because the spike was diluted out of the samples. The LCS/LCSD recoveries are acceptable.

SEMI-VOLATILES GAS CHROMATOGRAPHY

In the TX 1006/LA 1006 analysis, the recovery for the surrogate, o-Terphenyl is above the upper control limit for samples 21212282802 (OXY 2), 21212282803 (WW 1) and 21212282805 (WW 3). No target compounds were detected in the sample; therefore the data is reportable.

METALS

In the SW-846 6010B analysis, all samples had to be diluted in order to bracket the concentration of Sodium within the linear dynamic range of the instrument.

In the SW-846 6010B analysis for prep batch 498011, the MS recovery is not applicable for Sodium, Calcium and Magnesium because the sample concentration is greater than four times the spike concentration.

CONVENTIONALS

In the SW-846 9056A analysis, sample s21212282801 (OXY 1), 21212282802 (OXY 2), 21212282803 (WW 1), 21212282804 (WW 2) and 21212282805 (WW 3) had to be diluted in order to bracket the concentration within the calibration range of the instrument and to eliminate a chemical or physical interference. This is reflected in the elevated reporting limit.

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

Common Abbreviations Utilized in this Report

ND	Indicates the result was Not Detected at the specified RDL
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
RDL	Reporting Detection Limit
00:00	Reported as a time equivalent to 12:00 AM

Reporting Flags Utilized in this Report

J	Indicates the result is between the MDL and RDL
U	Indicates the compound was analyzed for but not detected
B	Indicates the analyte was detected in the associated Method Blank

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with the NELAC standard and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.

_____

Robyn Migues
Technical Director
GCAL REPORT 212122828

Report Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282801	OXY 1	Water	12/27/2012 10:25	12/28/2012 13:55
21212282802	OXY 2	Water	12/27/2012 11:00	12/28/2012 13:55
21212282803	WW 1	Water	12/27/2012 12:55	12/28/2012 13:55
21212282804	WW 2	Water	12/27/2012 12:25	12/28/2012 13:55
21212282805	WW 3	Water	12/27/2012 13:50	12/28/2012 13:55
21212282806	TRIP BLANK	Water	12/27/2012 00:00	12/28/2012 13:55

Summary of Compounds Detected

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282801	**OXY 1**	Water	12/27/2012 10:25	12/28/2012 13:55

SW-846 6010B

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7440-70-2	Calcium	227	0.10		mg/L
7439-89-6	Iron	6.88	0.10		mg/L
7439-95-4	Magnesium	78.0	0.10		mg/L
7439-96-5	Manganese	0.45	0.015		mg/L
7440-09-7	Potassium	12.1	0.50		mg/L

SW-846 6010B

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7440-23-5	Sodium	1800	10.0		mg/L

SM 2540C TDS

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	Total Dissolved Solids(TDS)	5350	10.0		mg/L

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
106-97-8	Butane	14.3	5.50		ug/L
74-98-6	Propane	107	10.0		ug/L

SM 2510 B Conductivity

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	9770	10		umhos/cm

SM 2320B Bicarbonate

CAS#	Parameter	Result	RDL	REG LIMIT	Units
T-005-B	Bicarbonate Alkalinity	357	1.0		mg/L CaCO3

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-84-0	Ethane	929	600		ug/L
74-82-8	Methane	29700	3000		ug/L

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	Chloride	3480	100		mg/L

Summary of Compounds Detected (con't)

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282802	**OXY 2**	Water	12/27/2012 11:00	12/28/2012 13:55

SW-846 6010B

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7440-70-2	Calcium	168	0.10		mg/L
7439-89-6	Iron	6.24	0.10		mg/L
7439-95-4	Magnesium	55.1	0.10		mg/L
7439-96-5	Manganese	0.37	0.015		mg/L
7440-09-7	Potassium	12.5	0.50		mg/L

SW-846 6010B

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7440-23-5	Sodium	1320	10.0		mg/L

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
106-97-8	Butane	31.9	5.50		ug/L

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
24959-67-9	Bromide	7.64	2.00		mg/L

SM 2540C TDS

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	Total Dissolved Solids(TDS)	3730	10.0		mg/L

SM 2320B Bicarbonate

CAS#	Parameter	Result	RDL	REG LIMIT	Units
T-005-B	Bicarbonate Alkalinity	481	1.0		mg/L CaCO3

SM 2510 B Conductivity

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	7200	10		umhos/cm

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	Chloride	2260	100		mg/L

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-84-0	Ethane	1550	900		ug/L

Summary of Compounds Detected (con't)

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282802	**OXY 2**	Water	12/27/2012 11:00	12/28/2012 13:55

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-82-8	Methane	29700	4500		ug/L

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-98-6	Propane	473	300		ug/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282803	**WW 1**	Water	12/27/2012 12:55	12/28/2012 13:55

SW-846 6010B

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7440-70-2	Calcium	156	0.10		mg/L
7439-89-6	Iron	5.35	0.10		mg/L
7439-95-4	Magnesium	53.0	0.10		mg/L
7439-96-5	Manganese	0.35	0.015		mg/L
7440-09-7	Potassium	8.05	0.50		mg/L

SW-846 6010B

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7440-23-5	Sodium	1130	10.0		mg/L

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	Chloride	2230	100		mg/L

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-84-0	Ethane	2.58	1.00		ug/L

SM 2540C TDS

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	Total Dissolved Solids(TDS)	3900	10.0		mg/L

SM 2510 B Conductivity

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	7070	10		umhos/cm

Summary of Compounds Detected (con't)

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282803	**WW 1**	Water	12/27/2012 12:55	12/28/2012 13:55

SM 2320B Bicarbonate

CAS#	Parameter	Result	RDL	REG LIMIT	Units
T-005-B	Bicarbonate Alkalinity	518	1.0		mg/L CaCO3

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-82-8	Methane	13000	3000		ug/L

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
24959-67-9	Bromide	4.98	2.00		mg/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282804	**WW 2**	Water	12/27/2012 12:25	12/28/2012 13:55

SW-846 6010B

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7440-70-2	Calcium	172	0.10		mg/L
7439-89-6	Iron	7.63	0.10		mg/L
7439-95-4	Magnesium	57.6	0.10		mg/L
7439-96-5	Manganese	0.43	0.015		mg/L
7440-09-7	Potassium	9.95	0.50		mg/L

SW-846 6010B

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7440-23-5	Sodium	1230	10.0		mg/L

SM 2540C TDS

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	Total Dissolved Solids(TDS)	3720	10.0		mg/L

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
24959-67-9	Bromide	5.59	2.00		mg/L

SM 2320B Bicarbonate

CAS#	Parameter	Result	RDL	REG LIMIT	Units
T-005-B	Bicarbonate Alkalinity	548	1.0		mg/L CaCO3

Summary of Compounds Detected (con't)

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282804	**WW 2**	Water	12/27/2012 12:25	12/28/2012 13:55

SM 2510 B Conductivity

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	7290	10		umhos/cm

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	Chloride	2350	100		mg/L

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-84-0	Ethane	93.0	30.0		ug/L

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-82-8	Methane	28000	4500		ug/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282805	**WW 3**	Water	12/27/2012 13:50	12/28/2012 13:55

SW-846 6010B

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7440-70-2	Calcium	210	0.10		mg/L
7439-89-6	Iron	8.45	0.10		mg/L
7439-95-4	Magnesium	71.9	0.10		mg/L
7439-96-5	Manganese	0.40	0.015		mg/L
7440-09-7	Potassium	10.8	0.50		mg/L

SW-846 6010B

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7440-23-5	Sodium	1470	10.0		mg/L

SM 2540C TDS

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	Total Dissolved Solids(TDS)	4890	10.0		mg/L

Summary of Compounds Detected (con't)

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282805	**WW 3**	Water	12/27/2012 13:50	12/28/2012 13:55

SM 2320B Bicarbonate

CAS#	Parameter	Result	RDL	REG LIMIT	Units
T-005-B	**Bicarbonate Alkalinity**	**470**	**1.0**		**mg/L CaCO3**

SM 2510 B Conductivity

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	**Specific Conductance**	**9250**	**10**		**umhos/cm**

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**3100**	**100**		**mg/L**

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-84-0	**Ethane**	**327**	**50.0**		**ug/L**

RSK 175

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-82-8	**Methane**	**36200**	**4500**		**ug/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282801	**OXY 1**	Water	12/27/2012 10:25	12/28/2012 13:55

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 21:35	CGC	497992

CAS#	Parameter	Result	RDL	REG LIMIT	Units
71-43-2	Benzene	ND	0.00500		mg/L
100-41-4	Ethylbenzene	ND	0.00500		mg/L
108-88-3	Toluene	ND	0.00500		mg/L
1330-20-7	Xylene (total)	ND	0.015		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	.05	.047	mg/L	94	78 - 130
1868-53-7	Dibromofluoromethane	.05	.053	mg/L	106	77 - 127
2037-26-5	Toluene d8	.05	.052	mg/L	104	76 - 134
17060-07-0	1,2-Dichloroethane-d4	.05	.052	mg/L	104	71 - 127

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/08/2013 19:07	BMR	498476

CAS#	Parameter	Result	RDL	REG LIMIT	Units
106-97-8	**Butane**	**14.3**	**5.50**		**ug/L**
74-85-1	Ethene	ND	1.00		ug/L
74-98-6	**Propane**	**107**	**10.0**		**ug/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.5	25.1	ug/L	62	40 - 143

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			600	01/08/2013 19:17	BMR	498476

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-84-0	**Ethane**	**929**	**600**		**ug/L**
74-82-8	**Methane**	**29700**	**3000**		**ug/L**

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/03/2013 11:45	498026	TX 1006/LA 1006	1	01/07/2013 18:31	SMH	498522

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	ND	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	ND	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	ND	0.150		mg/L
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	ND	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	ND	0.150		mg/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282801	**OXY 1**	Water	12/27/2012 10:25	12/28/2012 13:55

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/03/2013 11:45	498026	TX 1006/LA 1006	1	01/07/2013 18:31	SMH	498522

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-05-18	Aromatic >C21-C35	ND	0.150		mg/L
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	15.4	19.6	mg/L	127	60 - 140

SW-846 6010B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
12/30/2012 07:45	498011	SW-846 3010A	10	01/11/2013 19:16	AWG	498766

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7440-23-5	**Sodium**	**1800**	**10.0**		**mg/L**

SW-846 6010B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
12/30/2012 07:45	498011	SW-846 3010A	1	01/11/2013 20:56	AWG	498766

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7440-70-2	**Calcium**	**227**	**0.10**		**mg/L**
7439-89-6	**Iron**	**6.88**	**0.10**		**mg/L**
7439-95-4	**Magnesium**	**78.0**	**0.10**		**mg/L**
7439-96-5	**Manganese**	**0.45**	**0.015**		**mg/L**
7440-09-7	**Potassium**	**12.1**	**0.50**		**mg/L**

SM 2540C TDS

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 15:45	DJH	497948

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	**Total Dissolved Solids(TDS)**	**5350**	**10.0**		**mg/L**

SM 2320B Carbonate

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/03/2013 11:06	JEM	498305

CAS#	Parameter	Result	RDL	REG LIMIT	Units
T-005-C	Carbonate Alkalinity	ND	1.0		mg/L CaCO3

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282801	**OXY 1**	Water	12/27/2012 10:25	12/28/2012 13:55

SM 2320B Bicarbonate

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/03/2013 11:06	JEM	498305

CAS#	Parameter	Result	RDL	REG LIMIT	Units
T-005-B	**Bicarbonate Alkalinity**	**357**	**1.0**		**mg/L CaCO3**

SM 2510 B Conductivity

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 15:45	DJH	497971

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	**Specific Conductance**	**9770**	**10**		**umhos/cm**

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			10	01/03/2013 17:50	AEL	498301

CAS#	Parameter	Result	RDL	REG LIMIT	Units
24959-67-9	Bromide	ND	2.00		mg/L
14808-79-8	Sulfate	ND	2.00		mg/L

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1000	01/03/2013 18:08	AEL	498301

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**3480**	**100**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282802	**OXY 2**	Water	12/27/2012 11:00	12/28/2012 13:55

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 21:55	CGC	497992

CAS#	Parameter	Result	RDL	REG LIMIT	Units
71-43-2	Benzene	ND	0.00500		mg/L
100-41-4	Ethylbenzene	ND	0.00500		mg/L
108-88-3	Toluene	ND	0.00500		mg/L
1330-20-7	Xylene (total)	ND	0.015		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	.05	.047	mg/L	93	78 - 130
1868-53-7	Dibromofluoromethane	.05	.053	mg/L	106	77 - 127
2037-26-5	Toluene d8	.05	.051	mg/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	.05	.054	mg/L	107	71 - 127

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/08/2013 19:26	BMR	498476

CAS#	Parameter	Result	RDL	REG LIMIT	Units
106-97-8	**Butane**	**31.9**	**5.50**		**ug/L**
74-85-1	Ethene	ND	1.00		ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.5	23.2	ug/L	57	40 - 143

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			30	01/08/2013 19:47	BMR	498476

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-98-6	**Propane**	**473**	**300**		**ug/L**

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			900	01/08/2013 19:55	BMR	498476

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-84-0	**Ethane**	**1550**	**900**		**ug/L**
74-82-8	**Methane**	**29700**	**4500**		**ug/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282802	**OXY 2**	Water	12/27/2012 11:00	12/28/2012 13:55

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/03/2013 11:45	498026	TX 1006/LA 1006	1	01/07/2013 19:34	SMH	498522

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	ND	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	ND	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	ND	0.150		mg/L
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	ND	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	ND	0.150		mg/L
GCSV-05-18	Aromatic >C21-C35	ND	0.150		mg/L
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	15.1	22.2	mg/L	**147***	60 - 140

SW-846 6010B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
12/30/2012 07:45	498011	SW-846 3010A	10	01/11/2013 19:24	AWG	498766

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7440-23-5	**Sodium**	**1320**	**10.0**		**mg/L**

SW-846 6010B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
12/30/2012 07:45	498011	SW-846 3010A	1	01/11/2013 21:04	AWG	498766

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7440-70-2	**Calcium**	**168**	**0.10**		**mg/L**
7439-89-6	**Iron**	**6.24**	**0.10**		**mg/L**
7439-95-4	**Magnesium**	**55.1**	**0.10**		**mg/L**
7439-96-5	**Manganese**	**0.37**	**0.015**		**mg/L**
7440-09-7	**Potassium**	**12.5**	**0.50**		**mg/L**

SM 2540C TDS

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 15:45	DJH	497948

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	**Total Dissolved Solids(TDS)**	**3730**	**10.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282802	**OXY 2**	Water	12/27/2012 11:00	12/28/2012 13:55

SM 2320B Carbonate

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/03/2013 11:06	JEM	498305

CAS#	Parameter	Result	RDL	REG LIMIT	Units
T-005-C	Carbonate Alkalinity	ND	1.0		mg/L CaCO3

SM 2320B Bicarbonate

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/03/2013 11:06	JEM	498305

CAS#	Parameter	Result	RDL	REG LIMIT	Units
T-005-B	**Bicarbonate Alkalinity**	**481**	**1.0**		**mg/L CaCO3**

SM 2510 B Conductivity

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 15:45	DJH	497971

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	**Specific Conductance**	**7200**	**10**		**umhos/cm**

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			10	01/03/2013 18:25	AEL	498301

CAS#	Parameter	Result	RDL	REG LIMIT	Units
24959-67-9	**Bromide**	**7.64**	**2.00**		**mg/L**
14808-79-8	Sulfate	ND	2.00		mg/L

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1000	01/03/2013 18:43	AEL	498301

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**2260**	**100**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282803	**WW 1**	Water	12/27/2012 12:55	12/28/2012 13:55

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 22:15	CGC	497992

CAS#	Parameter	Result	RDL	REG LIMIT	Units
71-43-2	Benzene	ND	0.00500		mg/L
100-41-4	Ethylbenzene	ND	0.00500		mg/L
108-88-3	Toluene	ND	0.00500		mg/L
1330-20-7	Xylene (total)	ND	0.015		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	.05	.047	mg/L	94	78 - 130
1868-53-7	Dibromofluoromethane	.05	.052	mg/L	104	77 - 127
2037-26-5	Toluene d8	.05	.05	mg/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	.05	.054	mg/L	107	71 - 127

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/08/2013 20:06	BMR	498476

CAS#	Parameter	Result	RDL	REG LIMIT	Units
106-97-8	Butane	ND	5.50		ug/L
74-84-0	**Ethane**	**2.58**	**1.00**		**ug/L**
74-85-1	Ethene	ND	1.00		ug/L
74-98-6	Propane	ND	10.0		ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.5	26.4	ug/L	65	40 - 143

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			600	01/08/2013 20:14	BMR	498476

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-82-8	**Methane**	**13000**	**3000**		**ug/L**

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/03/2013 11:45	498026	TX 1006/LA 1006	1	01/07/2013 20:36	SMH	498522

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	ND	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	ND	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	ND	0.150		mg/L
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	ND	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	ND	0.150		mg/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282803	**WW 1**	Water	12/27/2012 12:55	12/28/2012 13:55

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/03/2013 11:45	498026	TX 1006/LA 1006	1	01/07/2013 20:36	SMH	498522

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-05-18	Aromatic >C21-C35	ND	0.150		mg/L
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	15.8	22.9	mg/L	**145***	60 - 140

SW-846 6010B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
12/30/2012 07:45	498011	SW-846 3010A	10	01/11/2013 18:36	AWG	498766

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7440-23-5	**Sodium**	**1130**	**10.0**		**mg/L**

SW-846 6010B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
12/30/2012 07:45	498011	SW-846 3010A	1	01/11/2013 20:21	AWG	498766

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7440-70-2	**Calcium**	**156**	**0.10**		**mg/L**
7439-89-6	**Iron**	**5.35**	**0.10**		**mg/L**
7439-95-4	**Magnesium**	**53.0**	**0.10**		**mg/L**
7439-96-5	**Manganese**	**0.35**	**0.015**		**mg/L**
7440-09-7	**Potassium**	**8.05**	**0.50**		**mg/L**

SM 2540C TDS

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 15:45	DJH	497948

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	**Total Dissolved Solids(TDS)**	**3900**	**10.0**		**mg/L**

SM 2320B Carbonate

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/03/2013 11:06	JEM	498305

CAS#	Parameter	Result	RDL	REG LIMIT	Units
T-005-C	Carbonate Alkalinity	ND	1.0		mg/L CaCO3

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282803	**WW 1**	Water	12/27/2012 12:55	12/28/2012 13:55

SM 2320B Bicarbonate

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/03/2013 11:06	JEM	498305

CAS#	Parameter	Result	RDL	REG LIMIT	Units
T-005-B	**Bicarbonate Alkalinity**	**518**	**1.0**		**mg/L CaCO3**

SM 2510 B Conductivity

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 15:45	DJH	497971

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	**Specific Conductance**	**7070**	**10**		**umhos/cm**

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1000	01/03/2013 19:00	AEL	498301

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**2230**	**100**		**mg/L**

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			10	01/03/2013 19:53	AEL	498301

CAS#	Parameter	Result	RDL	REG LIMIT	Units
24959-67-9	**Bromide**	**4.98**	**2.00**		**mg/L**
14808-79-8	Sulfate	ND	2.00		mg/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282804	**WW 2**	Water	12/27/2012 12:25	12/28/2012 13:55

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/29/2012 18:09	CGC	498049

CAS#	Parameter	Result	RDL	REG LIMIT	Units
71-43-2	Benzene	ND	0.00500		mg/L
100-41-4	Ethylbenzene	ND	0.00500		mg/L
108-88-3	Toluene	ND	0.00500		mg/L
1330-20-7	Xylene (total)	ND	0.015		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	.05	.048	mg/L	95	78 - 130
1868-53-7	Dibromofluoromethane	.05	.053	mg/L	105	77 - 127
2037-26-5	Toluene d8	.05	.051	mg/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	.05	.052	mg/L	103	71 - 127

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/08/2013 20:34	BMR	498476

CAS#	Parameter	Result	RDL	REG LIMIT	Units
106-97-8	Butane	ND	5.50		ug/L
74-85-1	Ethene	ND	1.00		ug/L
74-98-6	Propane	ND	10.0		ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.5	21.7	ug/L	54	40 - 143

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			30	01/08/2013 20:46	BMR	498476

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-84-0	**Ethane**	**93.0**	**30.0**		**ug/L**

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			900	01/08/2013 20:54	BMR	498476

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-82-8	**Methane**	**28000**	**4500**		**ug/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282804	**WW 2**	Water	12/27/2012 12:25	12/28/2012 13:55

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/03/2013 11:45	498026	TX 1006/LA 1006	1	01/07/2013 21:39	SMH	498522

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	ND	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	ND	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	ND	0.150		mg/L
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	ND	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	ND	0.150		mg/L
GCSV-05-18	Aromatic >C21-C35	ND	0.150		mg/L
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	15.4	18.9	mg/L	122	60 - 140

SW-846 6010B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
12/30/2012 07:45	498011	SW-846 3010A	10	01/11/2013 19:32	AWG	498766

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7440-23-5	**Sodium**	**1230**	**10.0**		**mg/L**

SW-846 6010B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
12/30/2012 07:45	498011	SW-846 3010A	1	01/11/2013 21:11	AWG	498766

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7440-70-2	**Calcium**	**172**	**0.10**		**mg/L**
7439-89-6	**Iron**	**7.63**	**0.10**		**mg/L**
7439-95-4	**Magnesium**	**57.6**	**0.10**		**mg/L**
7439-96-5	**Manganese**	**0.43**	**0.015**		**mg/L**
7440-09-7	**Potassium**	**9.95**	**0.50**		**mg/L**

SM 2540C TDS

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 15:45	DJH	497948

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	**Total Dissolved Solids(TDS)**	**3720**	**10.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282804	**WW 2**	Water	12/27/2012 12:25	12/28/2012 13:55

SM 2320B Carbonate

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/03/2013 11:06	JEM	498305

CAS#	Parameter	Result	RDL	REG LIMIT	Units
T-005-C	Carbonate Alkalinity	ND	1.0		mg/L CaCO3

SM 2320B Bicarbonate

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/03/2013 11:06	JEM	498305

CAS#	Parameter	Result	RDL	REG LIMIT	Units
T-005-B	**Bicarbonate Alkalinity**	**548**	**1.0**		**mg/L CaCO3**

SM 2510 B Conductivity

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 15:45	DJH	497971

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	**Specific Conductance**	**7290**	**10**		**umhos/cm**

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			10	01/03/2013 20:11	AEL	498301

CAS#	Parameter	Result	RDL	REG LIMIT	Units
24959-67-9	**Bromide**	**5.59**	**2.00**		**mg/L**
14808-79-8	Sulfate	ND	2.00		mg/L

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1000	01/03/2013 20:29	AEL	498301

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**2350**	**100**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282805	**WW 3**	Water	12/27/2012 13:50	12/28/2012 13:55

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/29/2012 18:29	CGC	498049

CAS#	Parameter	Result	RDL	REG LIMIT	Units
71-43-2	Benzene	ND	0.00500		mg/L
100-41-4	Ethylbenzene	ND	0.00500		mg/L
108-88-3	Toluene	ND	0.00500		mg/L
1330-20-7	Xylene (total)	ND	0.015		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	.05	.047	mg/L	94	78 - 130
1868-53-7	Dibromofluoromethane	.05	.053	mg/L	106	77 - 127
2037-26-5	Toluene d8	.05	.05	mg/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	.05	.051	mg/L	103	71 - 127

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/08/2013 21:01	BMR	498476

CAS#	Parameter	Result	RDL	REG LIMIT	Units
106-97-8	Butane	ND	5.50		ug/L
74-85-1	Ethene	ND	1.00		ug/L
74-98-6	Propane	ND	10.0		ug/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
115-07-1	Propene	40.5	20.8	ug/L	51	40 - 143

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			50	01/08/2013 21:09	BMR	498476

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-84-0	**Ethane**	**327**	**50.0**		**ug/L**

RSK 175

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			900	01/08/2013 21:17	BMR	498476

CAS#	Parameter	Result	RDL	REG LIMIT	Units
74-82-8	**Methane**	**36200**	**4500**		**ug/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282805	**WW 3**	Water	12/27/2012 13:50	12/28/2012 13:55

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/03/2013 11:45	498026	TX 1006/LA 1006	1	01/07/2013 23:44	SMH	498522

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	ND	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	ND	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	ND	0.150		mg/L
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	ND	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	ND	0.150		mg/L
GCSV-05-18	Aromatic >C21-C35	ND	0.150		mg/L
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	15.5	26.4	mg/L	**171***	60 - 140

SW-846 6010B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
12/30/2012 07:45	498011	SW-846 3010A	1	01/11/2013 21:18	AWG	498766

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7440-70-2	**Calcium**	**210**	**0.10**		**mg/L**
7439-89-6	**Iron**	**8.45**	**0.10**		**mg/L**
7439-95-4	**Magnesium**	**71.9**	**0.10**		**mg/L**
7439-96-5	**Manganese**	**0.40**	**0.015**		**mg/L**
7440-09-7	**Potassium**	**10.8**	**0.50**		**mg/L**

SW-846 6010B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
12/30/2012 07:45	498011	SW-846 3010A	10	01/12/2013 23:10	AWG	498810

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7440-23-5	**Sodium**	**1470**	**10.0**		**mg/L**

SM 2540C TDS

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 15:45	DJH	497948

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	**Total Dissolved Solids(TDS)**	**4890**	**10.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282805	**WW 3**	Water	12/27/2012 13:50	12/28/2012 13:55

SM 2320B Carbonate

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/03/2013 11:06	JEM	498305

CAS#	Parameter	Result	RDL	REG LIMIT	Units
T-005-C	Carbonate Alkalinity	ND	1.0		mg/L CaCO3

SM 2320B Bicarbonate

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/03/2013 11:06	JEM	498305

CAS#	Parameter	Result	RDL	REG LIMIT	Units
T-005-B	**Bicarbonate Alkalinity**	**470**	**1.0**		**mg/L CaCO3**

SM 2510 B Conductivity

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 15:45	DJH	497971

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	**Specific Conductance**	**9250**	**10**		**umhos/cm**

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			10	01/03/2013 20:46	AEL	498301

CAS#	Parameter	Result	RDL	REG LIMIT	Units
24959-67-9	Bromide	ND	2.00		mg/L
14808-79-8	Sulfate	ND	2.00		mg/L

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1000	01/03/2013 21:04	AEL	498301

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**3100**	**100**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212282806	**TRIP BLANK**	Water	12/27/2012 00:00	12/28/2012 13:55

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/29/2012 18:51	CGC	498049

CAS#	Parameter	Result	RDL	REG LIMIT	Units
71-43-2	Benzene	ND	0.00500		mg/L
100-41-4	Ethylbenzene	ND	0.00500		mg/L
108-88-3	Toluene	ND	0.00500		mg/L
1330-20-7	Xylene (total)	ND	0.015		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	.05	.048	mg/L	96	78 - 130
1868-53-7	Dibromofluoromethane	.05	.052	mg/L	105	77 - 127
2037-26-5	Toluene d8	.05	.05	mg/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	.05	.051	mg/L	101	71 - 127

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/03/2013 11:45	498026	TX 1006/LA 1006	1	01/08/2013 00:46	SMH	498522

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	ND	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	ND	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	ND	0.150		mg/L
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	ND	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	ND	0.150		mg/L
GCSV-05-18	Aromatic >C21-C35	ND	0.150		mg/L
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

GC/MS Volatiles Quality Control Summary

Analytical Batch 497992		**Client ID**	MB497992		LCS497992		
Prep Batch N/A		**GCAL ID**	1145445		1145446		
		Sample Type	Method Blank		LCS		
		Analytical Date	12/28/2012 13:45		12/28/2012 11:50		
		Matrix	Water		Water		
SW-846 8260B		**Units**	mg/L	**Spike**	**Result**		**Control**
		Result	**RDL**	**Added**		**% R**	**Limits % R**
100-41-4	Ethylbenzene	ND	0.00500	0.050	0.049	98	74 - 126
1330-20-7	Xylene (total)	ND	0.015	0.150	0.135	90	74 - 127
75-35-4	1,1-Dichloroethene	ND	0.00500	0.050	0.050	100	69 - 129
71-43-2	Benzene	ND	0.00500	0.050	0.052	104	70 - 129
79-01-6	Trichloroethene	ND	0.00500	0.050	0.051	101	76 - 129
108-88-3	Toluene	ND	0.00500	0.050	0.047	94	72 - 120
108-90-7	Chlorobenzene	ND	0.00500	0.050	0.047	93	74 - 123
Surrogate							
460-00-4	4-Bromofluorobenzene	48.3	97	50	50.4	101	78 - 130
1868-53-7	Dibromofluoromethane	51.3	103	50	51.1	102	77 - 127
2037-26-5	Toluene d8	51.4	103	50	48.8	98	76 - 134
17060-07-0	1,2-Dichloroethane-d4	51.3	103	50	52.3	105	71 - 127

Analytical Batch 497992		**Client ID**	OLB-CS-02 (TCLP)		1143873MS			1143873MSD			
Prep Batch N/A		**GCAL ID**	21212220625		1145448			1145449			
		Sample Type	SAMPLE		MS			MSD			
		Analytical Date	12/26/2012 20:19		12/28/2012 15:09			12/28/2012 15:29			
		Matrix	Solid		Solid			Solid			
SW-846 8260B		**Units**	mg/L	**Spike**	**Result**		**Control**	**Result**			**RPD**
		Result	**RDL**	**Added**		**% R**	**Limits % R**		**% R**	**RPD**	**Limit**
75-35-4	1,1-Dichloroethene	0.00	0.200	2.00	2.06	103	68 - 129	2.05	103	0.5	22
71-43-2	Benzene	0.017	0.200	2.00	2.16	107	73 - 128	2.15	107	0.5	21
79-01-6	Trichloroethene	0.00	0.200	2.00	2.12	106	78 - 127	2.05	103	3	24
108-90-7	Chlorobenzene	0.00	0.200	2.00	1.93	97	75 - 121	1.91	96	1	21
Surrogate											
460-00-4	4-Bromofluorobenzene			2000	1960	98	62 - 127	2000	100		
1868-53-7	Dibromofluoromethane			2000	2040	102	65 - 130	2080	104		
2037-26-5	Toluene d8			2000	1900	95	71 - 132	1930	97		
17060-07-0	1,2-Dichloroethane-d4			2000	2030	102	62 - 125	2070	104		

GC/MS Volatiles Quality Control Summary

Analytical Batch	498049	**Client ID**	MB498049			LCS498049			LCSD498049		
Prep Batch	N/A	**GCAL ID**	1145736			1145737			1145738		
		Sample Type	Method Blank			LCS			LCSD		
		Analytical Date	12/29/2012 12:59			12/29/2012 11:16			12/29/2012 11:36		
		Matrix	Water			Water			Water		
SW-846 8260B		**Units**	**Result**	mg/L **RDL**	**Spike Added**	**Result**	**% R**	**Control Limits % R**	**Result**	**% R**	**RPD**	**RPD Limit**
100-41-4	Ethylbenzene		ND	0.00500	0.050	0.059	118	74 - 126	0.052	104	13	30
1330-20-7	Xylene (total)		ND	0.015	0.150	0.157	105	74 - 127	0.140	93	11	30
75-35-4	1,1-Dichloroethene		ND	0.00500	0.050	0.058	117	69 - 129	0.053	106	9	20
71-43-2	Benzene		ND	0.00500	0.050	0.059	118	70 - 129	0.055	110	7	20
79-01-6	Trichloroethene		ND	0.00500	0.050	0.059	118	76 - 129	0.055	109	7	20
108-88-3	Toluene		ND	0.00500	0.050	0.053	106	72 - 120	0.050	100	6	20
108-90-7	Chlorobenzene		ND	0.00500	0.050	0.053	106	74 - 123	0.050	100	6	20
Surrogate												
460-00-4	4-Bromofluorobenzene		48.5	97	50	50	100	78 - 130	51.5	103		
1868-53-7	Dibromofluoromethane		54.5	109	50	52.9	106	77 - 127	53.7	107		
2037-26-5	Toluene d8		50.5	101	50	47.1	94	76 - 134	47.6	95		
17060-07-0	1,2-Dichloroethane-d4		50.9	102	50	50.5	101	71 - 127	50.2	100		

General Chromatography Quality Control Summary

Analytical Batch 498476	**Client ID**	MB498476		LCS498476
Prep Batch N/A	**GCAL ID**	1147394		1147395
	Sample Type	Method Blank		LCS
	Analytical Date	01/08/2013 12:26		01/08/2013 12:37
	Matrix	Water		Water

RSK 175		**Units**	ug/L	**Spike**	**Result**		**Control**
		Result	**RDL**	**Added**		**% R**	**Limits % R**
74-82-8	Methane	ND	5.00	17.5	14.6	83	39 - 120
74-85-1	Ethene	ND	1.00	3.06	2.68	88	45 - 134
74-84-0	Ethane	ND	1.00	3.28	2.80	85	45 - 128
74-98-6	Propane	ND	10.0	50.7	41.6	82	30 - 170
106-97-8	Butane	ND	5.50	81.2	68.7	85	30 - 170
Surrogate							
115-07-1	Propene	35.2	87	40.5	28.6	71	40 - 143

Analytical Batch 498476	**Client ID**	007-089-122712	007-089-MS-122712	007-089-MSD-122712
Prep Batch N/A	**GCAL ID**	21212280710	21212280711	21212280712
	Sample Type	SAMPLE	MS	MSD
	Analytical Date	01/08/2013 16:54	01/08/2013 17:03	01/08/2013 17:15
	Matrix	Water	Water	Water

RSK 175		**Units**	ug/L	**Spike**	**Result**		**Control**	**Result**			
		Result	**RDL**	**Added**		**% R**	**Limits % R**		**% R**	**RPD**	**RPD Limit**
74-85-1	Ethene	0.00	1.00	3.06	2.76	90	45 - 134	2.69	88	3	25
74-98-6	Propane	28.8	10.0	50.7	68.6	79	30 - 170	67.2	76	2	40
106-97-8	Butane	5.43	5.50	81.2	71.3	81	30 - 170	69.3	79	3	40
Surrogate											
115-07-1	Propene			40.5	28.4	70	40 - 143	27.3	67		

Analytical Batch 498476	**Client ID**	007-089-122712	007-089-MS-122712	007-089-MSD-122712
Prep Batch N/A	**GCAL ID**	21212280710	21212280711	21212280712
	Sample Type	SAMPLE	MS	MSD
	Analytical Date	01/08/2013 17:50	01/08/2013 18:00	01/08/2013 18:13
	Matrix	Water	Water	Water

RSK 175		**Units**	ug/L	**Spike**	**Result**		**Control**	**Result**			
		Result	**RDL**	**Added**		**% R**	**Limits % R**		**% R**	**RPD**	**RPD Limit**
74-82-8	Methane	16200	3000	17.5	16000	**-1000***	39 - 120	16800	**3430***	5	27

General Chromatography Quality Control Summary

Analytical Batch 498476	**Client ID**	007-089-122712			007-089-MS-122712			007-089-MSD-122712			
Prep Batch N/A	**GCAL ID**	21212280710			21212280711			21212280712			
	Sample Type	SAMPLE			MS			MSD			
	Analytical Date	01/08/2013 17:24			01/08/2013 17:32			01/08/2013 17:40			
	Matrix	Water			Water			Water			
RSK 175		**Units**	ug/L	**Spike**	**Result**		**Control**	**Result**			**RPD**
		Result	**RDL**	**Added**		**% R**	**Limits % R**		**% R**	**RPD**	**Limit**
74-84-0 Ethane		288	50.0	3.28	293	**152***	45 - 128	294	**183***	0.3	29

General Chromatography Quality Control Summary

Analytical Batch	498459	**Client ID**	MB498026			LCS498026			LCSD498026			
Prep Batch	498026	**GCAL ID**	1145661			1145662			1145663			
Prep Method	TX 1006/LA 1006	**Sample Type**	Method Blank			LCS			LCSD			
		Prep Date	01/03/2013 11:45			01/03/2013 11:45			01/03/2013 11:45			
		Analytical Date	01/04/2013 14:45			01/04/2013 15:49			01/04/2013 16:55			
		Matrix	Water			Water			Water			
TX1006/LA 1006		**Units**	**Result**	mg/L **RDL**	**Spike Added**	**Result**	**% R**	**Control Limits % R**	**Result**	**% R**	**RPD**	**RPD Limit**
GCSV-02-30	Aliphatic C6-C8		ND	0.150								
GCSV-02-10	Aliphatic >C8-C10		ND	0.150								
GCSV-02-11	Aliphatic >C10-C12		ND	0.150								
GCSV-02-12	Aliphatic >C12-C16		ND	0.150								
GCSV-02-31	Aliphatic >C16-C35		ND	0.150								
GCSV-02-14	Aromatic >C8-C10		ND	0.150								
GCSV-02-15	Aromatic >C10-C12		ND	0.150								
GCSV-02-16	Aromatic >C12-C16		ND	0.150								
GCSV-02-17	Aromatic >C16-C21		ND	0.150								
GCSV-05-18	Aromatic >C21-C35		ND	0.150								
GCSV-05-04	Total TPH (C6-C35)		ND	0.150	59.7	50.0	84	60 - 140	56.2	95	12	20
Surrogate												
84-15-1	o-Terphenyl		15300	102	14900	14300	96	60 - 140	18600	126		

Inorganics Quality Control Summary

Analytical Batch	498766	**Client ID**	MB498011	LCS498011
Prep Batch	498011	**GCAL ID**	1145555	1145556
Prep Method	SW-846	**Sample Type**	Method Blank	LCS
	3010A	**Prep Date**	12/30/2012 07:45	12/30/2012 07:45
		Analytical Date	01/11/2013 18:20	01/11/2013 18:28
		Matrix	Water	Water

SW-846 6010B		**Units**	mg/L	**Spike**	**Result**		**Control**
		Result	**RDL**	**Added**		**% R**	**Limits % R**
7440-70-2	Calcium	ND	0.10	5.00	4.67	93	80 - 120
7439-89-6	Iron	ND	0.10	5.00	4.61	92	80 - 120
7439-95-4	Magnesium	ND	0.10	5.00	4.62	92	80 - 120
7439-96-5	Manganese	ND	0.015	0.50	0.47	94	80 - 120
7440-09-7	Potassium	ND	0.50	10.0	9.34	93	80 - 120
7440-23-5	Sodium	ND	1.00	20.0	19.0	95	80 - 120

Analytical Batch	498766	**Client ID**	WW 1	1145550MS
Prep Batch	498011	**GCAL ID**	21212282803	1145558
Prep Method	SW-846	**Sample Type**	SAMPLE	MS
	3010A	**Prep Date**	12/30/2012 07:45	12/30/2012 07:45
		Analytical Date	01/11/2013 20:21	01/11/2013 20:35
		Matrix	Water	Water

SW-846 6010B		**Units**	mg/L	**Spike**	**Result**		**Control**
		Result	**RDL**	**Added**		**% R**	**Limits % R**
7440-70-2	Calcium	156	0.10	5.00	168	**230***	75 - 125
7439-89-6	Iron	5.35	0.10	5.00	10.4	101	75 - 125
7439-95-4	Magnesium	53.0	0.10	5.00	60.6	**153***	75 - 125
7439-96-5	Manganese	0.35	0.015	0.50	0.85	100	75 - 125
7440-09-7	Potassium	8.05	0.50	10.0	19.4	113	75 - 125

Analytical Batch	498766	**Client ID**	WW 1	1145550MS
Prep Batch	498011	**GCAL ID**	21212282803	1145558
Prep Method	SW-846	**Sample Type**	SAMPLE	MS
	3010A	**Prep Date**	12/30/2012 07:45	12/30/2012 07:45
		Analytical Date	01/11/2013 18:36	01/11/2013 18:52
		Matrix	Water	Water

SW-846 6010B		**Units**	mg/L	**Spike**	**Result**		**Control**
		Result	**RDL**	**Added**		**% R**	**Limits % R**
7440-23-5	Sodium	1130	10.0	20.0	1280	**752***	75 - 125

Inorganics Quality Control Summary

Analytical Batch	498766	**Client ID**	WW 1	1145550DUP
Prep Batch	498011	**GCAL ID**	21212282803	1145557
Prep Method	SW-846	**Sample Type**	SAMPLE	DUP
	3010A	**Prep Date**	12/30/2012 07:45	12/30/2012 07:45
		Analytical Date	01/11/2013 20:21	01/11/2013 20:28
		Matrix	Water	Water

SW-846 6010B		**Units**	mg/L	**Result**		**RPD**
		Result	**RDL**		**RPD**	**Limit**
7440-70-2	Calcium	156	0.10	161	3	20
7439-89-6	Iron	5.35	0.10	5.56	4	20
7439-95-4	Magnesium	53.0	0.10	54.9	4	20
7439-96-5	Manganese	0.35	0.015	0.36	3	20
7440-09-7	Potassium	8.05	0.50	8.52	6	20

Analytical Batch	498766	**Client ID**	WW 1	1145550DUP
Prep Batch	498011	**GCAL ID**	21212282803	1145557
Prep Method	SW-846	**Sample Type**	SAMPLE	DUP
	3010A	**Prep Date**	12/30/2012 07:45	12/30/2012 07:45
		Analytical Date	01/11/2013 18:36	01/11/2013 18:44
		Matrix	Water	Water

SW-846 6010B		**Units**	mg/L	**Result**		**RPD**
		Result	**RDL**		**RPD**	**Limit**
7440-23-5	Sodium	1130	10.0	1240	9	20

General Chemistry Quality Control Summary

Analytical Batch 497948	**Client ID**	MB497948			LCS497948		
Prep Batch N/A	**GCAL ID**	1145286			1145287		
	Sample Type	Method Blank			LCS		
	Analytical Date	12/28/2012 09:00			12/28/2012 09:00		
	Matrix	Water			Water		
SM 2540C TDS		**Units**	mg/L	**Spike**	**Result**		**Control**
		Result	**RDL**	**Added**		**% R**	**Limits % R**
WET-035	Total Dissolved Solids(TDS)	ND	10.0	1000	983	98.3	80 - 120

Analytical Batch 497948	**Client ID**	TK-470		1144709DUP		
Prep Batch N/A	**GCAL ID**	21212262701		1145288		
	Sample Type	SAMPLE		DUP		
	Analytical Date	12/28/2012 09:00		12/28/2012 09:00		
	Matrix	Water		Water		
SM 2540C TDS		**Units**	mg/L	**Result**		**RPD**
		Result	**RDL**		**RPD**	**Limit**
WET-035	Total Dissolved Solids(TDS)	318	10.0	317	0.31	5

General Chemistry Quality Control Summary

Analytical Batch 497971	**Client ID**	MW-1A		1145013DUP		
Prep Batch N/A	**GCAL ID**	21212272801		1145353		
	Sample Type	SAMPLE		DUP		
	Analytical Date	12/28/2012 10:40		12/28/2012 10:40		
	Matrix	Water		Water		
SM 2510 B Conductivity		**Units**	umhos/cm	**Result**		**RPD**
		Result	**RDL**		**RPD**	**Limit**
C-011	Specific Conductance	968	10	967	0.1	10

General Chemistry Quality Control Summary

Analytical Batch 498301	**Client ID**	MB498301			LCS498301		
Prep Batch N/A	**GCAL ID**	1146579			1146580		
	Sample Type	Method Blank			LCS		
	Analytical Date	01/03/2013 12:50			01/03/2013 13:08		
	Matrix	Water			Water		
SW-846 9056A		**Units**	mg/L	**Spike**	**Result**		**Control**
		Result	**RDL**	**Added**		**% R**	**Limits % R**
24959-67-9	Bromide	ND	0.200	5.00	4.54	90.9	80 - 120
16887-00-6	Chloride	ND	0.100	2.50	2.39	95.5	80 - 120
14808-79-8	Sulfate	ND	0.200	5.00	4.85	97	80 - 120

Analytical Batch 498301	**Client ID**	MW-2			1146346MS			1146346MSD			
Prep Batch N/A	**GCAL ID**	21301023703			1146583			1146584			
	Sample Type	SAMPLE			MS			MSD			
	Analytical Date	01/03/2013 21:57			01/03/2013 22:14			01/03/2013 22:32			
	Matrix	Water			Water			Water			
SW-846 9056A		**Units**	mg/L	**Spike**	**Result**		**Control**	**Result**			**RPD**
		Result	**RDL**	**Added**		**% R**	**Limits % R**		**% R**	**RPD**	**Limit**
14808-79-8	Sulfate	24.7	2.00	50.0	74.2	99	75 - 125	75.8	102	2.1	15

Data File: /chem/gcv8a.i/2130108.b/v8045.d

Date : 08-JAN-2013 19:17

Client ID: 21212282801

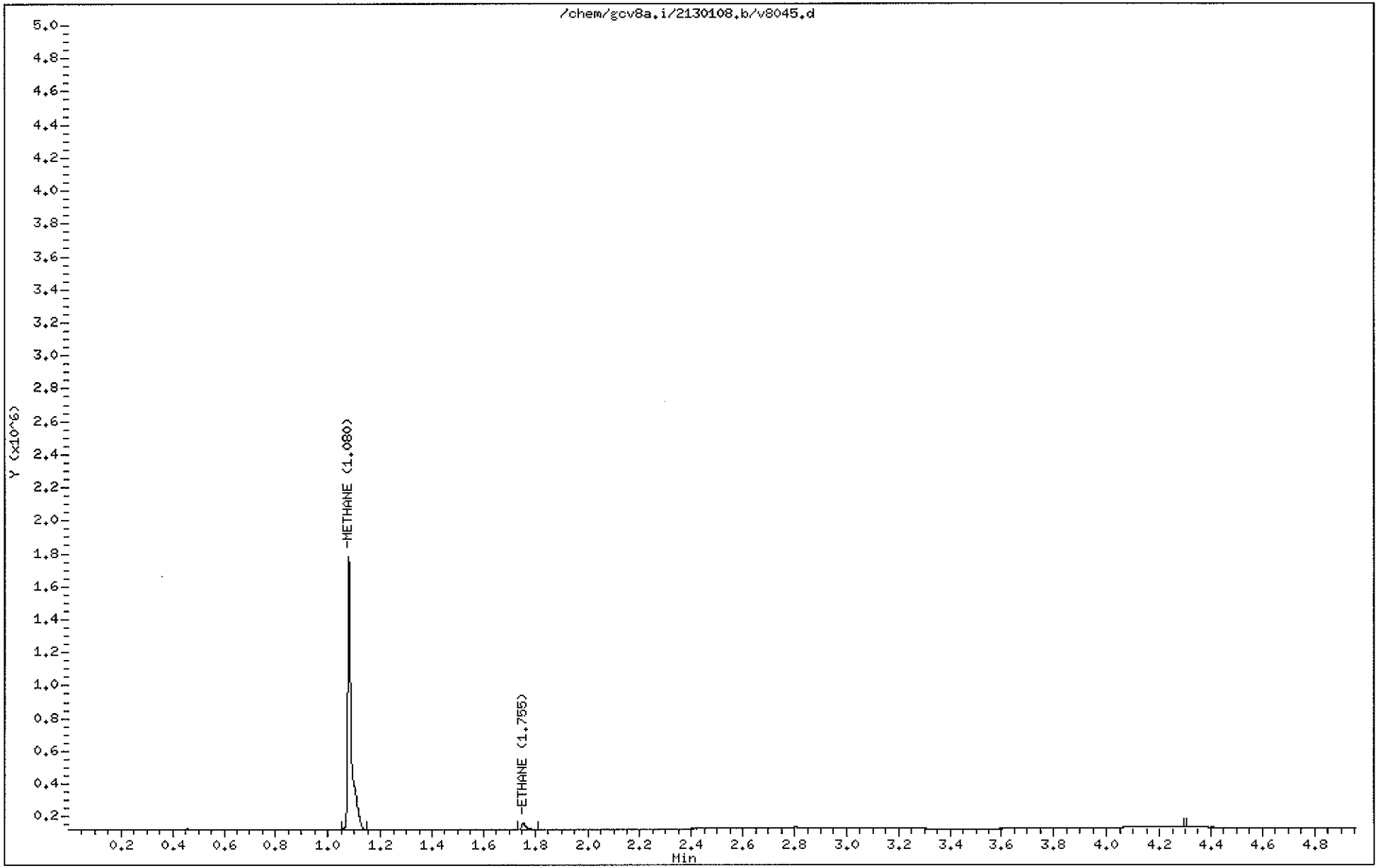
Instrument: gcv8a.i

Sample Info: 21212282801

Operator: BNR

Column phase: GS-Q-30M

Column diameter: 0.53



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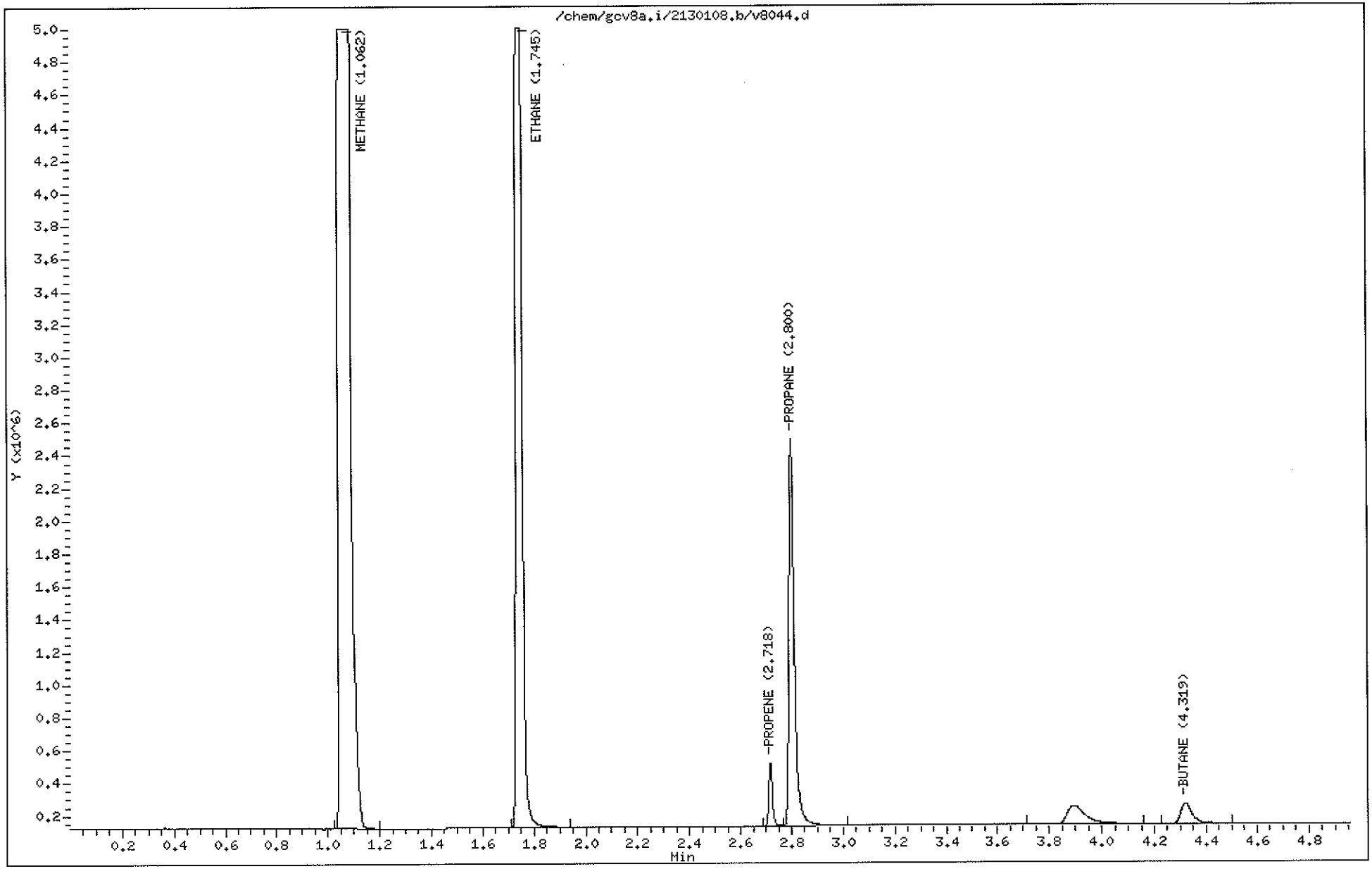
Date : 08-JAN-2013 19:07
Client ID: 21212282801
Sample Info: 21212282801

Instrument: gcv8a.i

Operator: BMR
Column diameter: 0.53

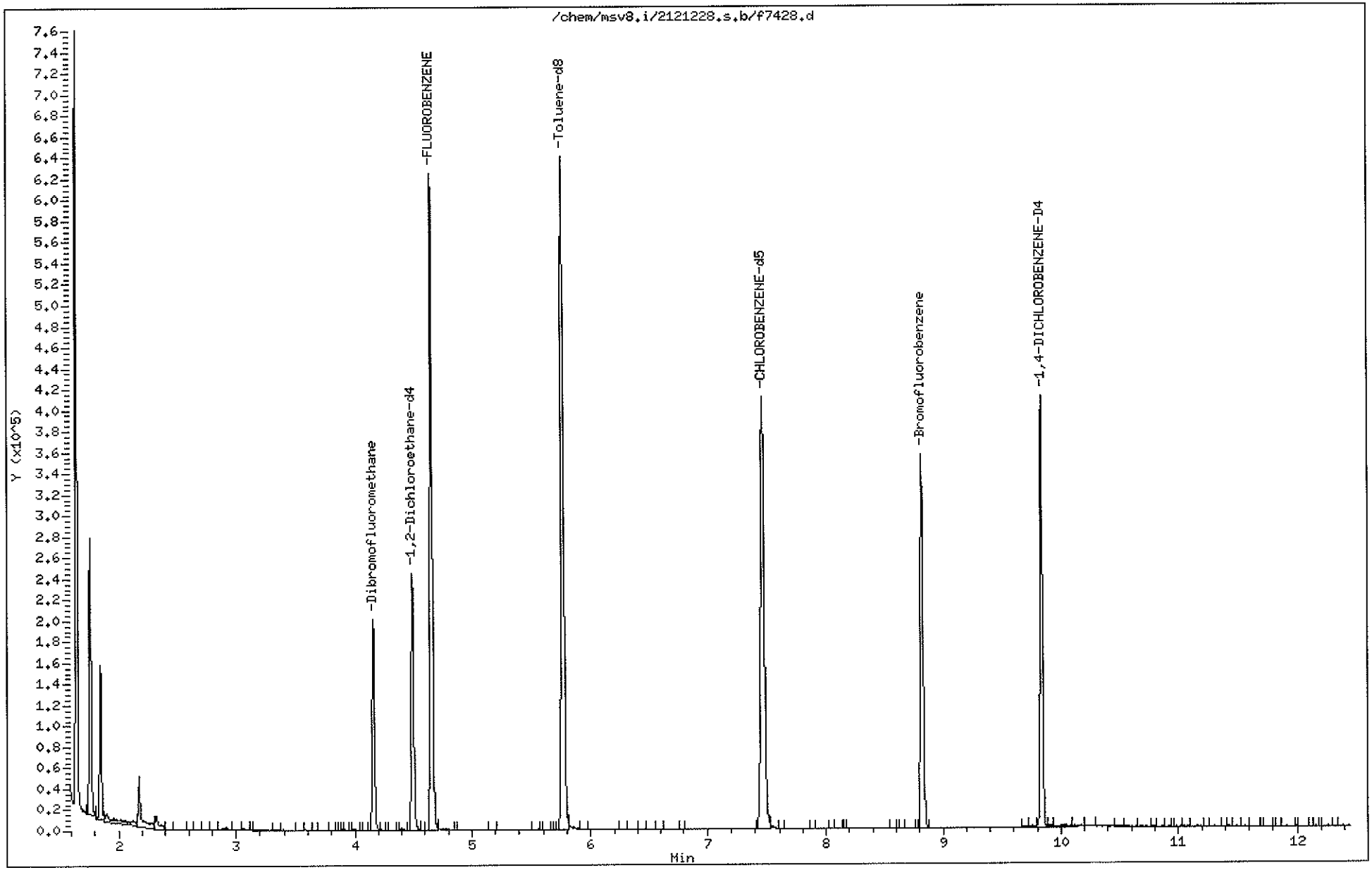
Column phase: GS-Q-30M



Data File: /chem/msv8.i/2121228.s.b/f7428.d
Date : 28-DEC-2012 21:35
Client ID:
Sample Info: 21212282801*
Purge Volume: 5.0
Column phase: RTX-VMS-30M

Instrument: msv8.i

Operator: CGC
Column diameter: 0.25



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Date : 07-JAN-2013 18:31

Client ID:

Instrument: gcsv20a.i

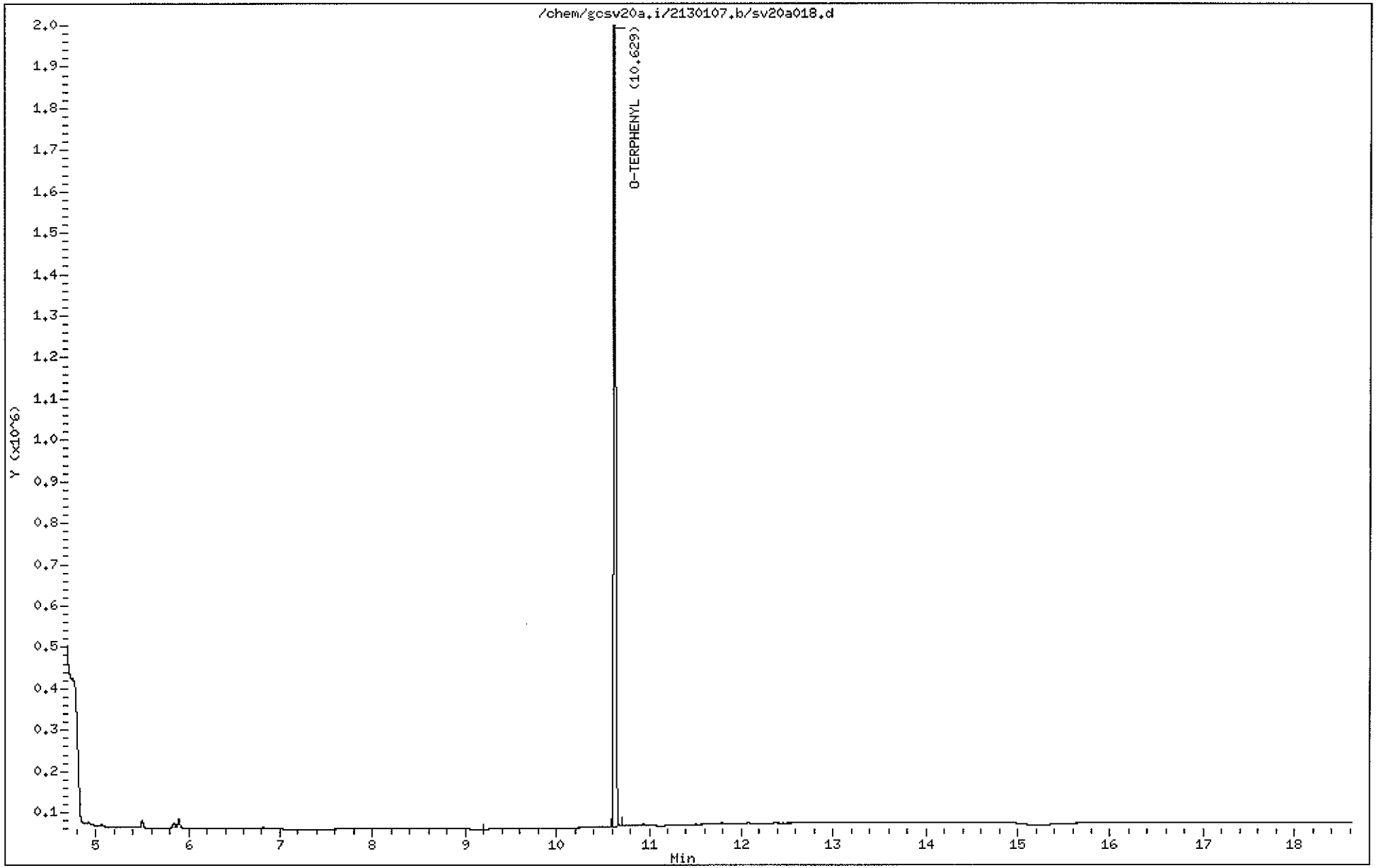
Sample Info: 21212282801M1

Volume Injected (uL): 1.0

Operator: smh

Column phase: DB-5MS-30M

Column diameter: 0.25



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Date : 08-JAN-2013 19:55

Client ID: 21212282802

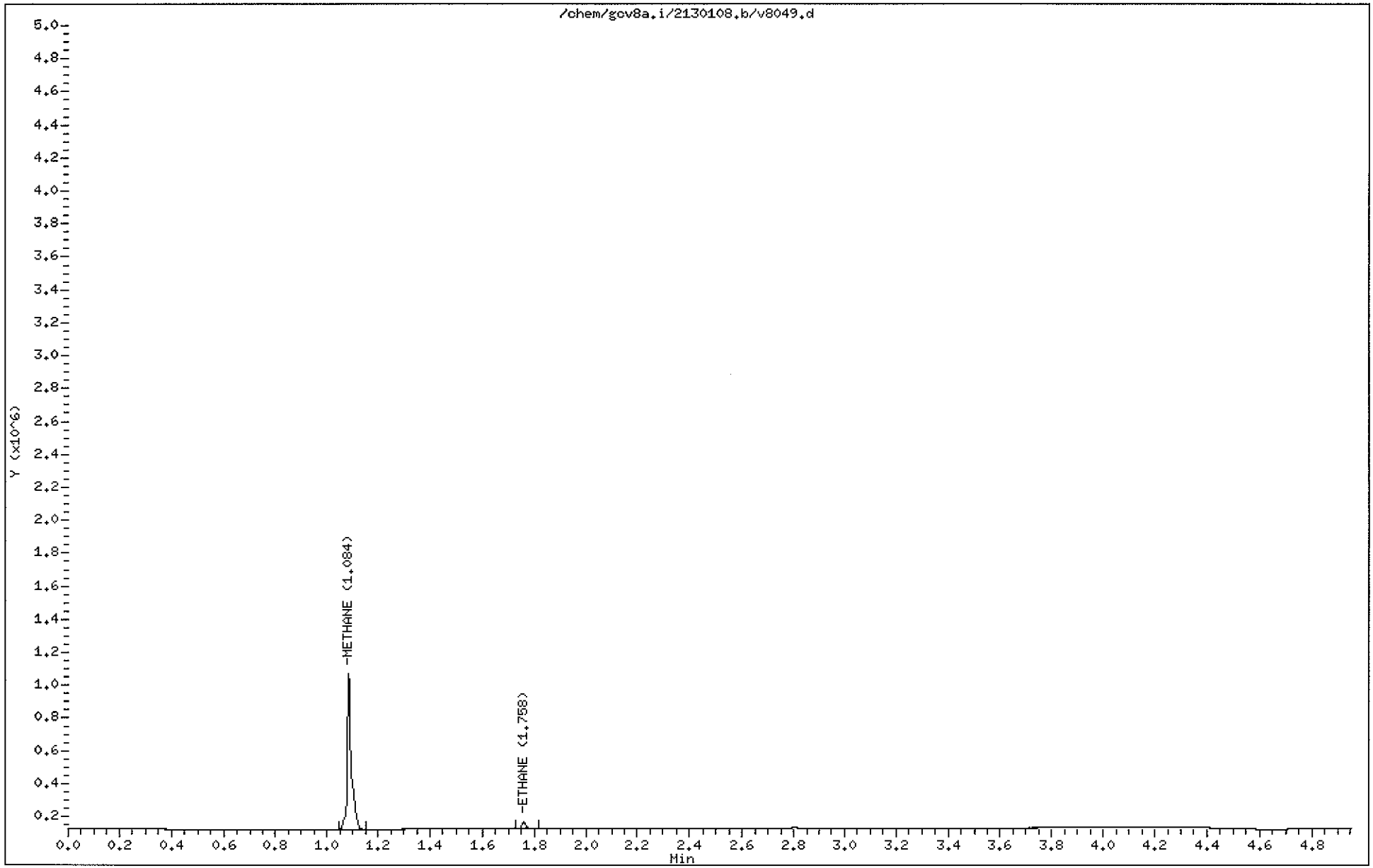
Instrument: gcv8a.i

Sample Info: 21212282802

Operator: BMR

Column phase: GS-Q-30M

Column diameter: 0.53



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Date : 08-JAN-2013 19:47

Client ID: 21212282802

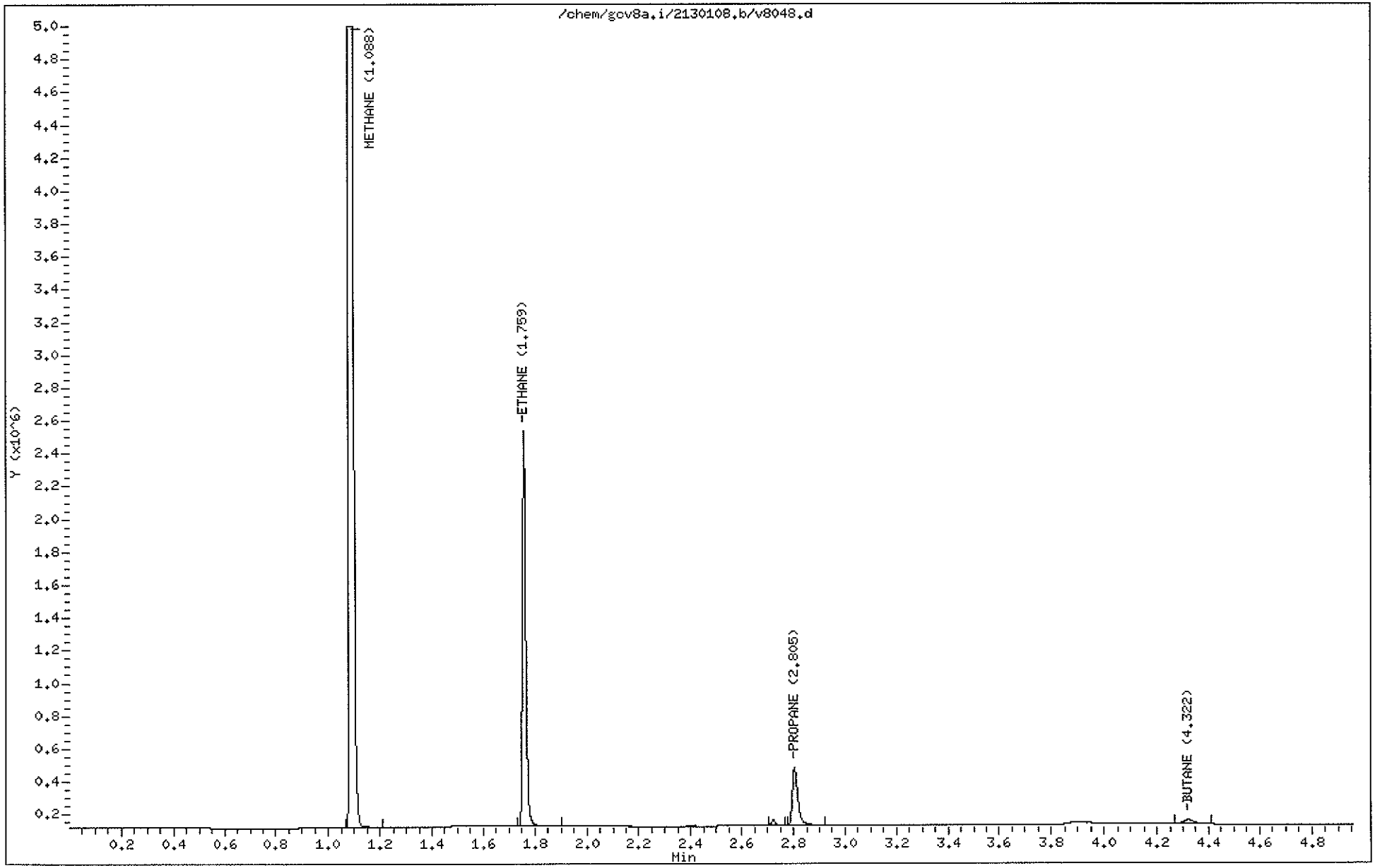
Sample Info: 21212282802

Column phase: GS-Q-30M

Instrument: gcv8a.i

Operator: BMR

Column diameter: 0.53



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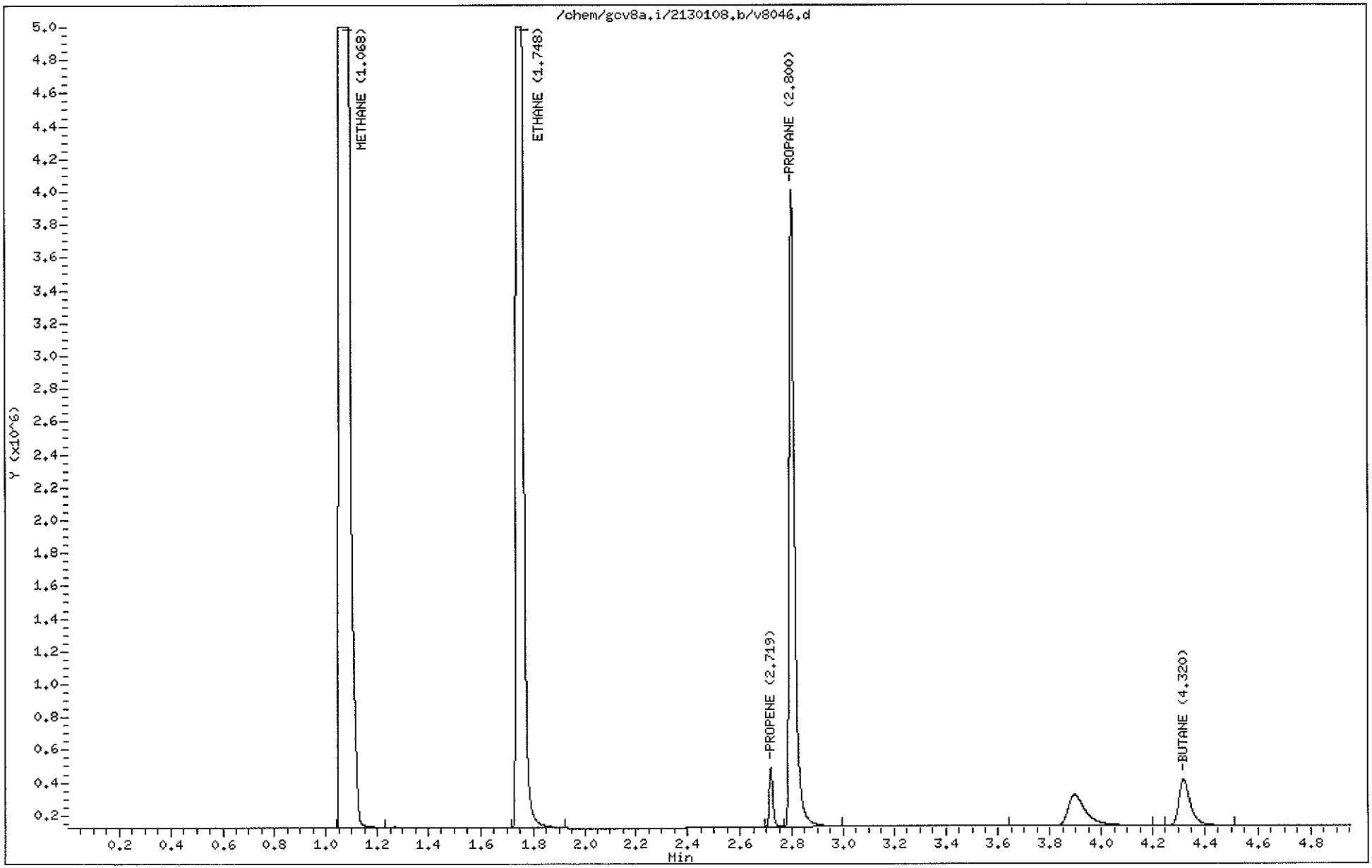
Date : 08-JAN-2013 19:26
Client ID: 21212282802
Sample Info: 21212282802

Instrument: gcv8a.i

Operator: BMR
Column phase: GS-Q-30M
Column diameter: 0.53



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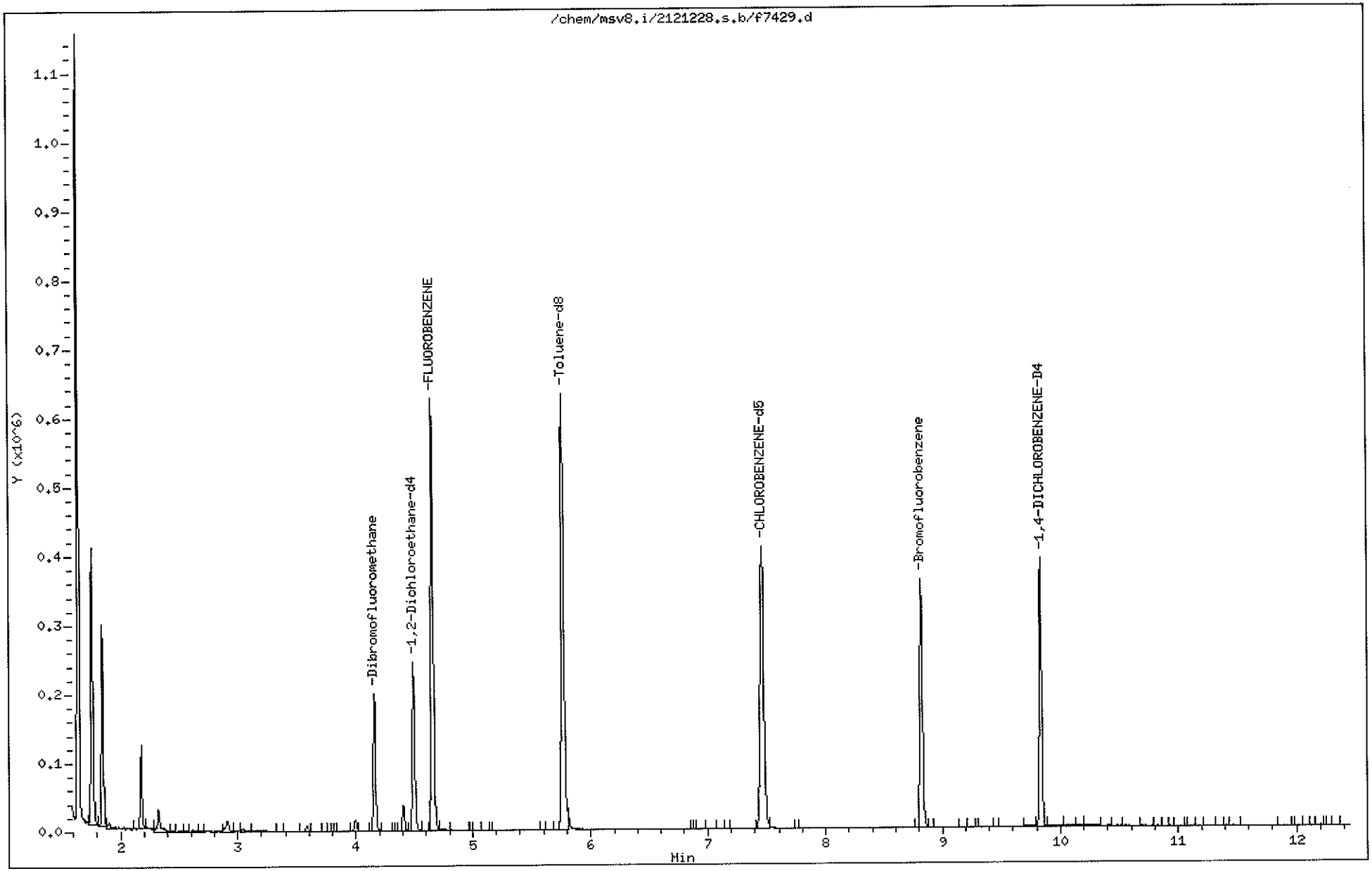
Date : 28-DEC-2012 21:55
Client ID:
Sample Info: 21212282802×
Purge Volume: 5.0
Column phase: RTX-VMS-30M

Instrument: msv8.i

Operator: CGC
Column diameter: 0.25



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Date : 07-JAN-2013 19:34

Client ID:

Instrument: gcsv20a.i

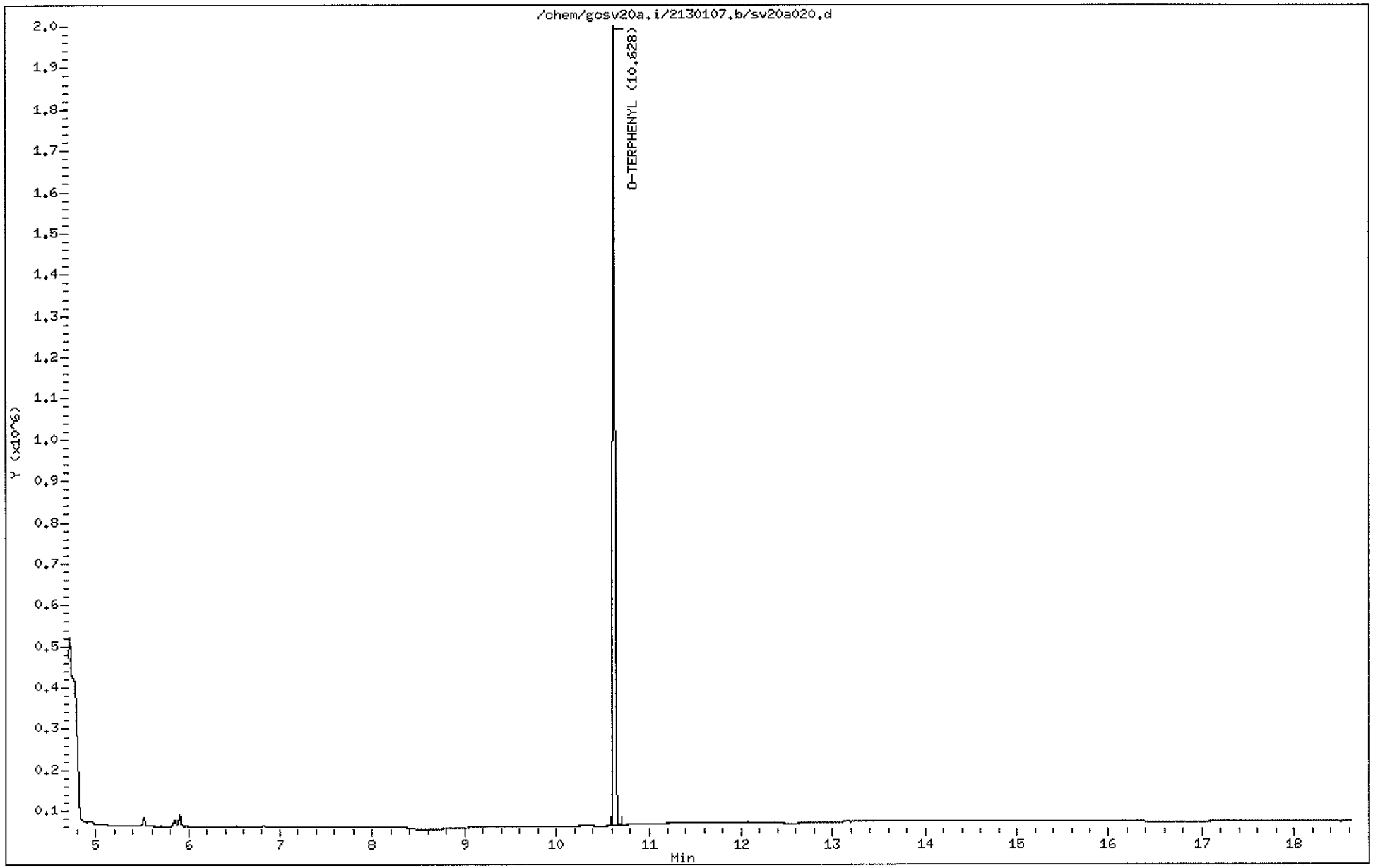
Sample Info: 21212282802M1

Volume Injected (uL): 1.0

Operator: smh

Column phase: DB-5MS-30M

Column diameter: 0.25



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Date : 08-JAN-2013 20:14

Client ID: 21212282803

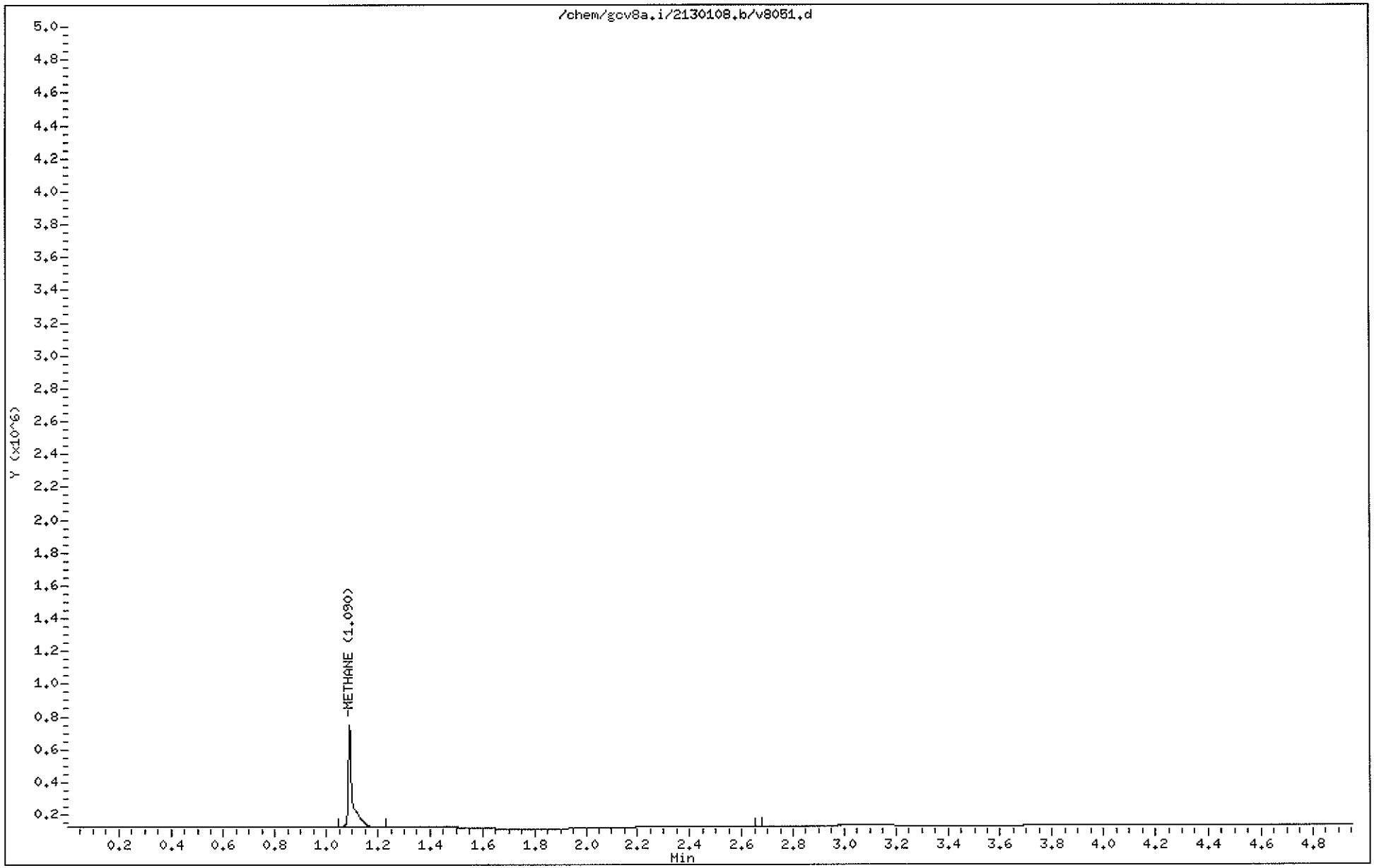
Instrument: gcv8a.i

Sample Info: 21212282803

Operator: BMR

Column phase: GS-Q-30M

Column diameter: 0.53



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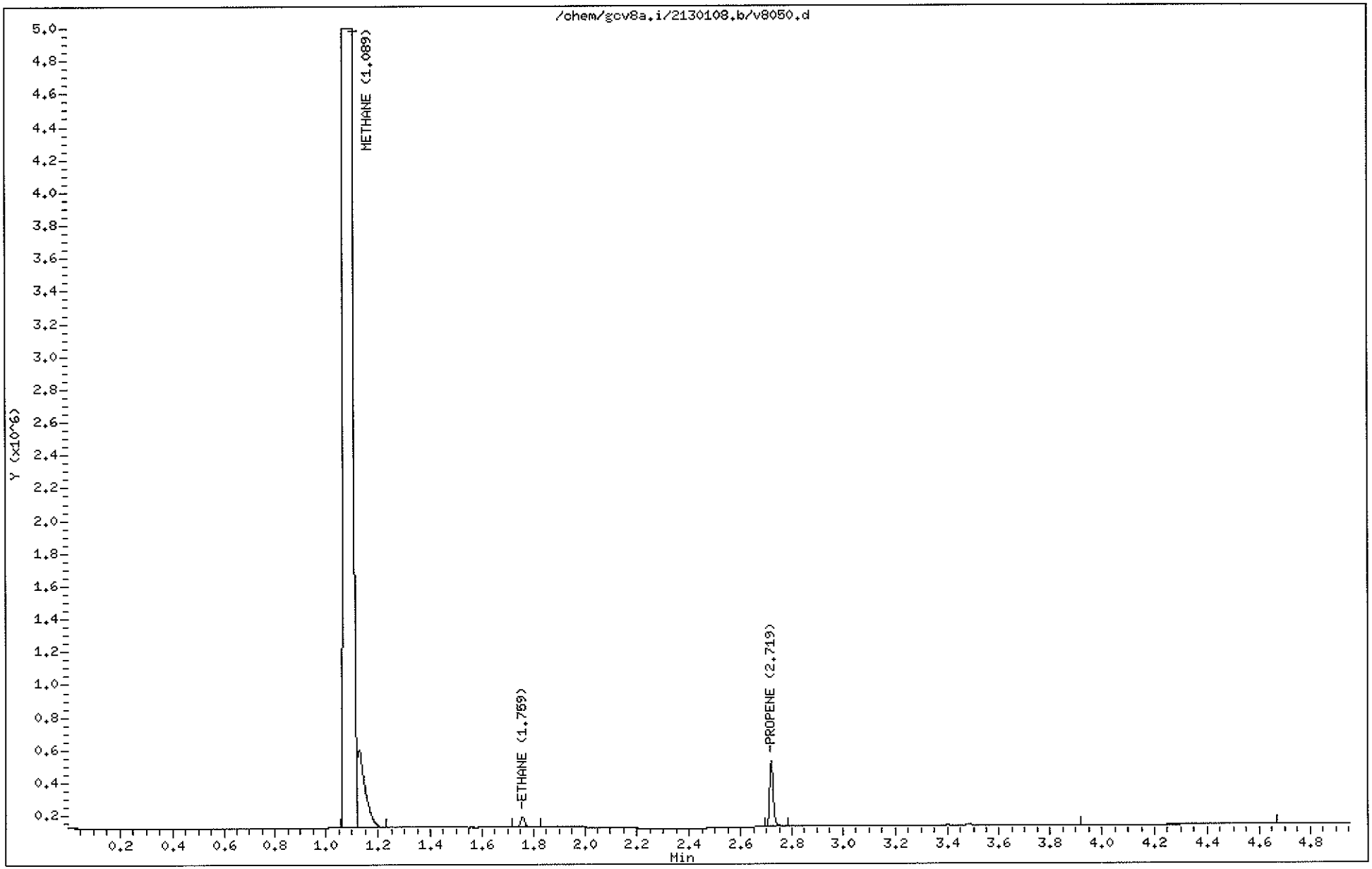
Date : 08-JAN-2013 20:06
Client ID: 21212282803
Sample Info: 21212282803

Instrument: gcv8a.i

Operator: BMR
Column diameter: 0.53

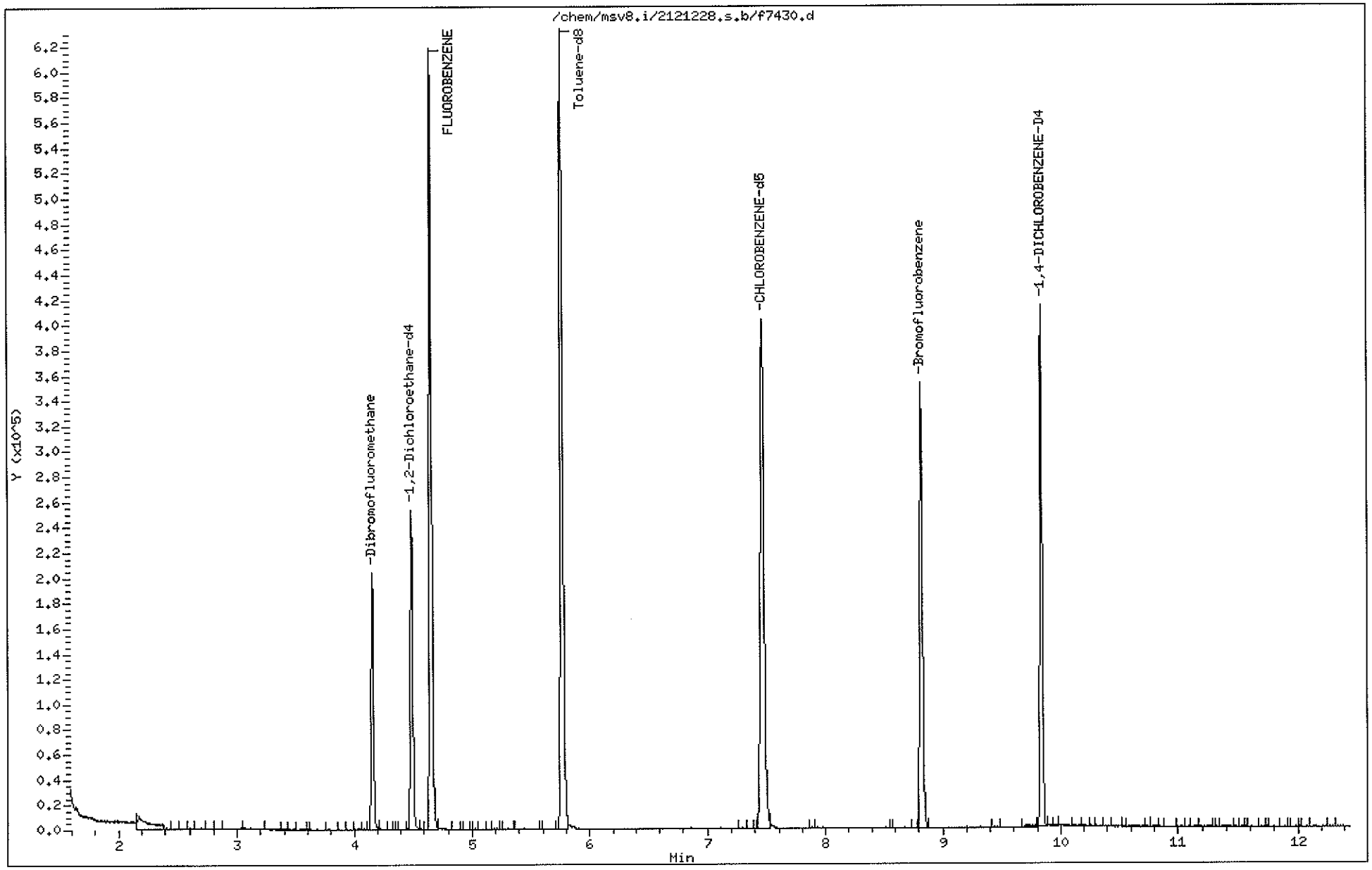
Column phase: GS-Q-30M



Data File: /chem/msv8.i/2121228.s.b/f7430.d
Date : 28-DEC-2012 22:15
Client ID:
Sample Info: 21212282803*
Purge Volume: 5.0
Column phase: RTX-VMS-30M

Instrument: msv8.i

Operator: CGC
Column diameter: 0.25



Data File: /chem/gcsv20a.i/2130107.b/sv20a022.d

Date : 07-JAN-2013 20:36

Client ID:

Instrument: gcsv20a.i

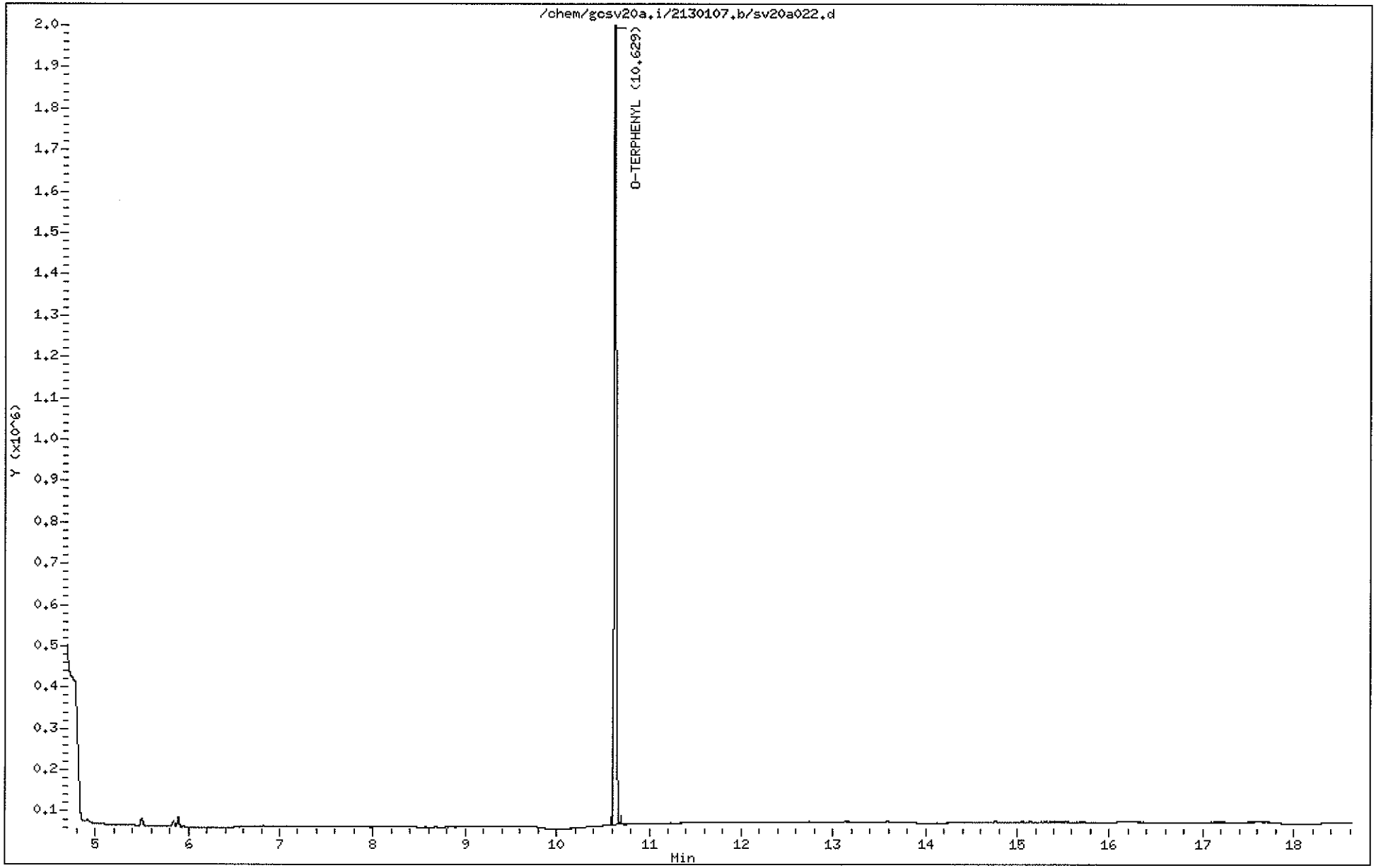
Sample Info: 21212282803*1

Volume Injected (uL): 1.0

Operator: smh

Column phase: DB-5MS-30M

Column diameter: 0.25

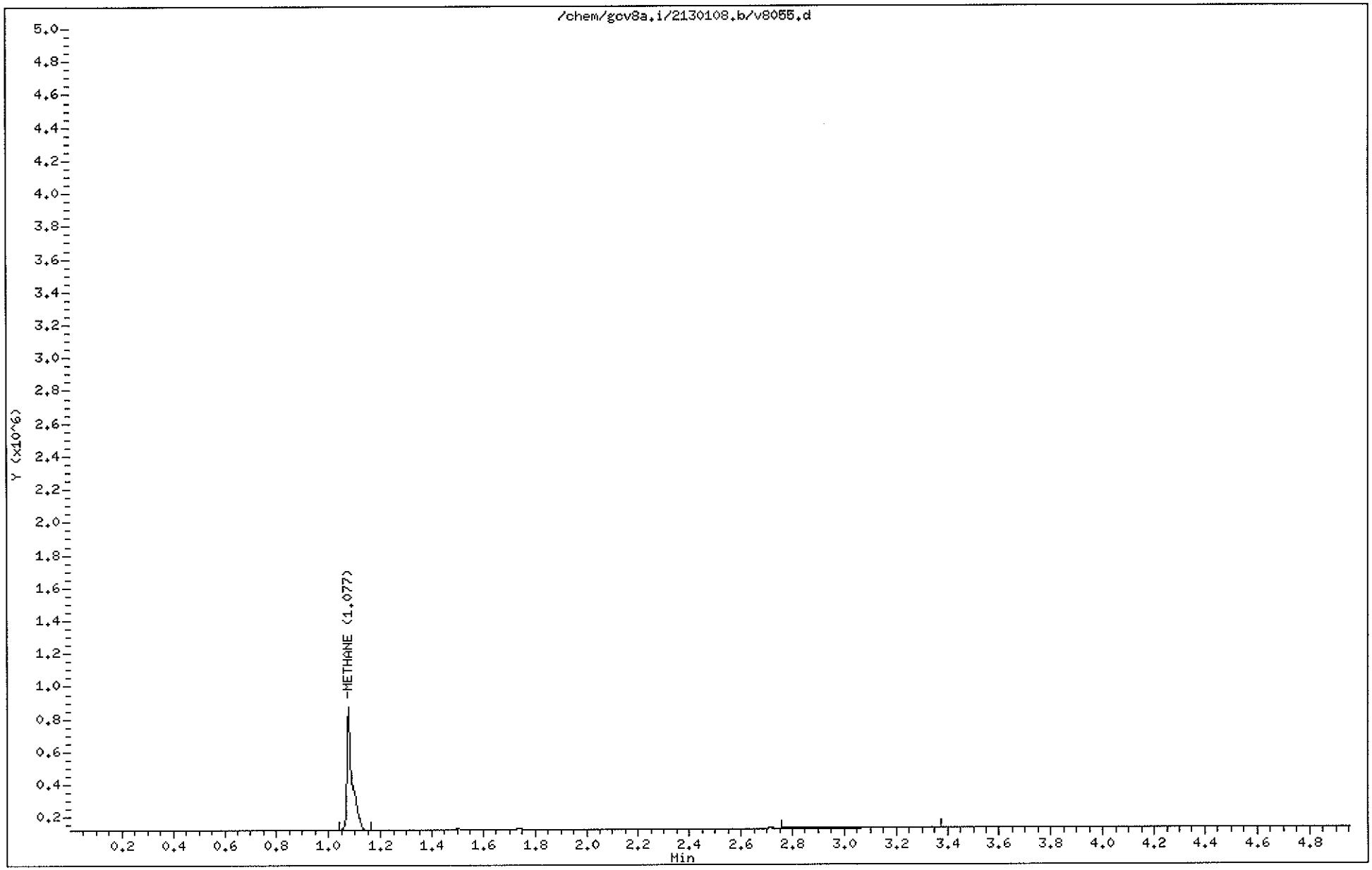


Data File: /chem/gcv8a.i/2130108.b/v8055.d
Date : 08-JAN-2013 20:54
Client ID: 21212282804
Sample Info: 21212282804

Instrument: gcv8a.i

Operator: BMR
Column diameter: 0.53

Column phase: GS-Q-30M

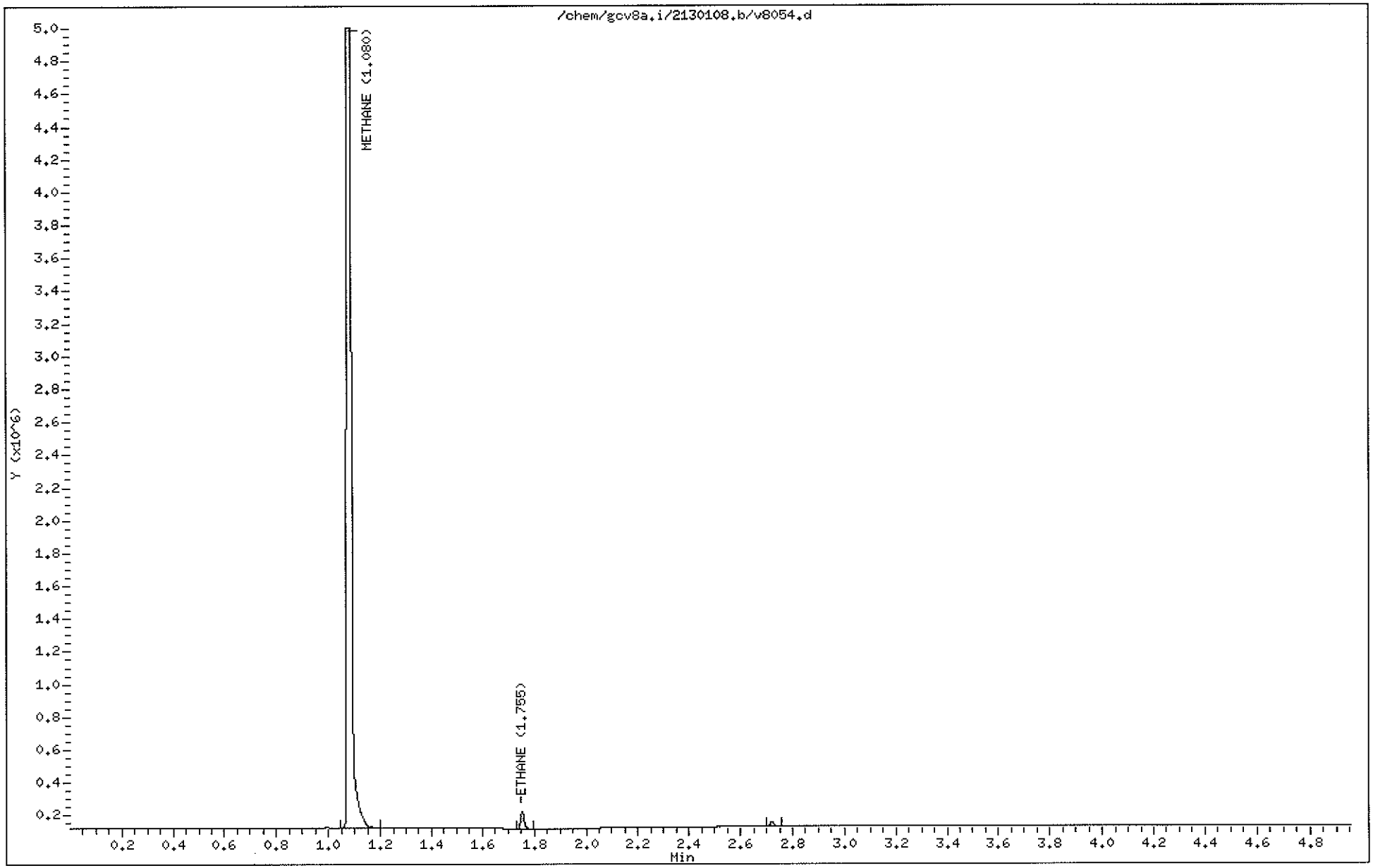


Data File: /chem/gcv8a.i/2130108.b/v8054.d
Date : 08-JAN-2013 20:46
Client ID: 21212282804
Sample Info: 21212282804

Column phase: GS-Q-30M

Instrument: gcv8a.i

Operator: BMR
Column diameter: 0.53



Data File: /chem/gcv8a.i/2130108.b/v8053.d

Date : 08-JAN-2013 20:34

Client ID: 21212282804

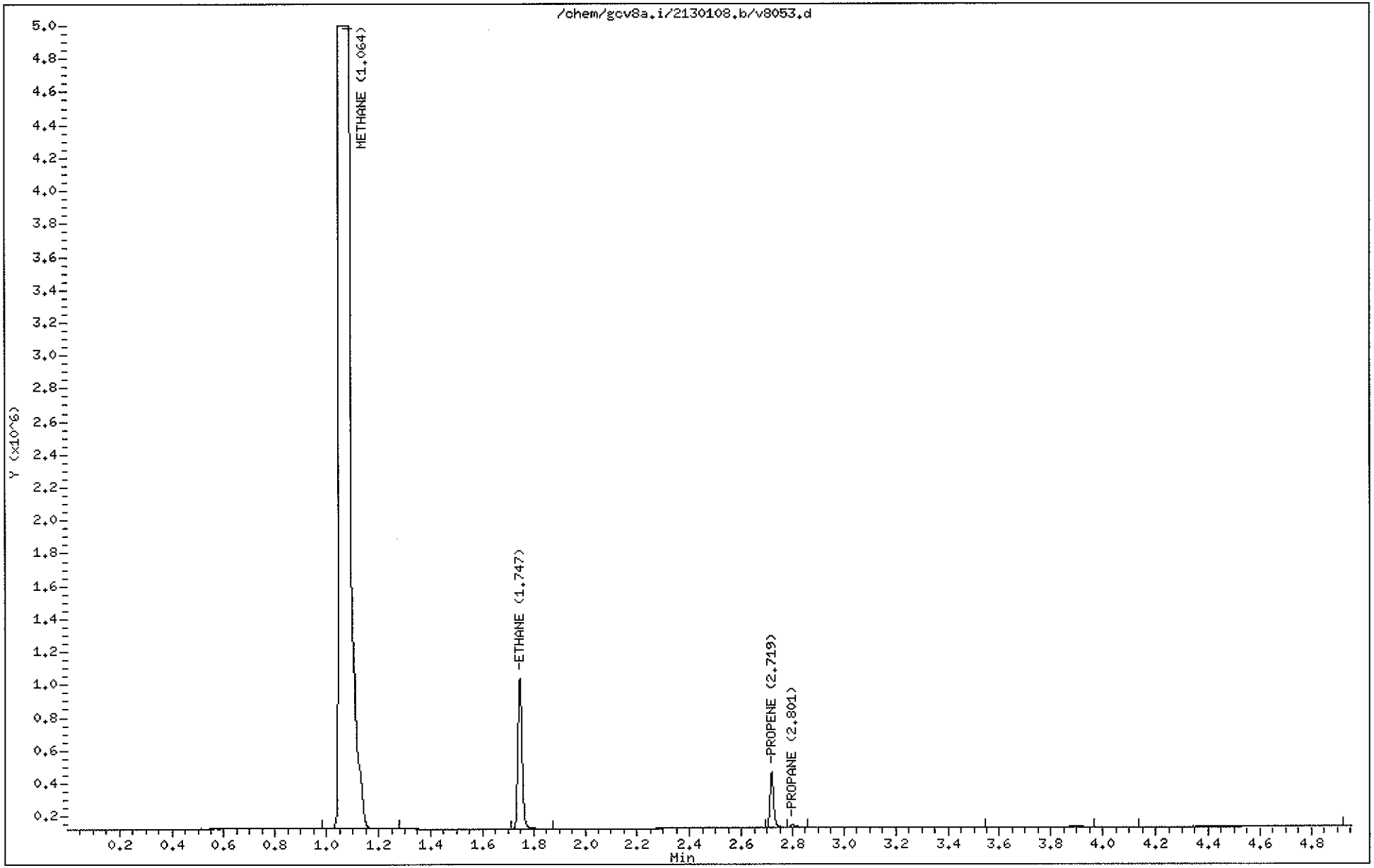
Sample Info: 21212282804

Column phase: GS-Q-30M

Instrument: gcv8a.i

Operator: BMR

Column diameter: 0.53



Data File: /chem/msv8.i/2121229.s.b/f7456.d

Date : 29-DEC-2012 18:09

Client ID:

Instrument: msv8.i

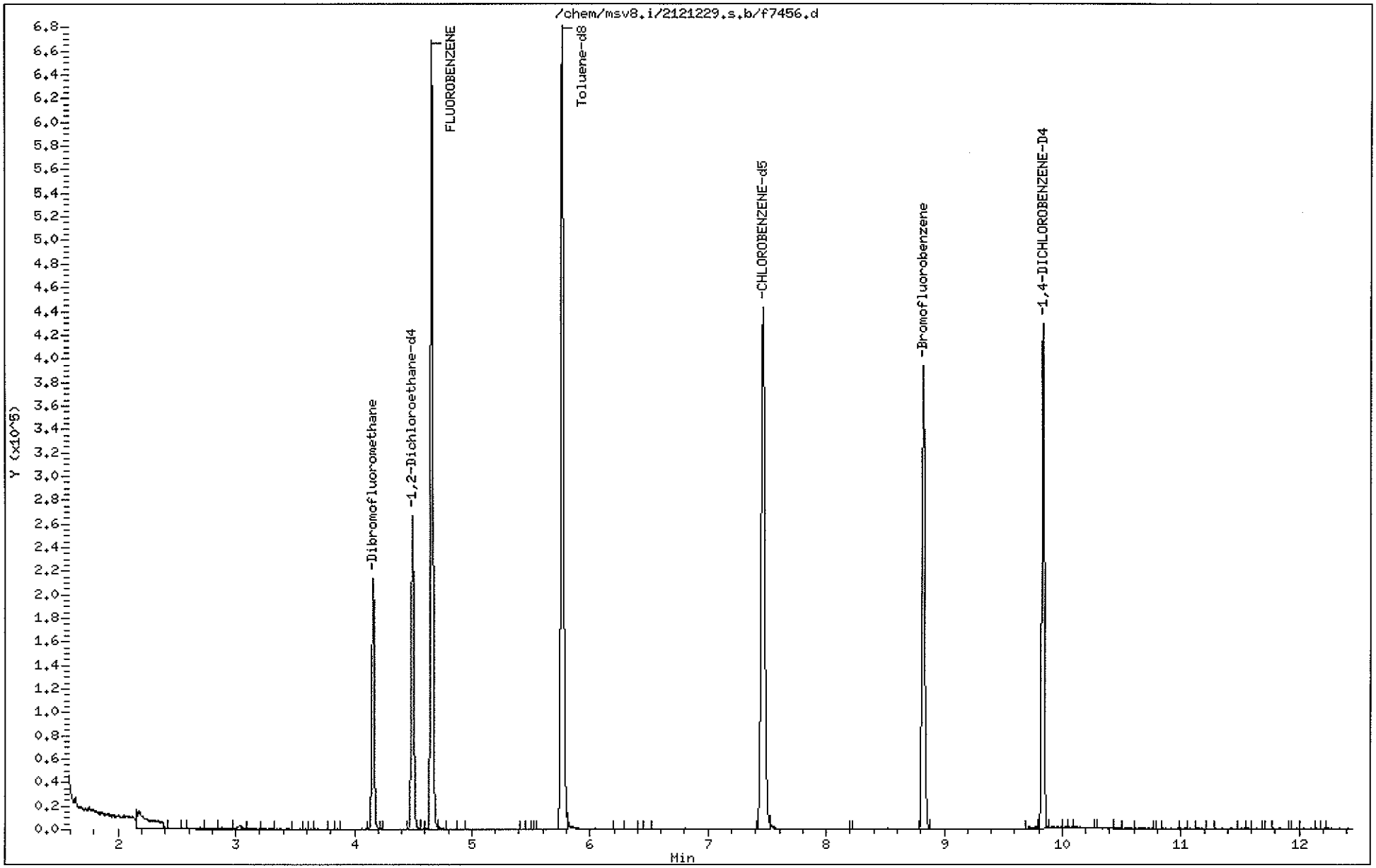
Sample Info: 21212282804*

Purge Volume: 5.0

Operator: CGC

Column phase: RTX-VMS-30M

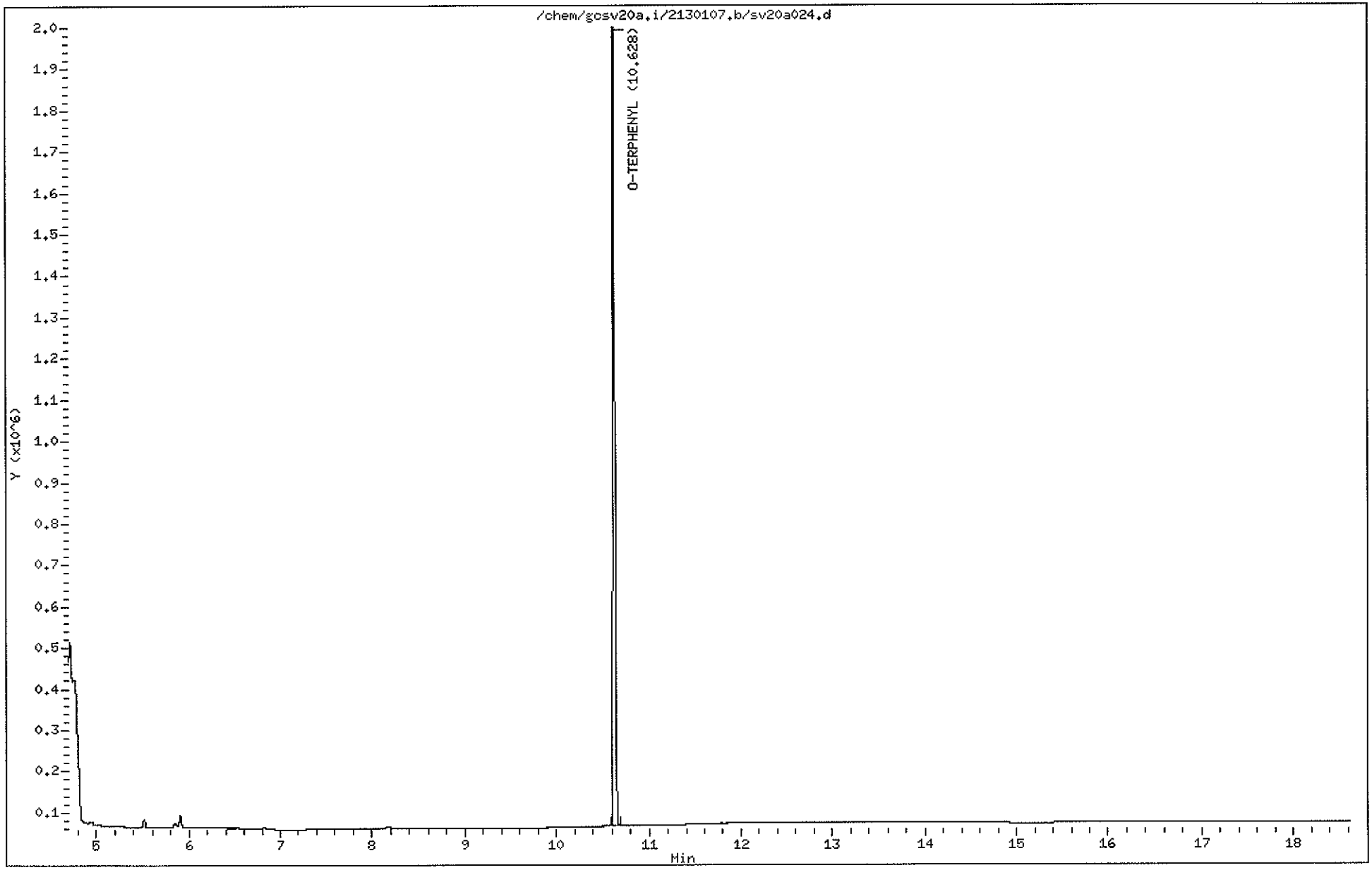
Column diameter: 0.25



Data File: /chem/gcsv20a.i/2130107.b/sv20a024.d
Date : 07-JAN-2013 21:39
Client ID:
Sample Info: 21212282804x1
Volume Injected (uL): 1.0
Column phase: DB-5MS-30M

Instrument: gcsv20a.i

Operator: smh
Column diameter: 0.25



Data File: /chem/gcv8a.i/2130108.b/v8058.d

Date : 08-JAN-2013 21:17

Client ID: 21212282805

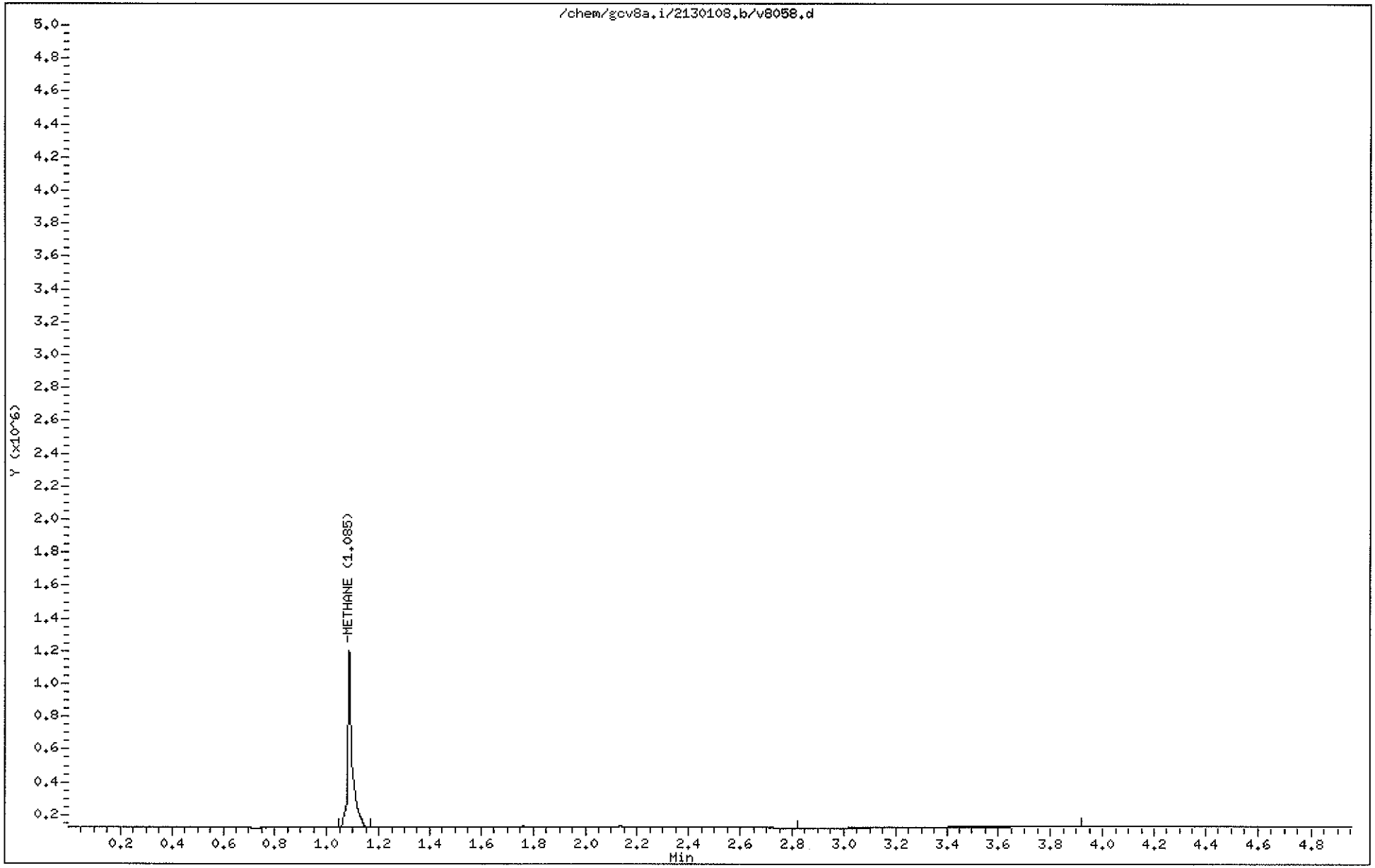
Instrument: gcv8a.i

Sample Info: 21212282805

Operator: BMR

Column phase: GS-Q-30M

Column diameter: 0.53

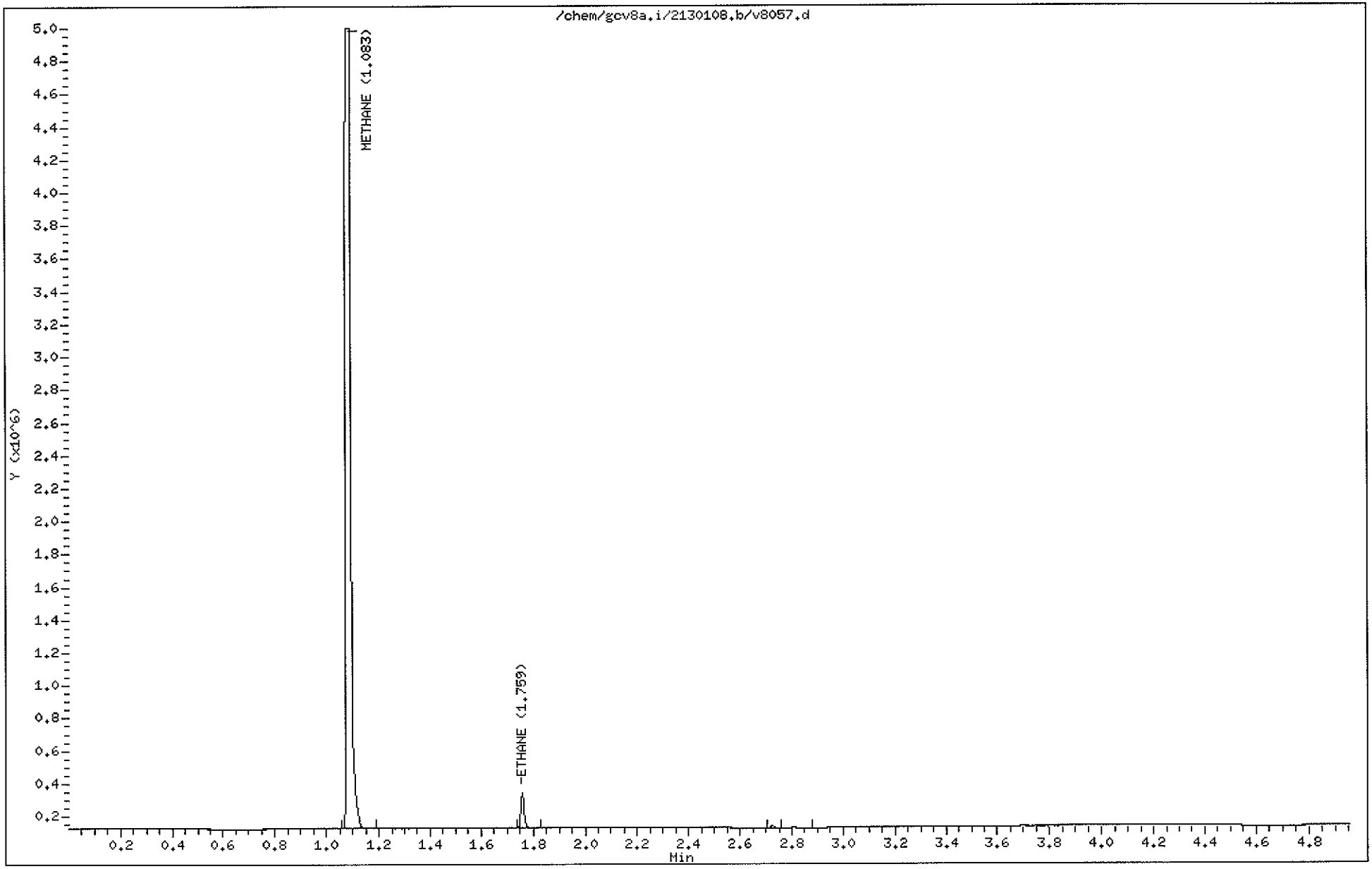


Data File: /chem/gcv8a.i/2130108.b/v8057.d
Date : 08-JAN-2013 21:09
Client ID: 21212282805
Sample Info: 21212282805

Instrument: gcv8a.i

Operator: BMR
Column diameter: 0.53

Column phase: GS-Q-30M

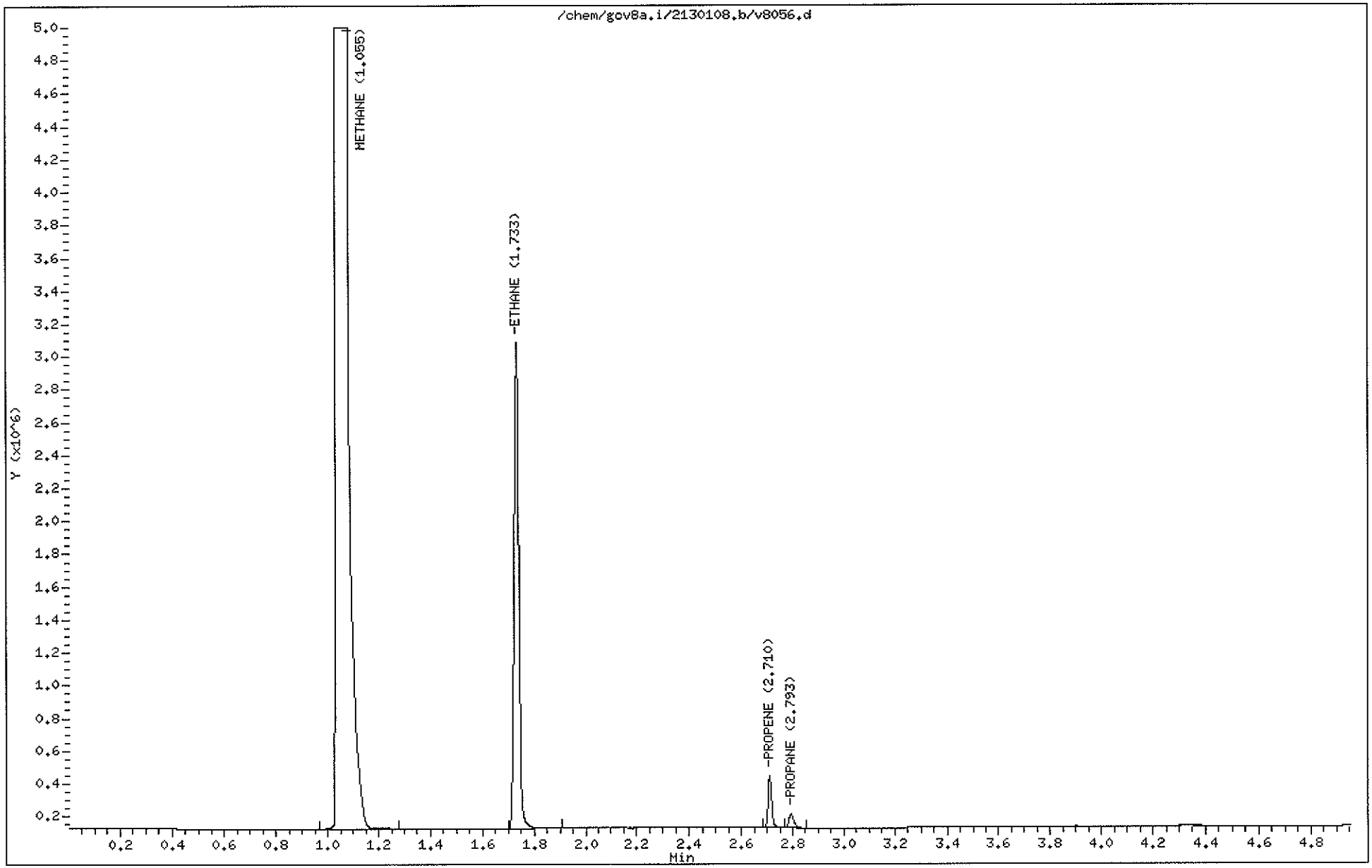


Data File: /chem/gcv8a.i/2130108.b/v8056.d
Date : 08-JAN-2013 21:01
Client ID: 21212282805
Sample Info: 21212282805

Instrument: gcv8a.i

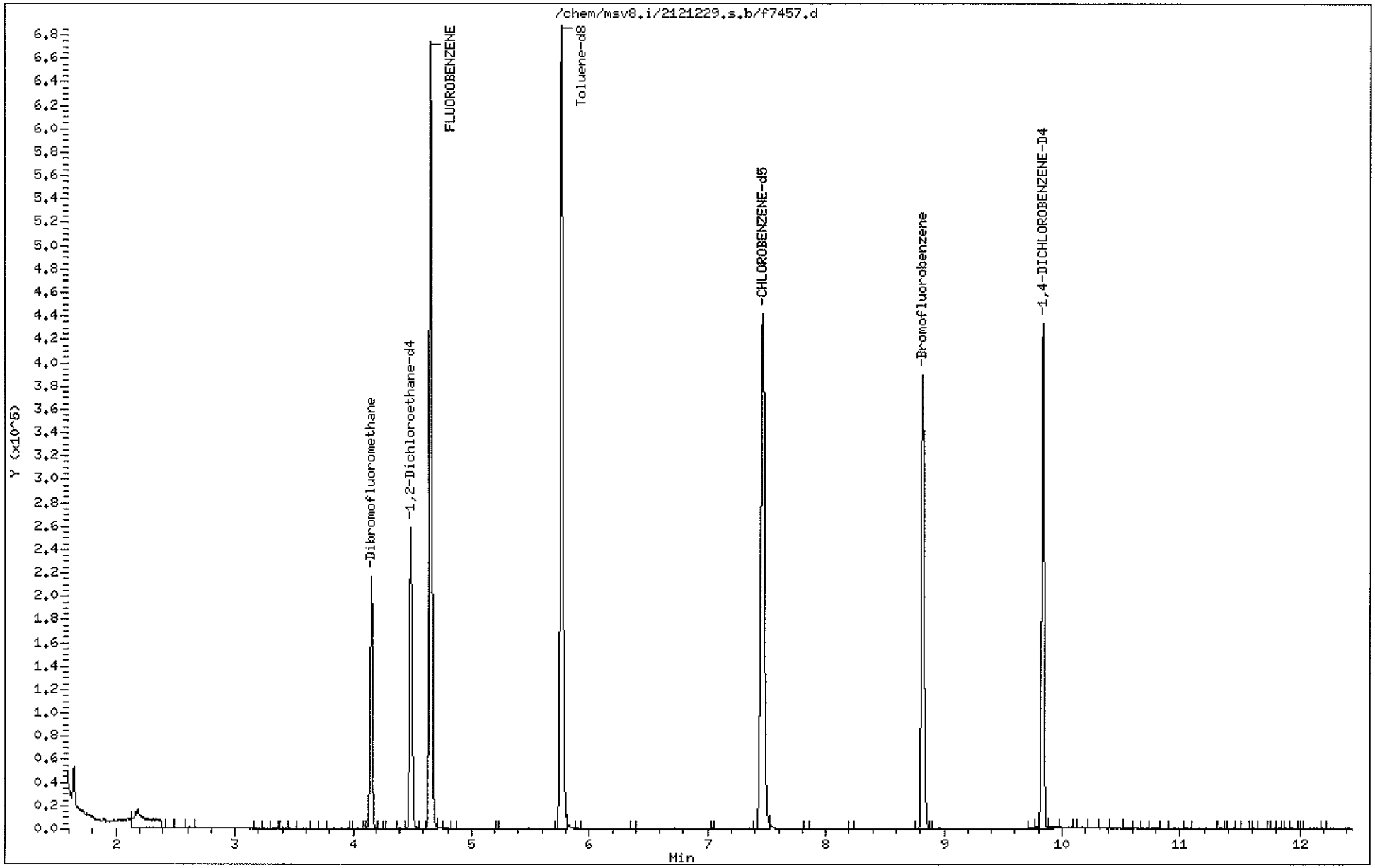
Operator: BMR
Column diameter: 0.53

Column phase: GS-Q-30M



Data File: /chem/msv8.i/2121229.s.b/f7457.d
Date : 29-DEC-2012 18:29
Client ID:
Sample Info: 21212282805*
Purge Volume: 5.0
Column phase: RTX-VMS-30M

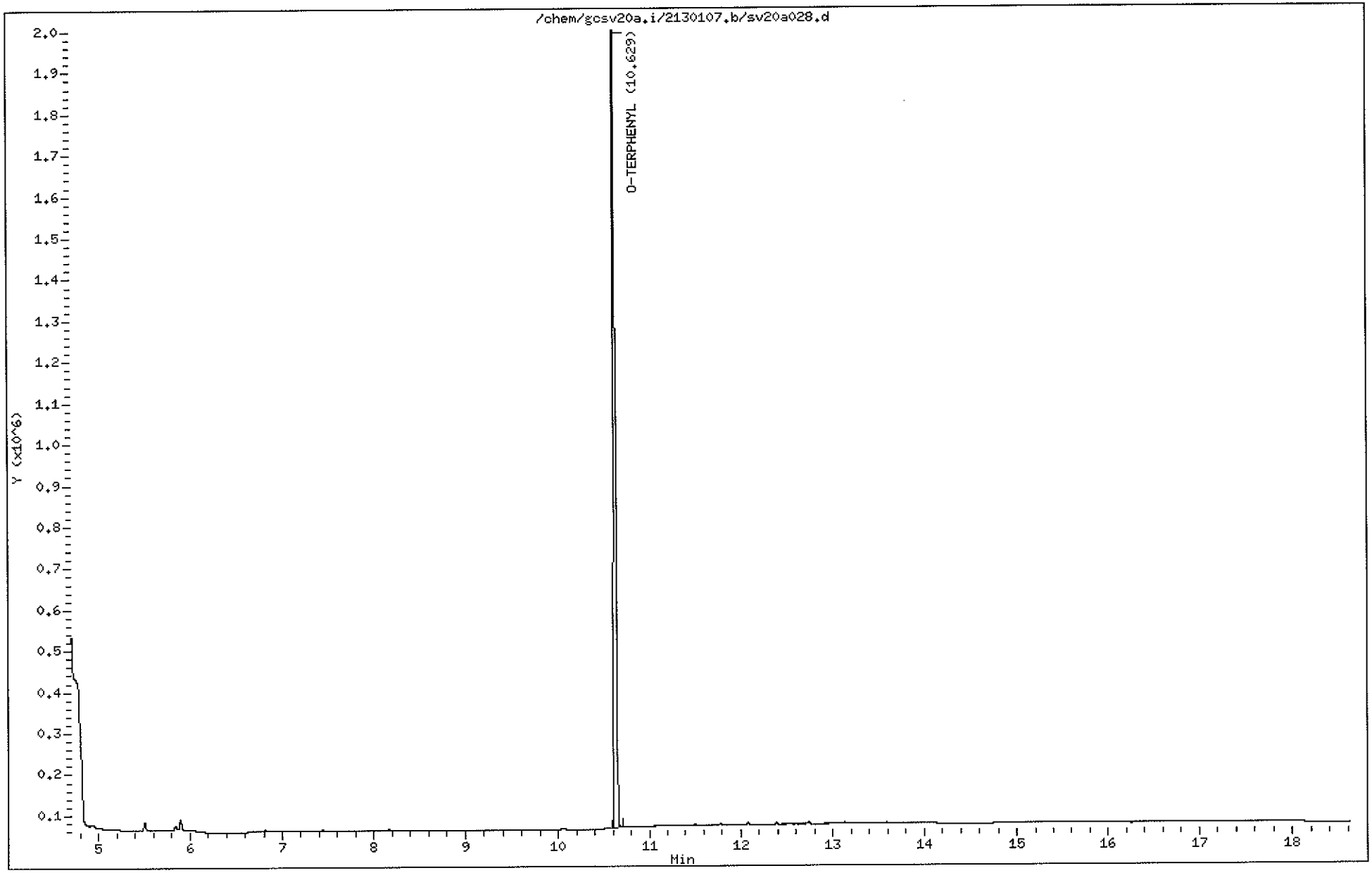
Instrument: msv8.i
Operator: CGC
Column diameter: 0.25



Data File: /chem/gcsv20a.i/2130107.b/sv20a028.d
Date : 07-JAN-2013 23:44
Client ID:
Sample Info: 21212282805*1
Volume Injected (uL): 1.0
Column phase: DB-5MS-30M

Instrument: gcsv20a.i

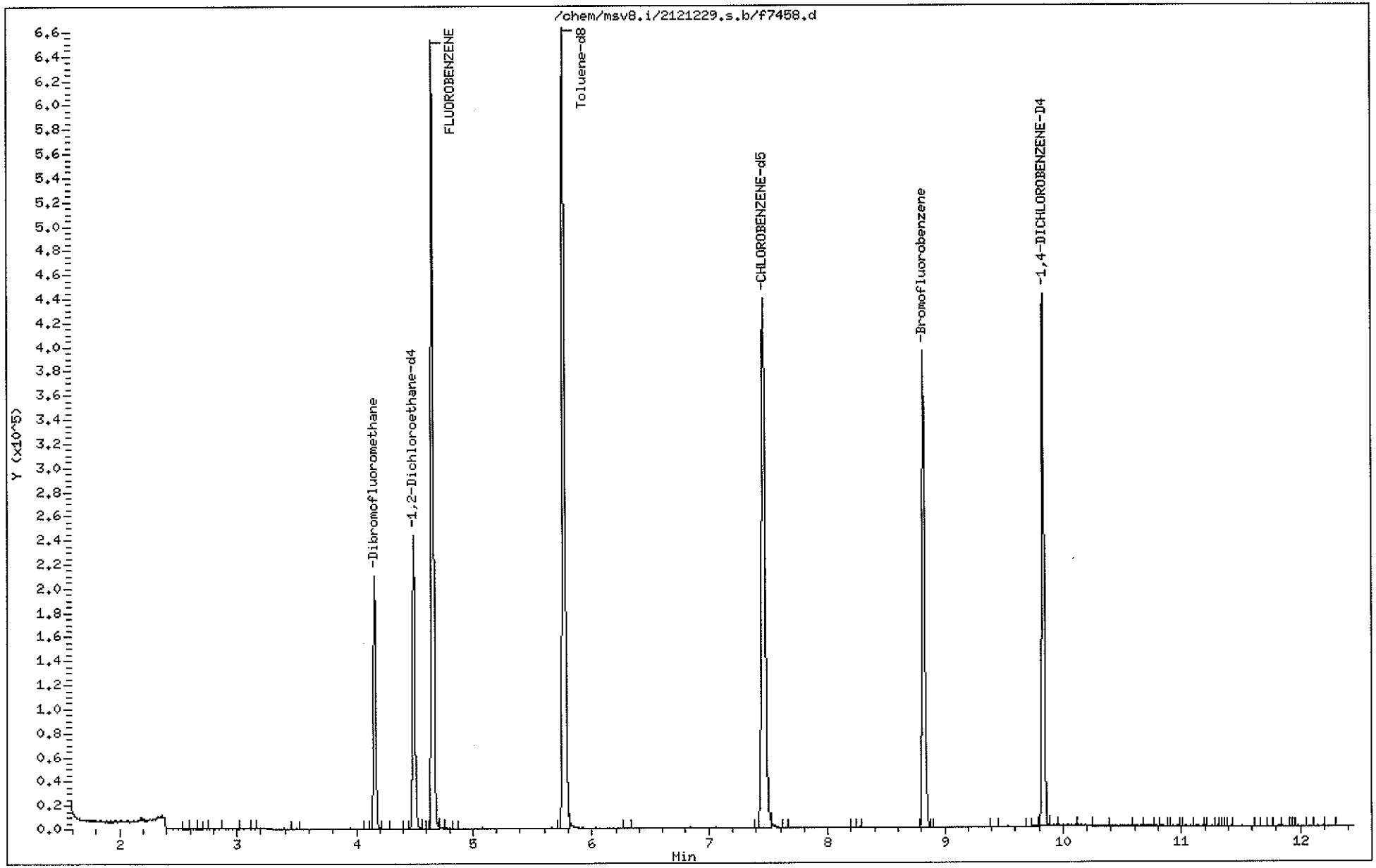
Operator: smh
Column diameter: 0.25



Data File: /chem/msv8.i/2121229.s.b/f7458.d
Date : 29-DEC-2012 18:51
Client ID:
Sample Info: 21212282806*
Purge Volume: 5.0
Column phase: RTX-VMS-30M

Instrument: msv8.i

Operator: CGC
Column diameter: 0.25



Data File: /chem/gcsv20a.i/2130107.b/sv20a030.d

Date : 08-JAN-2013 00:46

Client ID:

Instrument: gcsv20a.i

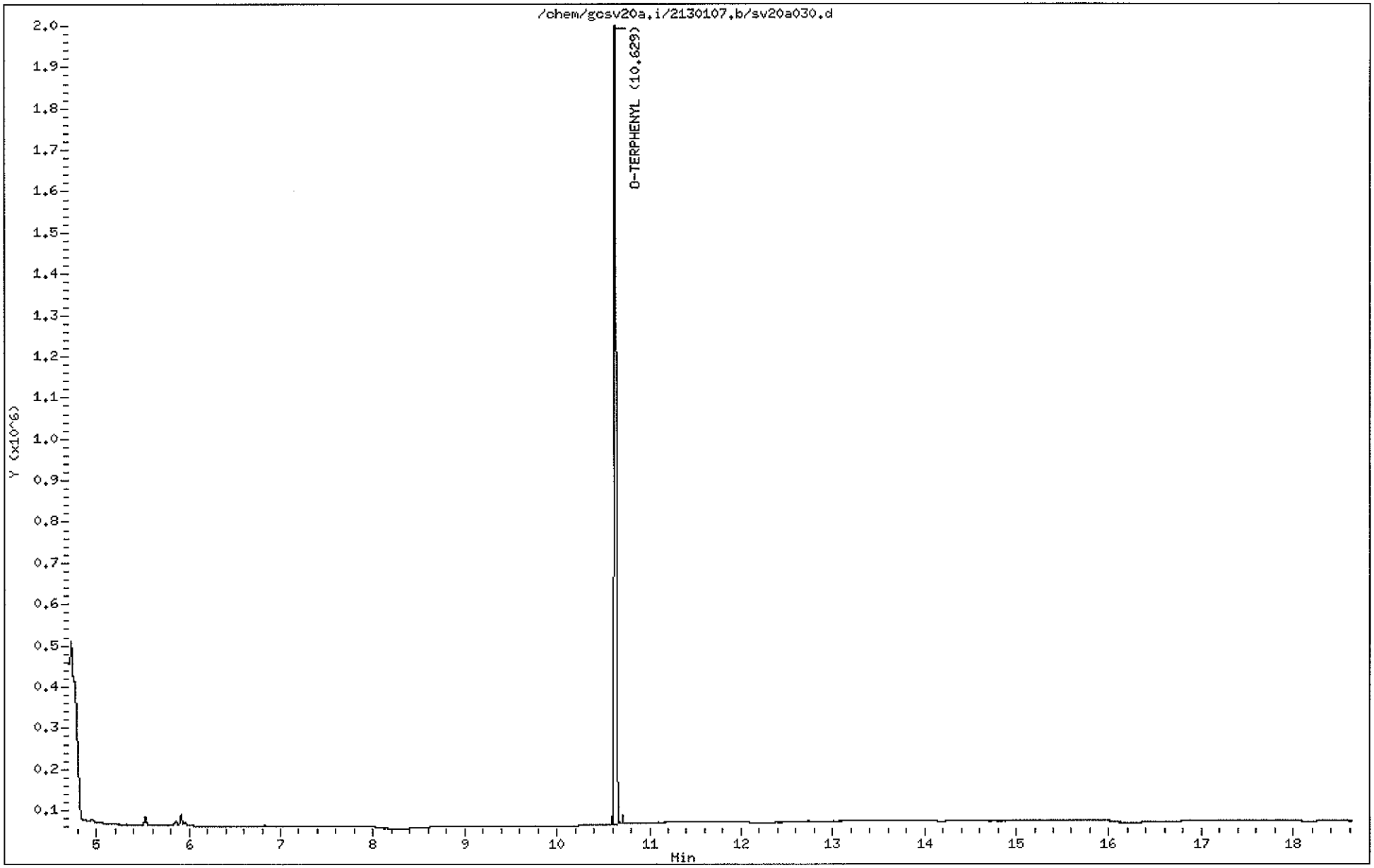
Sample Info: 21212282806x1

Volume Injected (uL): 1.0

Operator: smh

Column phase: DB-5MS-30M

Column diameter: 0.25



GCAL

GULF COAST ANALYTICAL LABORATORIES, INC
7979 GSRI Avenue, Baton Rouge, Louisiana 70820-7402
Phone 225.769.4900 • Fax 225.767.5717

CHAIN OF CUSTODY RECORD

Lab use only

Client Name	Client #	Workorder #	Due Date
Michael Pisani	4271	2121228528	1/9/13

Report to:
Client: Michael Pisani + Assoc
Address: 1100 Poydras St Suite 1430
New Orleans, LA 70163
Contact: Dave Angle
Phone: 281-242-5700
Fax:

Bill to:
Client: TBC
Address:
Contact:
Phone:
Fax:

P.O. Number: 80-05
Project Name/Number: Assumption Parish Sinkhole
Sampled By: PMR

Analytical Requests & Method

Lab use only:
Custody Seal used ☐ yes ☑ no
intact ☐ yes ☑ no
Temperature °C 4.9

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	Preservatives	No Containers	Cl, TDS, Cond	Ca, Mg, K, Fe, Na	Carbonate + Bicarbonate Alkalinity	BTEX (8260)	TPH Fractions (1006)	Dissolved Gas (RSK-175)	Bromide, Sulfate					Remarks:	Lab ID
W	12-27-12	1035		X	Oxy #1	HCl None	9	X	X	X	X	X	X	X						1
W	12-27-12	1100		X	Oxy #2	HCl None	10	X	X	X	X	X	X	X						2
W	12-27-12	1255		X	WW #1	HCl None	10	X	X	X	X	X	X	X						3
W	12-27-12	1325		X	WW #2	HCl None	10	X	X	X	X	X	X	X						4
W	12-27-12	1350		X	WW #3	HCl None	10	X	X	X	X	X	X	X						5
					Trip Blank	HCl	3				X	X								6

Turn Around Time: ☐ 24-48 hrs. ☐ 3 days ☐ 1 week ☒ Standard ☐ Other

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
[signature]	[signature]	12-28-12	13:55
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Note:

By submitting these samples, you agree to the terms and conditions contained in our most recent schedule of services.

Matrix[1]: W = water, S = soil, SD = solid, L = liquid, SL = sludge, o = oil, CT = charcoal tube, A = air bag

We cannot accept verbal changes. Please fax written changes to (225) 767-5717

WHITE: CLIENT FINAL REPORT — CANARY: LABORATORY — PINK: CLIENT

GCAL-06 11/98

GCAL ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIVING CHECKLIST

SAMPLE DELIVERY GROUP	212122828
Client 4271 - Michael Pisani & Associates	**Transport Method** CUST
Profile 233926 - 80-05 Assumption Parish Sinkhole	**Received By** Saucier, Charlotte
Line Item(s) 3 - Waters Std Cat/Anions	**Receive Date(s)** 12/28/12

CHECKLIST			
Were all samples received using proper thermal preservation?	☑ Yes	☐ No	☐ NA
When used, were all custody seals intact?	☐ Yes	☐ No	☑ NA
Were all samples received in proper containers?	☑ Yes	☐ No	☐ NA
Were all samples received using proper chemical preservation?	☑ Yes	☐ No	☐ NA
Was preservative added to any container at the lab?	☐ Yes	☑ No	☐ NA
Were all containers received in good condition?	☑ Yes	☐ No	☐ NA
Were all VOA vials received with no head space?	☑ Yes	☐ No	☐ NA
Do all sample labels match the Chain of Custody?	☑ Yes	☐ No	☐ NA
Did the Chain of Custody list the sampling technician?	☑ Yes	☐ No	☐ NA
Was the COC maintained i.e. all signatures, dates and time of receipt included?	☑ Yes	☐ No	☐ NA

COOLERS

Airbill	Temp(oC)
	4.9

DISCREPANCIES

None

LABORATORY PRESERVATIONS

None

NOTES

Revision 1.3

NELAP CERTIFICATE NUMBER 01955
DOD ELAP CERTIFICATE NUMBER ADE - 1482

ANALYTICAL RESULTS

PERFORMED BY

GULF COAST ANALYTICAL LABORATORIES, INC.

7979 GSRI Avenue

Baton Rouge, LA 70820

Report Date 01/17/2013

GCAL Report 213010340

Deliver To	Texas Brine 4800 San Felipe Houston, TX 77074
Attn	Bruce Martin

Project 80-05 Assumption Parish Sinkho

CASE NARRATIVE

Client: Michael Pisani & Associates **Report:** 213010340

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the sample cross-reference page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

SEMI-VOLATILES GAS CHROMATOGRAPHY

In the TX1006 analysis of prep batch 498337, the recovery for the surrogate, o-Terphenyl is slightly high in the LCSD (1146753). No target analtyes were detected in the associated samples.

CONVENTIONALS

In the SW-846 9056A analysis, all samples had to be diluted in order to bracket the concentration of the target analyte within the calibration range of the instrument.

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

Common Abbreviations Utilized in this Report

ND	Indicates the result was Not Detected at the specified RDL
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
RDL	Reporting Detection Limit
00:00	Reported as a time equivalent to 12:00 AM

Reporting Flags Utilized in this Report

J	Indicates the result is between the MDL and RDL
U	Indicates the compound was analyzed for but not detected
B	Indicates the analyte was detected in the associated Method Blank

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with the NELAC standard and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.

_____

Robyn Migues
Technical Director
GCAL REPORT 213010340

Report Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21301034001	GP-2	Water	01/02/2013 10:45	01/03/2013 14:55
21301034002	GP-1	Water	01/02/2013 11:50	01/03/2013 14:55
21301034003	GP-4	Water	01/02/2013 14:20	01/03/2013 14:55
21301034004	GP-6	Water	01/03/2013 10:30	01/03/2013 14:55
21301034005	GP-5	Water	01/03/2013 12:10	01/03/2013 14:55
21301034006	TRIP BLANK	Water	01/03/2013 00:00	01/03/2013 14:55

Summary of Compounds Detected

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21301034001	GP-2	Water	01/02/2013 10:45	01/03/2013 14:55

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	Chloride	54.0	5.00		mg/L

SW-846 8015C DRO

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-00-4	Diesel Range Organics	0.331	0.129		mg/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21301034002	GP-1	Water	01/02/2013 11:50	01/03/2013 14:55

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	Chloride	99.6	2.00		mg/L

SW-846 8015C DRO

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-00-4	Diesel Range Organics	0.415	0.128		mg/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21301034003	GP-4	Water	01/02/2013 14:20	01/03/2013 14:55

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	Chloride	20.1	2.00		mg/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21301034004	GP-6	Water	01/03/2013 10:30	01/03/2013 14:55

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	Chloride	171	10.0		mg/L

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21301034005	GP-5	Water	01/03/2013 12:10	01/03/2013 14:55

SW-846 8015C DRO

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-00-4	Diesel Range Organics	0.203	0.128		mg/L

Summary of Compounds Detected (con't)

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21301034005	**GP-5**	Water	01/03/2013 12:10	01/03/2013 14:55

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**63.6**	**2.00**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21301034001	**GP-2**	Water	01/02/2013 10:45	01/03/2013 14:55

SW-846 8015C DRO

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/04/2013 10:30	498336	SW-846 3510C	1	01/04/2013 18:47	SMH	498444

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-00-4	**Diesel Range Organics**	**0.331**	**0.129**		**mg/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	.052	.055	mg/L	106	59 - 120

SW-846 8015C GRO

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/14/2013 19:38	BMR	498758

CAS#	Parameter	Result	RDL	REG LIMIT	Units
8006-61-9	Gasoline Range Organics	ND	0.100		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
106-39-8	Bromochlorobenzene	.03	.036	mg/L	121	49 - 136

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/07/2013 14:20	498337	TX 1006/LA 1006	1	01/08/2013 19:16	SMH	498680

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	ND	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	ND	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	ND	0.150		mg/L
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	ND	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	ND	0.150		mg/L
GCSV-05-18	Aromatic >C21-C35	ND	0.150		mg/L
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	15.3	14.5	mg/L	95	60 - 140

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			50	01/07/2013 19:29	BMC	498436

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**54.0**	**5.00**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21301034002	**GP-1**	Water	01/02/2013 11:50	01/03/2013 14:55

SW-846 8015C DRO

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/04/2013 10:30	498336	SW-846 3510C	1	01/04/2013 19:06	SMH	498444

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-00-4	**Diesel Range Organics**	**0.415**	**0.128**		**mg/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	.051	.055	mg/L	107	59 - 120

SW-846 8015C GRO

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/14/2013 19:52	BMR	498758

CAS#	Parameter	Result	RDL	REG LIMIT	Units
8006-61-9	Gasoline Range Organics	ND	0.100		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
106-39-8	Bromochlorobenzene	.03	.038	mg/L	128	49 - 136

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/07/2013 14:20	498337	TX 1006/LA 1006	1	01/08/2013 20:20	SMH	498680

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	ND	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	ND	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	ND	0.150		mg/L
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	ND	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	ND	0.150		mg/L
GCSV-05-18	Aromatic >C21-C35	ND	0.150		mg/L
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	15.3	13.6	mg/L	89	60 - 140

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			20	01/07/2013 20:22	BMC	498436

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**99.6**	**2.00**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21301034003	**GP-4**	Water	01/02/2013 14:20	01/03/2013 14:55

SW-846 8015C DRO

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/04/2013 10:30	498336	SW-846 3510C	1	01/04/2013 19:25	SMH	498444

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-00-4	Diesel Range Organics	ND	0.129		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	.052	.037	mg/L	71	59 - 120

SW-846 8015C GRO

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/14/2013 20:06	BMR	498758

CAS#	Parameter	Result	RDL	REG LIMIT	Units
8006-61-9	Gasoline Range Organics	ND	0.100		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
106-39-8	Bromochlorobenzene	.03	.037	mg/L	124	49 - 136

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/07/2013 14:20	498337	TX 1006/LA 1006	1	01/08/2013 16:06	SMH	498680

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	ND	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	ND	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	ND	0.150		mg/L
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	ND	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	ND	0.150		mg/L
GCSV-05-18	Aromatic >C21-C35	ND	0.150		mg/L
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	15.2	19.7	mg/L	130	60 - 140

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			20	01/07/2013 20:39	BMC	498436

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**20.1**	**2.00**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21301034004	**GP-6**	Water	01/03/2013 10:30	01/03/2013 14:55

SW-846 8015C DRO

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/04/2013 10:30	498336	SW-846 3510C	1	01/04/2013 19:45	SMH	498444

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-00-4	Diesel Range Organics	ND	0.130		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	.052	.052	mg/L	99	59 - 120

SW-846 8015C GRO

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/14/2013 20:20	BMR	498758

CAS#	Parameter	Result	RDL	REG LIMIT	Units
8006-61-9	Gasoline Range Organics	ND	0.100		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
106-39-8	Bromochlorobenzene	.03	.036	mg/L	121	49 - 136

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/07/2013 14:20	498337	TX 1006/LA 1006	1	01/08/2013 18:13	SMH	498680

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	ND	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	ND	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	ND	0.150		mg/L
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	ND	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	ND	0.150		mg/L
GCSV-05-18	Aromatic >C21-C35	ND	0.150		mg/L
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	15	20.1	mg/L	134	60 - 140

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			100	01/07/2013 16:33	BMC	498436

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**171**	**10.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21301034005	**GP-5**	Water	01/03/2013 12:10	01/03/2013 14:55

SW-846 8015C DRO

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/04/2013 10:30	498336	SW-846 3510C	1	01/04/2013 20:04	SMH	498444

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-00-4	**Diesel Range Organics**	**0.203**	**0.128**		**mg/L**

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	.051	.049	mg/L	95	59 - 120

SW-846 8015C GRO

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/14/2013 20:34	BMR	498758

CAS#	Parameter	Result	RDL	REG LIMIT	Units
8006-61-9	Gasoline Range Organics	ND	0.100		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
106-39-8	Bromochlorobenzene	.03	.038	mg/L	126	49 - 136

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/07/2013 14:20	498337	TX 1006/LA 1006	1	01/08/2013 21:23	SMH	498680

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	ND	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	ND	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	ND	0.150		mg/L
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	ND	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	ND	0.150		mg/L
GCSV-05-18	Aromatic >C21-C35	ND	0.150		mg/L
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	15.4	17.5	mg/L	114	60 - 140

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			20	01/07/2013 21:15	BMC	498436

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**63.6**	**2.00**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21301034006	**TRIP BLANK**	Water	01/03/2013 00:00	01/03/2013 14:55

SW-846 8015C GRO

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/14/2013 20:48	BMR	498758

CAS#	Parameter	Result	RDL	REG LIMIT	Units
8006-61-9	Gasoline Range Organics	ND	0.100		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
106-39-8	Bromochlorobenzene	.03	.036	mg/L	120	49 - 136

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/07/2013 14:20	498337	TX 1006/LA 1006	1	01/08/2013 15:03	SMH	498680

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	ND	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	ND	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	ND	0.150		mg/L
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	ND	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	ND	0.150		mg/L
GCSV-05-18	Aromatic >C21-C35	ND	0.150		mg/L
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

General Chromatography Quality Control Summary

Analytical Batch	498444	**Client ID**	MB498336			LCS498336			LCSD498336			
Prep Batch	498336	**GCAL ID**	1146748			1146749			1146750			
Prep Method	SW-846	**Sample Type**	Method Blank			LCS			LCSD			
	3510C	**Prep Date**	01/04/2013 10:30			01/04/2013 10:30			01/04/2013 10:30			
		Analytical Date	01/04/2013 14:54			01/04/2013 15:13			01/04/2013 15:32			
		Matrix	Water			Water			Water			
SW-846 8015C DRO		**Units**	mg/L		**Spike**	**Result**		**Control**	**Result**			**RPD**
		Result	**RDL**		**Added**		**% R**	**Limits % R**		**% R**	**RPD**	**Limit**
GCSV-00-4	Diesel Range Organics	ND	0.125		1.00	0.986	99	47 - 120	0.956	96	3	40
Surrogate												
84-15-1	o-Terphenyl	52.4	105		50	50.2	100	59 - 120	45.3	91		

General Chromatography Quality Control Summary

Analytical Batch 498758	**Client ID**	MB498758			LCS498758		
Prep Batch N/A	**GCAL ID**	1148971			1148972		
	Sample Type	Method Blank			LCS		
	Analytical Date	01/14/2013 19:06			01/14/2013 18:52		
	Matrix	Water			Water		
SW-846 8015C GRO		**Units**	mg/L	**Spike**	**Result**		**Control**
		Result	**RDL**	**Added**		**% R**	**Limits % R**
8006-61-9	Gasoline Range Organics	ND	0.100	0.500	0.438	88	70 - 128
Surrogate							
106-39-8	Bromochlorobenzene	36.1	120	30	38.6	129	49 - 136

Analytical Batch 498758	**Client ID**	S-1 INFLUENT			1148006MS			1148006MSD			
Prep Batch N/A	**GCAL ID**	21301091301			1148973			1148974			
	Sample Type	SAMPLE			MS			MSD			
	Analytical Date	01/14/2013 21:30			01/14/2013 21:58			01/14/2013 22:12			
	Matrix	Water			Water			Water			
SW-846 8015C GRO		**Units**	mg/L	**Spike**	**Result**		**Control**	**Result**			**RPD**
		Result	**RDL**	**Added**		**% R**	**Limits % R**		**% R**	**RPD**	**Limit**
8006-61-9	Gasoline Range Organics	40.0	10.0	50.0	82.8	86	70 - 128	83.6	87	1	40
Surrogate											
106-39-8	Bromochlorobenzene			3000	3790	126	49 - 136	3980	133		

General Chromatography Quality Control Summary

Analytical Batch	498680	**Client ID**	MB498337	LCS498337	LCSD498337
Prep Batch	498337	**GCAL ID**	1146751	1146752	1146753
Prep Method	TX 1006/LA 1006	**Sample Type**	Method Blank	LCS	LCSD
		Prep Date	01/07/2013 14:20	01/07/2013 14:20	01/07/2013 14:20
		Analytical Date	01/08/2013 11:55	01/08/2013 12:58	01/08/2013 14:00
		Matrix	Water	Water	Water

TX1006/LA 1006		**Units**	mg/L	**Spike**	**Result**		**Control**	**Result**			**RPD**
		Result	**RDL**	**Added**		**% R**	**Limits % R**		**% R**	**RPD**	**Limit**
GCSV-02-30	Aliphatic C6-C8	ND	0.150								
GCSV-02-10	Aliphatic >C8-C10	ND	0.150								
GCSV-02-11	Aliphatic >C10-C12	ND	0.150								
GCSV-02-12	Aliphatic >C12-C16	ND	0.150								
GCSV-02-31	Aliphatic >C16-C35	ND	0.150								
GCSV-02-14	Aromatic >C8-C10	ND	0.150								
GCSV-02-15	Aromatic >C10-C12	ND	0.150								
GCSV-02-16	Aromatic >C12-C16	ND	0.150								
GCSV-02-17	Aromatic >C16-C21	ND	0.150								
GCSV-05-18	Aromatic >C21-C35	ND	0.150								
GCSV-05-04	Total TPH (C6-C35)	ND	0.150	61.0	57.1	94	60 - 140	49.8	82	14	20
Surrogate											
84-15-1	o-Terphenyl	20600	140	15200	19500	128	60 - 140	22100	**146***		

General Chemistry Quality Control Summary

Analytical Batch 498436	**Client ID**	MB498436			LCS498436		
Prep Batch N/A	**GCAL ID**	1147259			1147260		
	Sample Type	Method Blank			LCS		
	Analytical Date	01/07/2013 13:54			01/07/2013 14:12		
	Matrix	Water			Water		
SW-846 9056A		**Units**	mg/L	**Spike**	**Result**		**Control**
		Result	**RDL**	**Added**		**% R**	**Limits % R**
16887-00-6 Chloride		ND	0.100	2.50	2.35	94.2	80 - 120

Analytical Batch 498436	**Client ID**	GP-2			1146724MS			1146724MSD			
Prep Batch N/A	**GCAL ID**	21301034001			1147261			1147262			
	Sample Type	SAMPLE			MS			MSD			
	Analytical Date	01/07/2013 19:29			01/07/2013 19:47			01/07/2013 20:04			
	Matrix	Water			Water			Water			
SW-846 9056A		**Units**	mg/L	**Spike**	**Result**		**Control**	**Result**			**RPD**
		Result	**RDL**	**Added**		**% R**	**Limits % R**		**% R**	**RPD**	**Limit**
16887-00-6 Chloride		54.0	5.00	125	176	97.7	75 - 125	177	98.5	0.57	15

Data File: /chem/gcv6a.i/2130114p.b/v6006.d

Date : 14-JAN-2013 19:38

Client ID: 21301034001

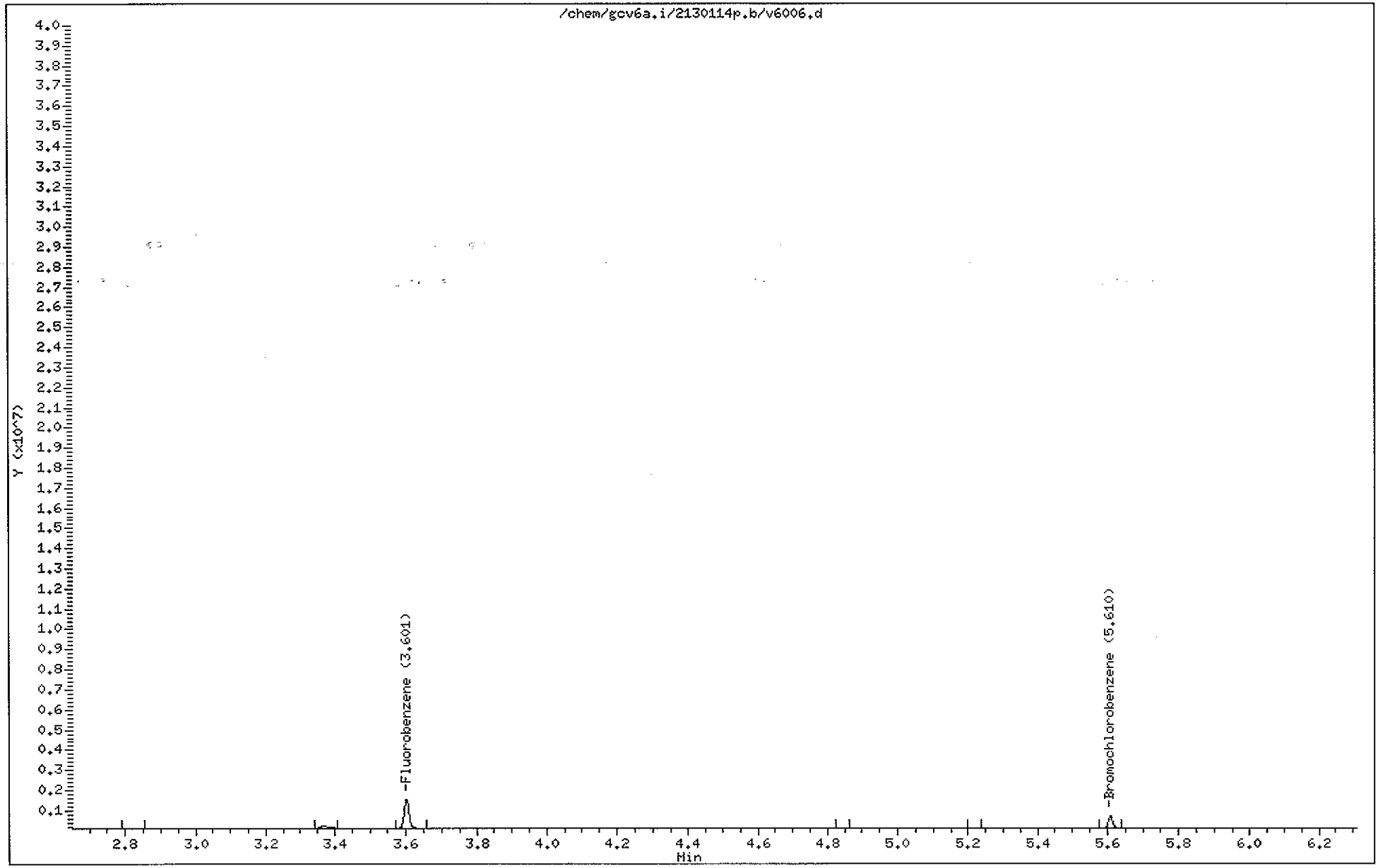
Sample Info: 21301034001

Column phase: DB-624-30

Instrument: gcv6a.i

Operator: BMR

Column diameter: 0.53



Data File: /chem/gcsv20a.i/2130108.b/sv20a018.d

Date : 08-JAN-2013 19:16

Client ID:

Instrument: gcsv20a.i

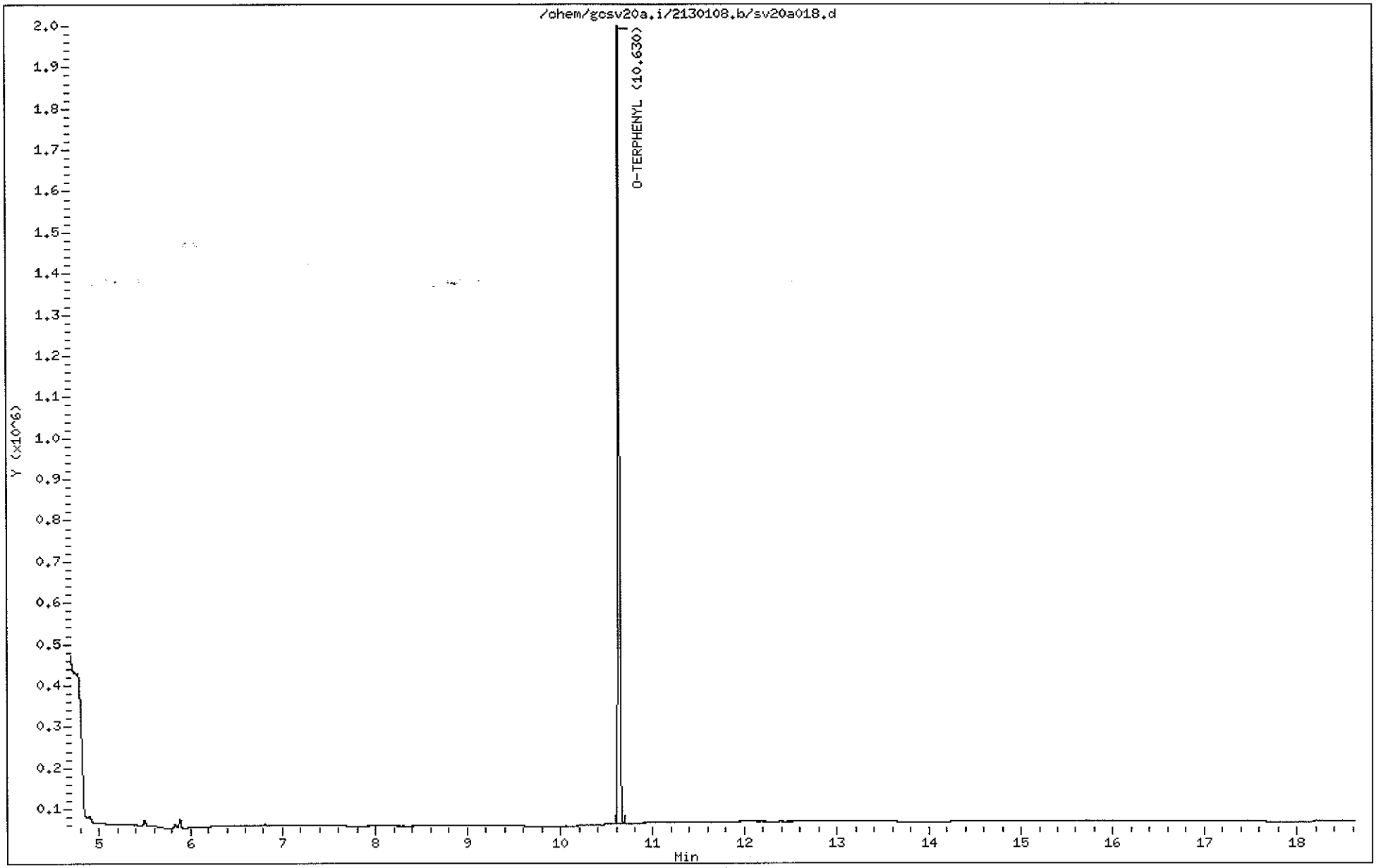
Sample Info: 21301034001*1

Volume Injected (uL): 1.0

Operator: smh

Column phase: DB-5MS-30M

Column diameter: 0.25



Data File: /chem/gcsv21a.i/2130104.b/sv21a023d.d

Date : 04-JAN-2013 18:47

Client ID:

Instrument: gcsv21a.i

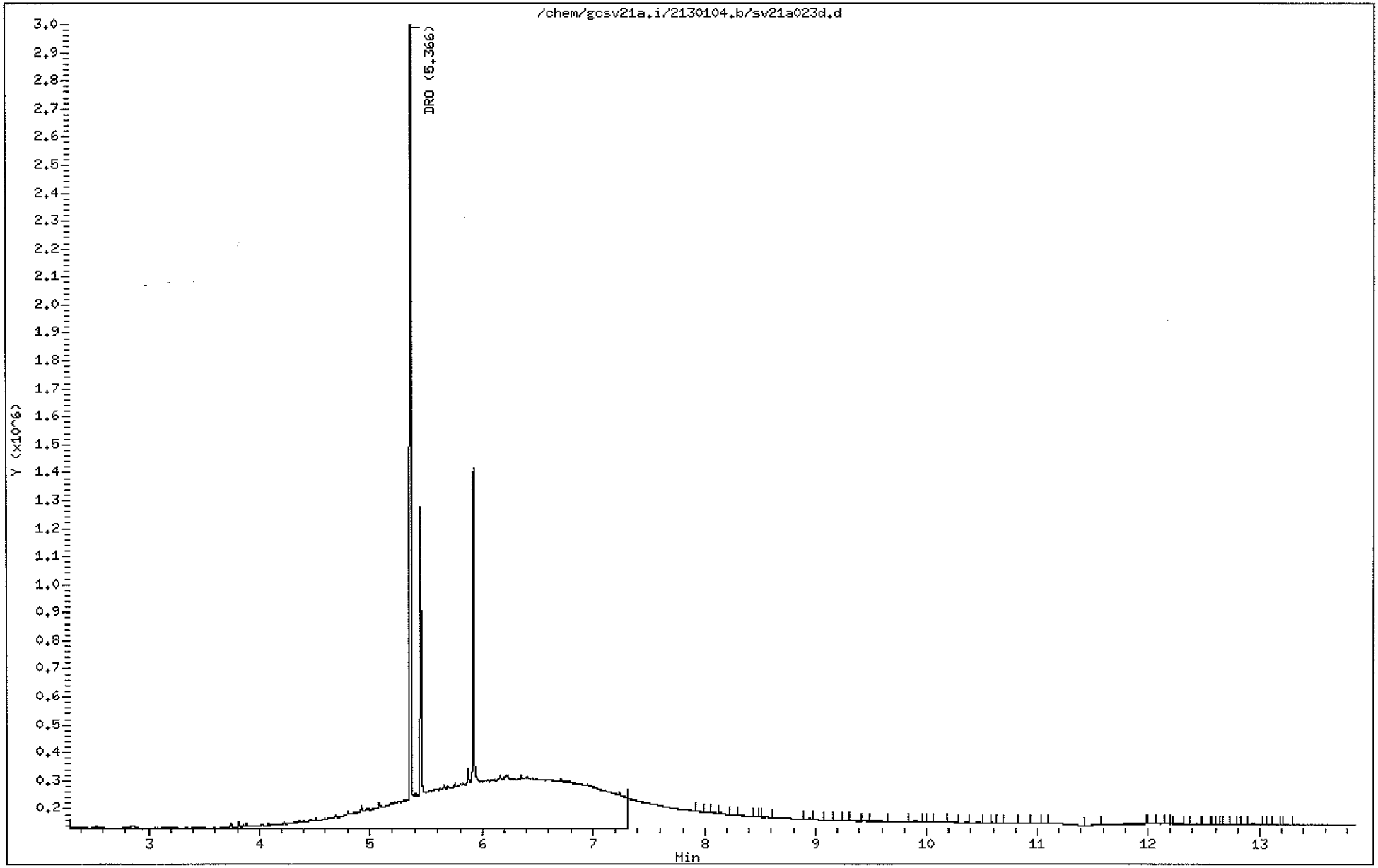
Sample Info: 21301034001*1

Volume Injected (uL): 1.0

Operator: smh

Column phase: RTX-5-30M

Column diameter: 0.53

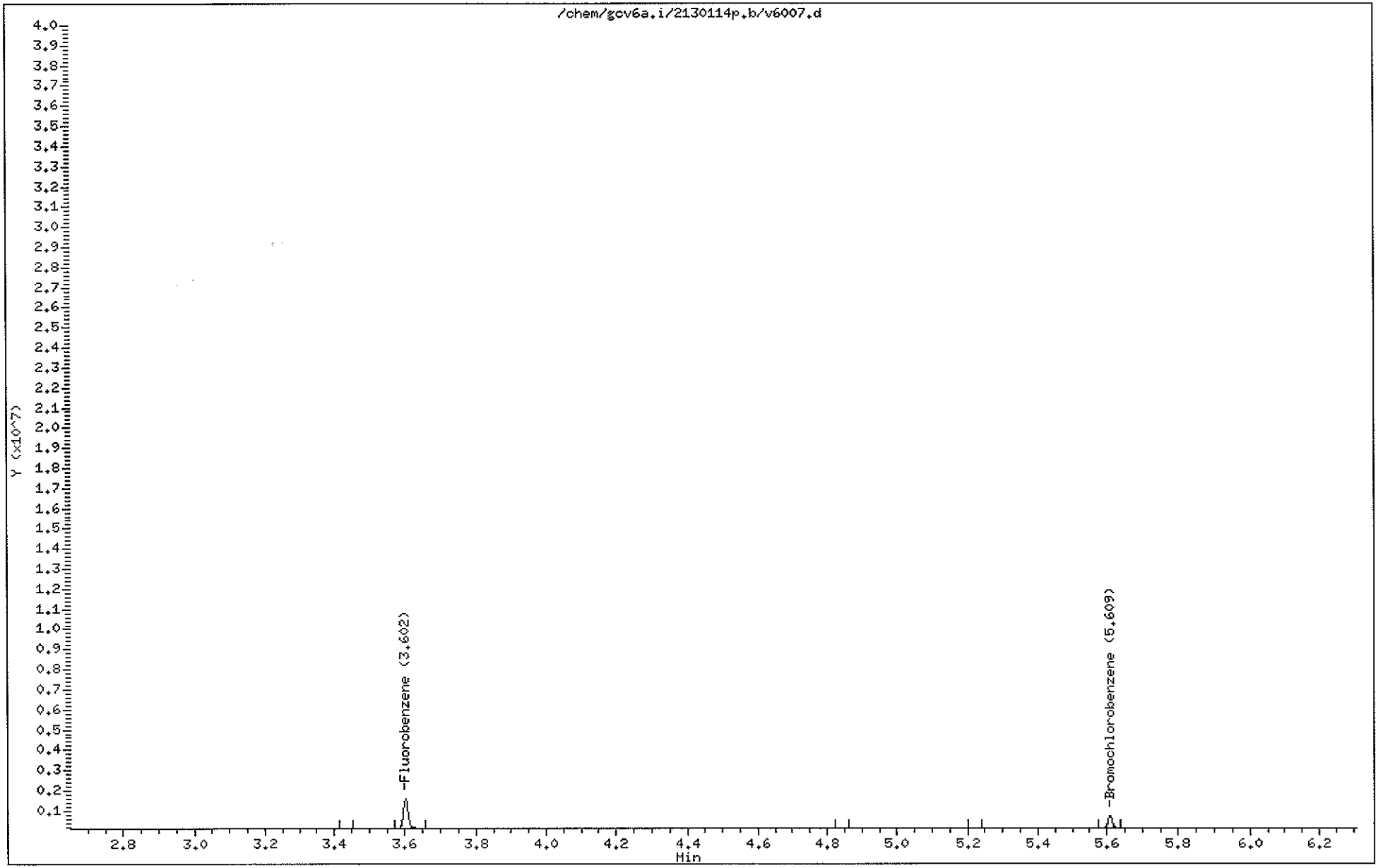


Data File: /chem/gcv6a.i/2130114p.b/v6007.d
Date : 14-JAN-2013 19:52
Client ID: 21301034002
Sample Info: 21301034002

Instrument: gcv6a.i

Operator: BMR

Column phase: DB-624-30
Column diameter: 0.53



Data File: /chem/gcsv20a.i/2130108.b/sv20a020.d

Date : 08-JAN-2013 20:20

Client ID:

Instrument: gcsv20a.i

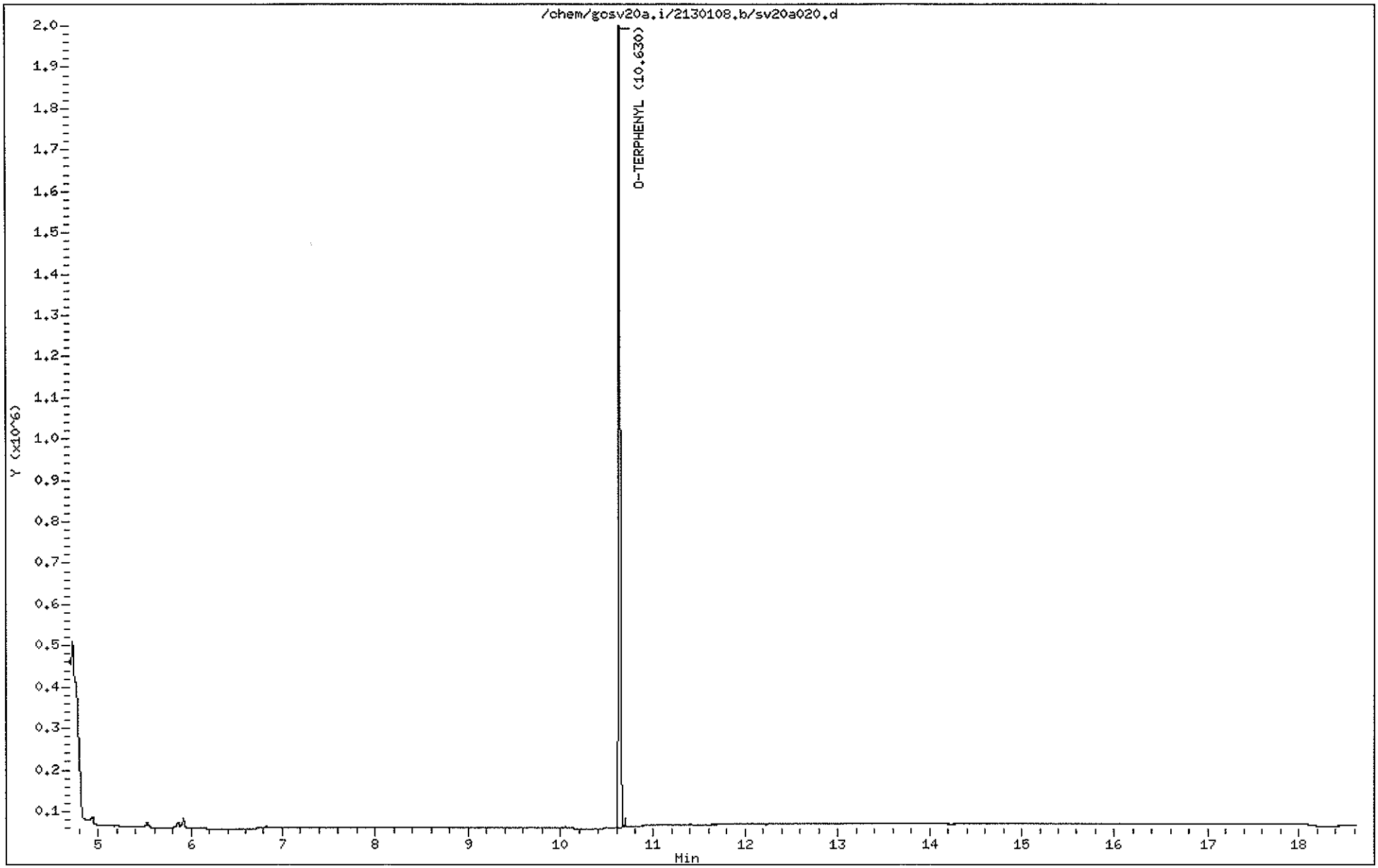
Sample Info: 21301034002*1

Volume Injected (uL): 1.0

Operator: smh

Column phase: DB-5MS-30M

Column diameter: 0.25



Data File: /chem/gcsv21a.i/2130104.b/sv21a024d.d

Date : 04-JAN-2013 19:06

Client ID:

Instrument: gcsv21a.i

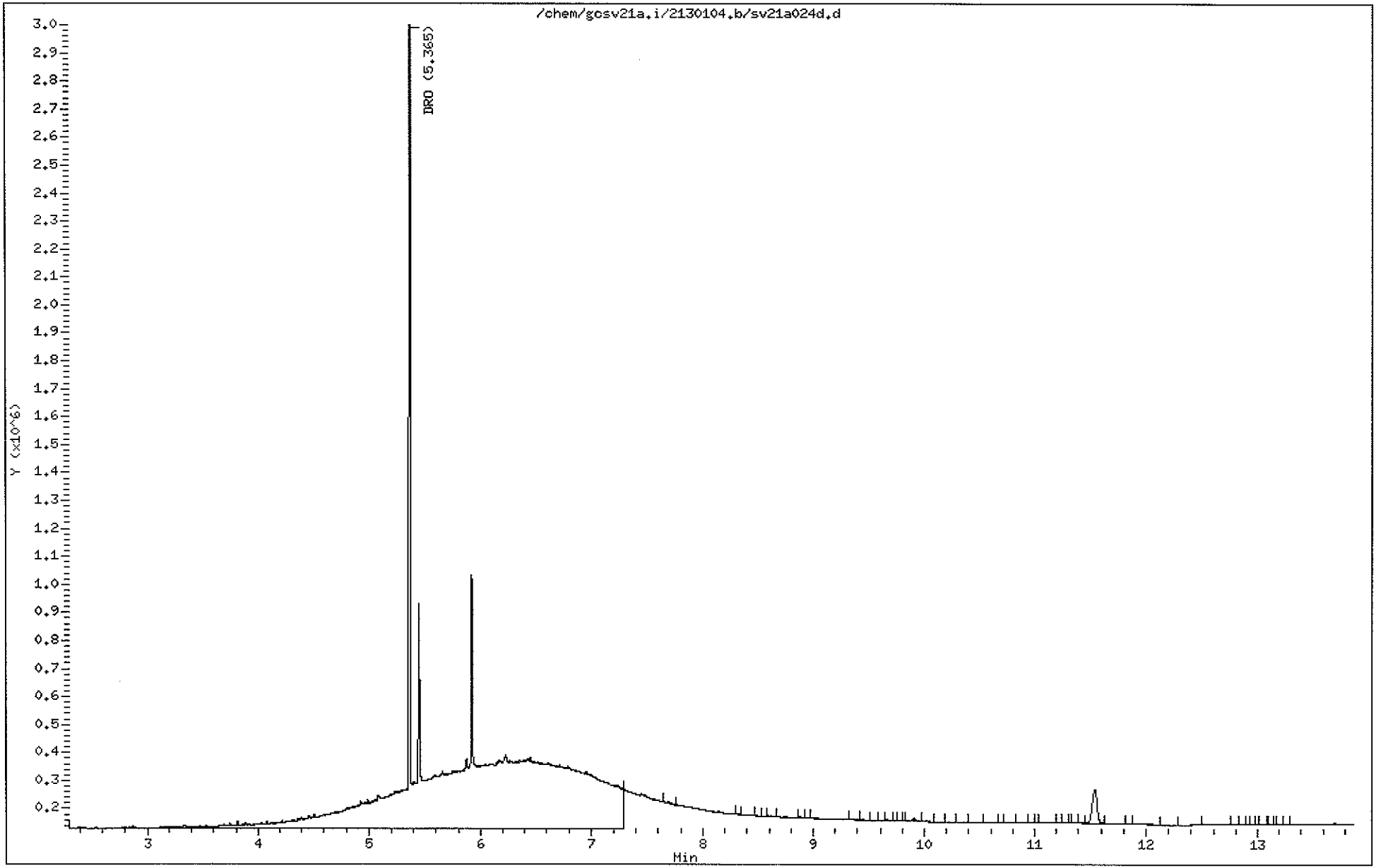
Sample Info: 21301034002*1

Volume Injected (uL): 1.0

Operator: smh

Column phase: RTX-5-30M

Column diameter: 0.53



Data File: /chem/gcv6a.i/2130114p.b/v6008.d

Date : 14-JAN-2013 20:06

Client ID: 21301034003

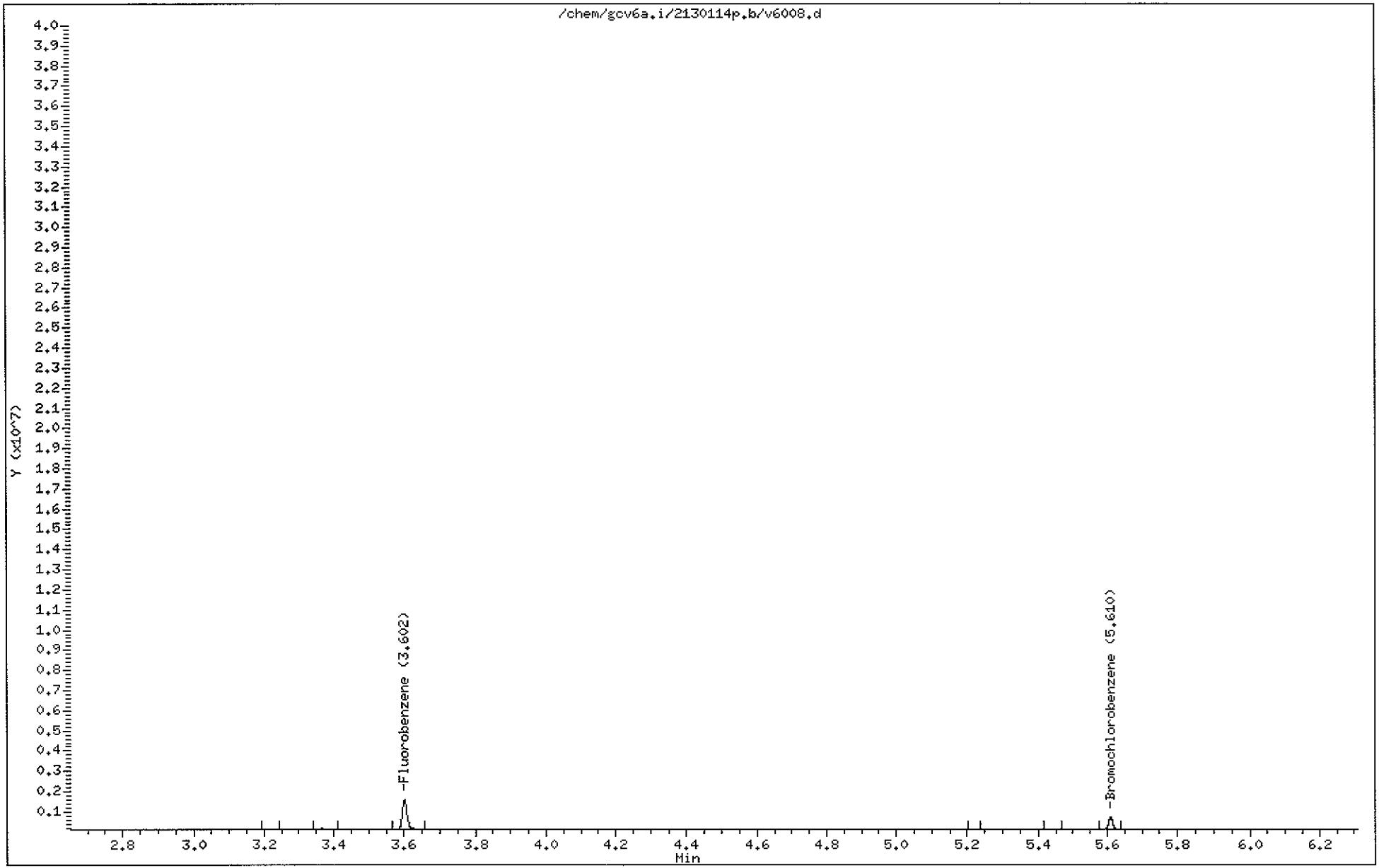
Instrument: gcv6a.i

Sample Info: 21301034003

Operator: BMR

Column phase: DB-624-30

Column diameter: 0.53



Data File: /chem/gcsv20a.i/2130108.b/sv20a012.d

Date : 08-JAN-2013 16:06

Client ID:

Instrument: gcsv20a.i

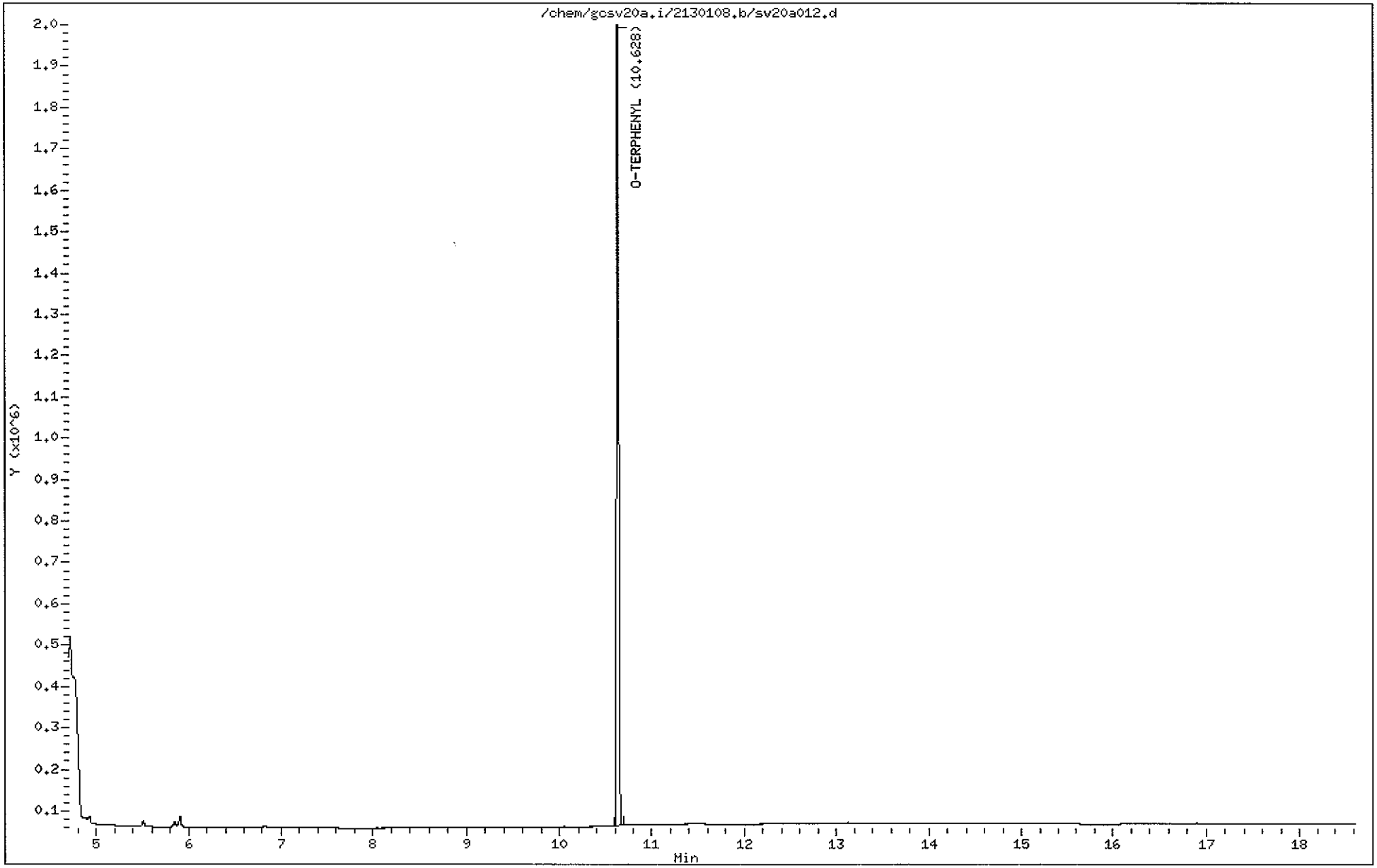
Sample Info: 21301034003*1

Volume Injected (uL): 1.0

Operator: smh

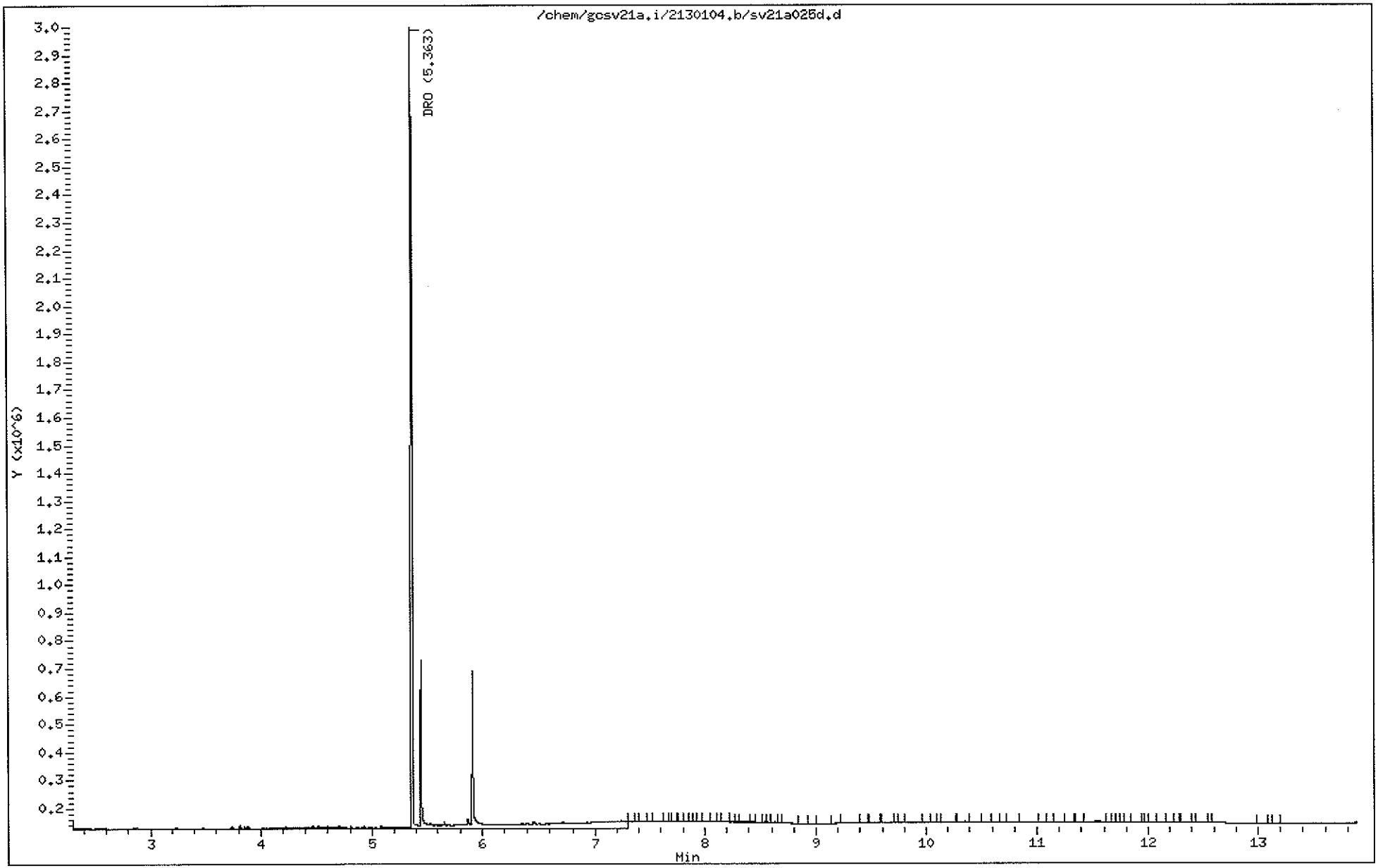
Column phase: DB-5MS-30M

Column diameter: 0.25



Data File: /chem/gcsv21a.i/2130104.b/sv21a025d.d
Date : 04-JAN-2013 19:25
Client ID:
Sample Info: 21301034003*1
Volume Injected (uL): 1.0
Column phase: RTX-5-30M

Instrument: gcsv21a.i
Operator: smh
Column diameter: 0.53

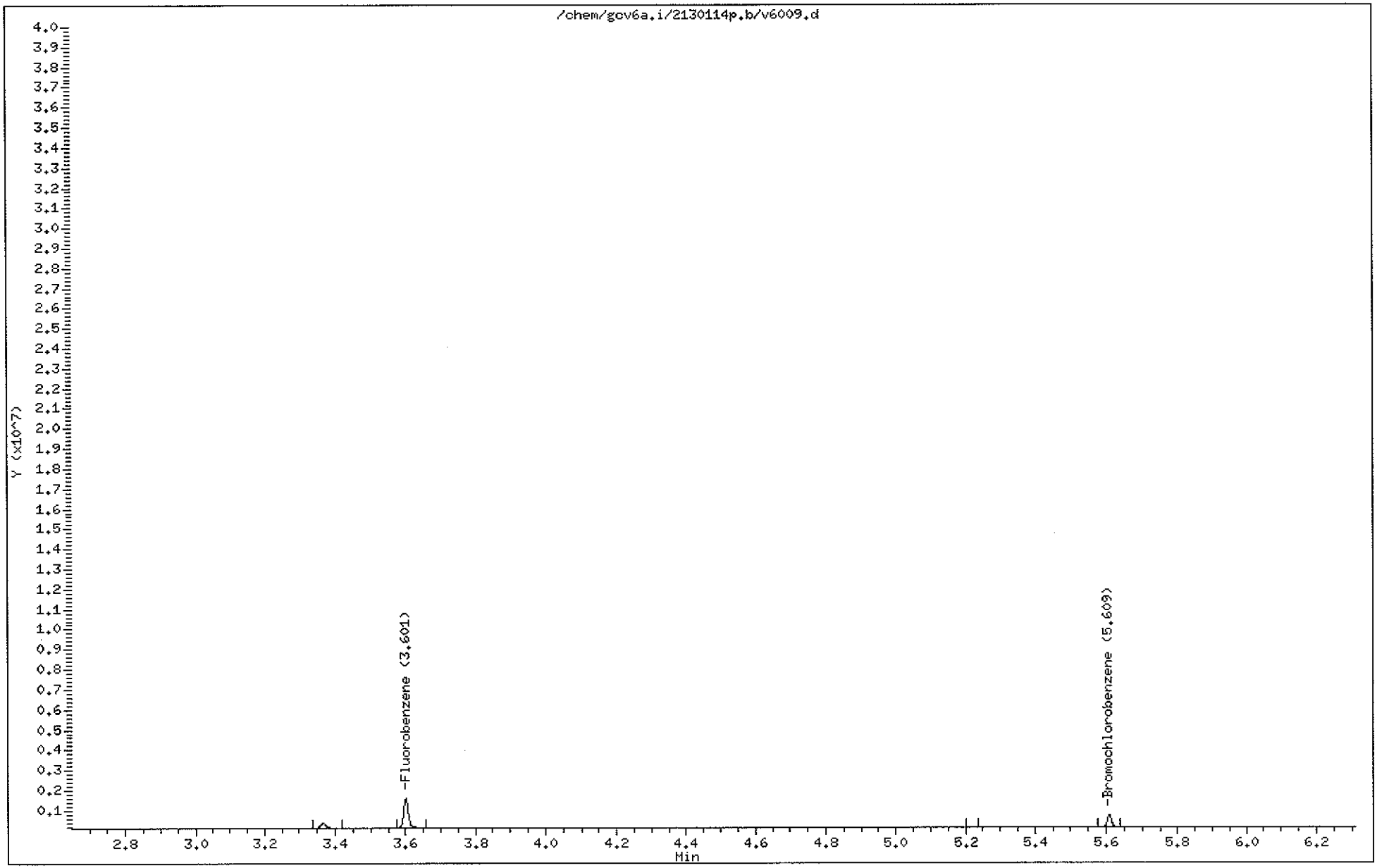


Data File: /chem/gcv6a.i/2130114p.b/v6009.d
Date : 14-JAN-2013 20:20
Client ID: 21301034004
Sample Info: 21301034004

Instrument: gcv6a.i

Operator: BMR

Column phase: DB-624-30
Column diameter: 0.53



Data File: /chem/gcsv20a.i/2130108.b/sv20a016.d

Date : 08-JAN-2013 18:13

Client ID:

Instrument: gcsv20a.i

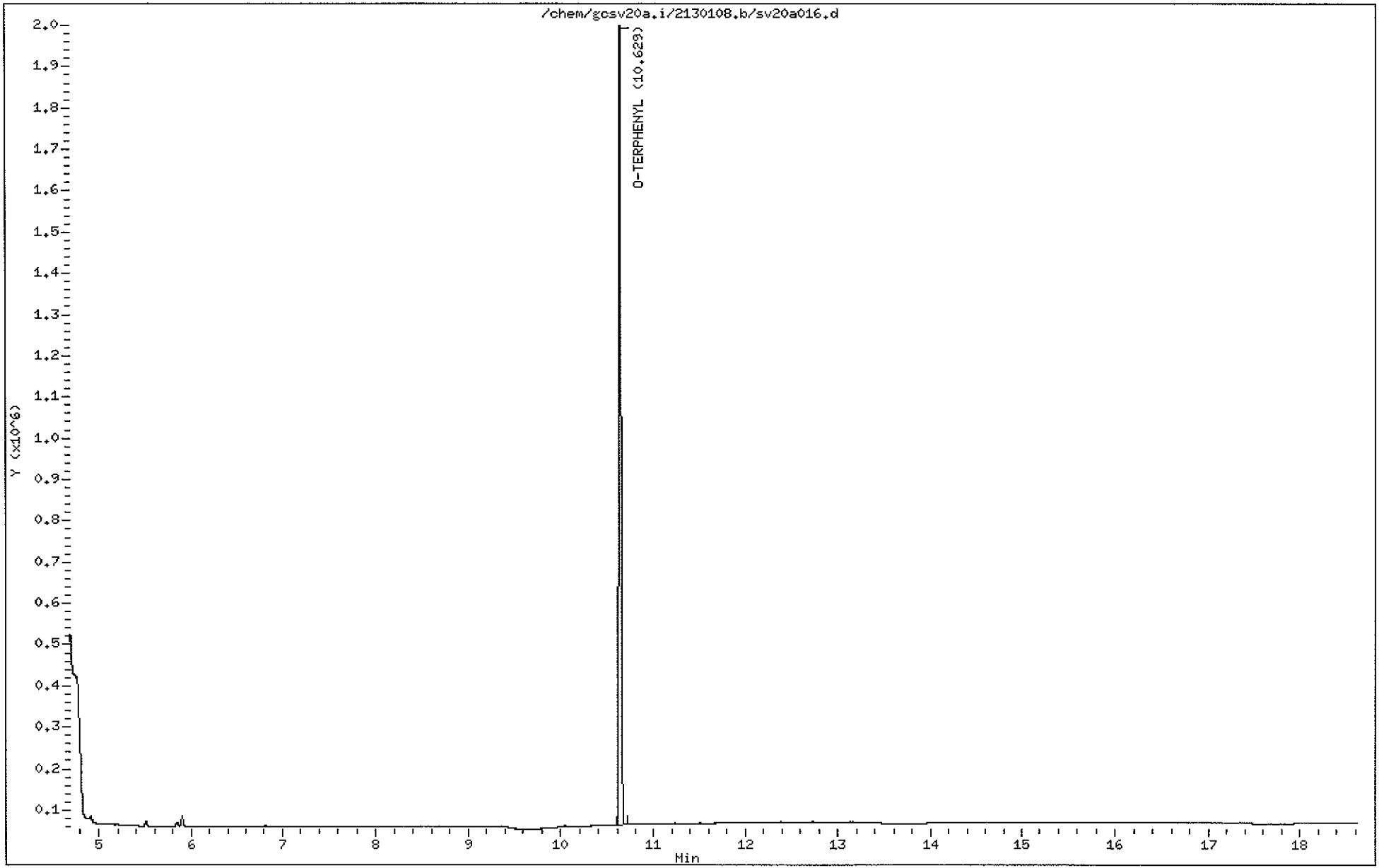
Sample Info: 21301034004*1

Volume Injected (uL): 1.0

Operator: smh

Column phase: DB-5MS-30M

Column diameter: 0.25



Data File: /chem/gcsv21a.i/2130104.b/sv21a026d.d

Date : 04-JAN-2013 19:45

Client ID:

Instrument: gcsv21a.i

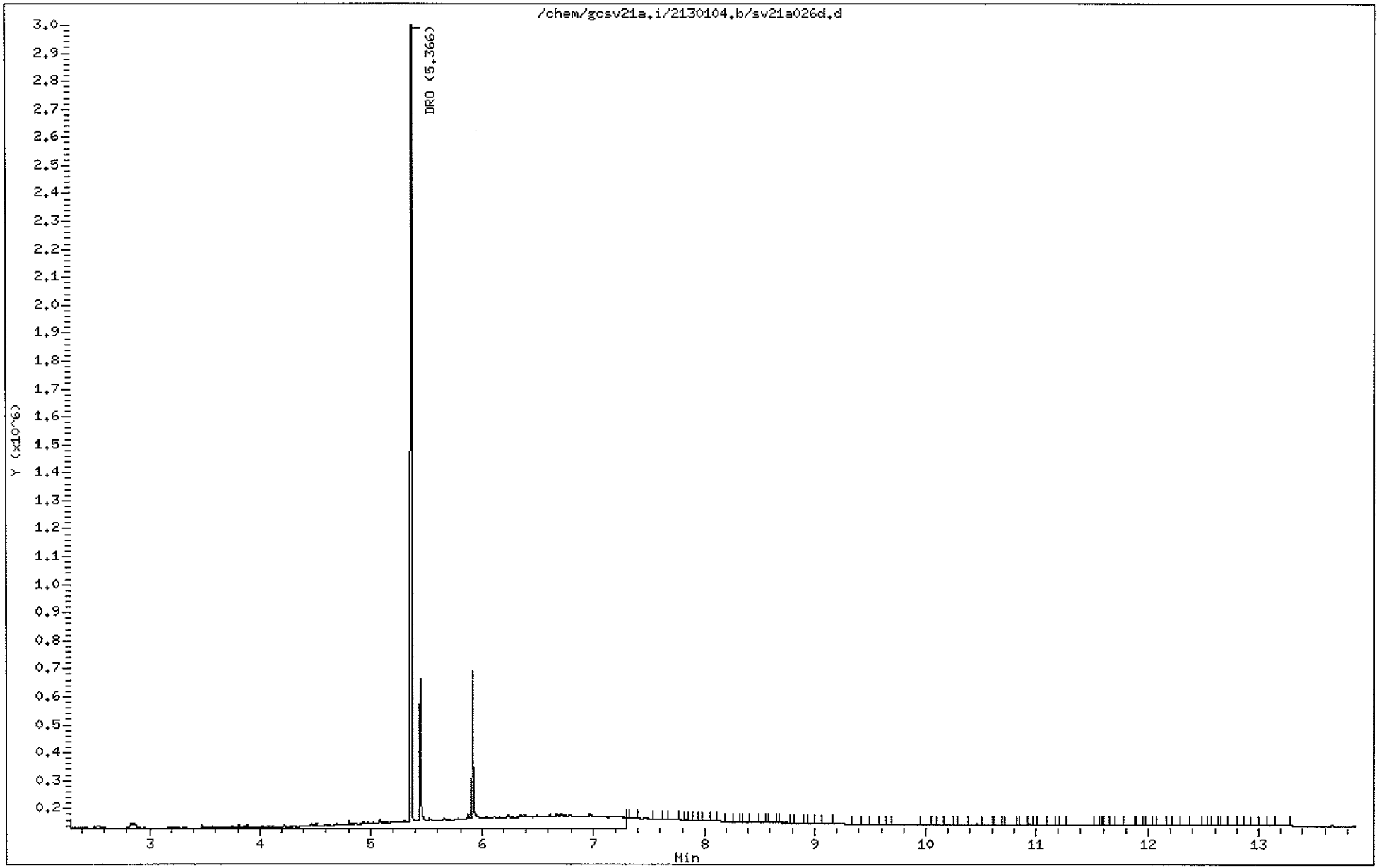
Sample Info: 21301034004*1

Volume Injected (uL): 1.0

Operator: smh

Column phase: RTX-5-30M

Column diameter: 0.53

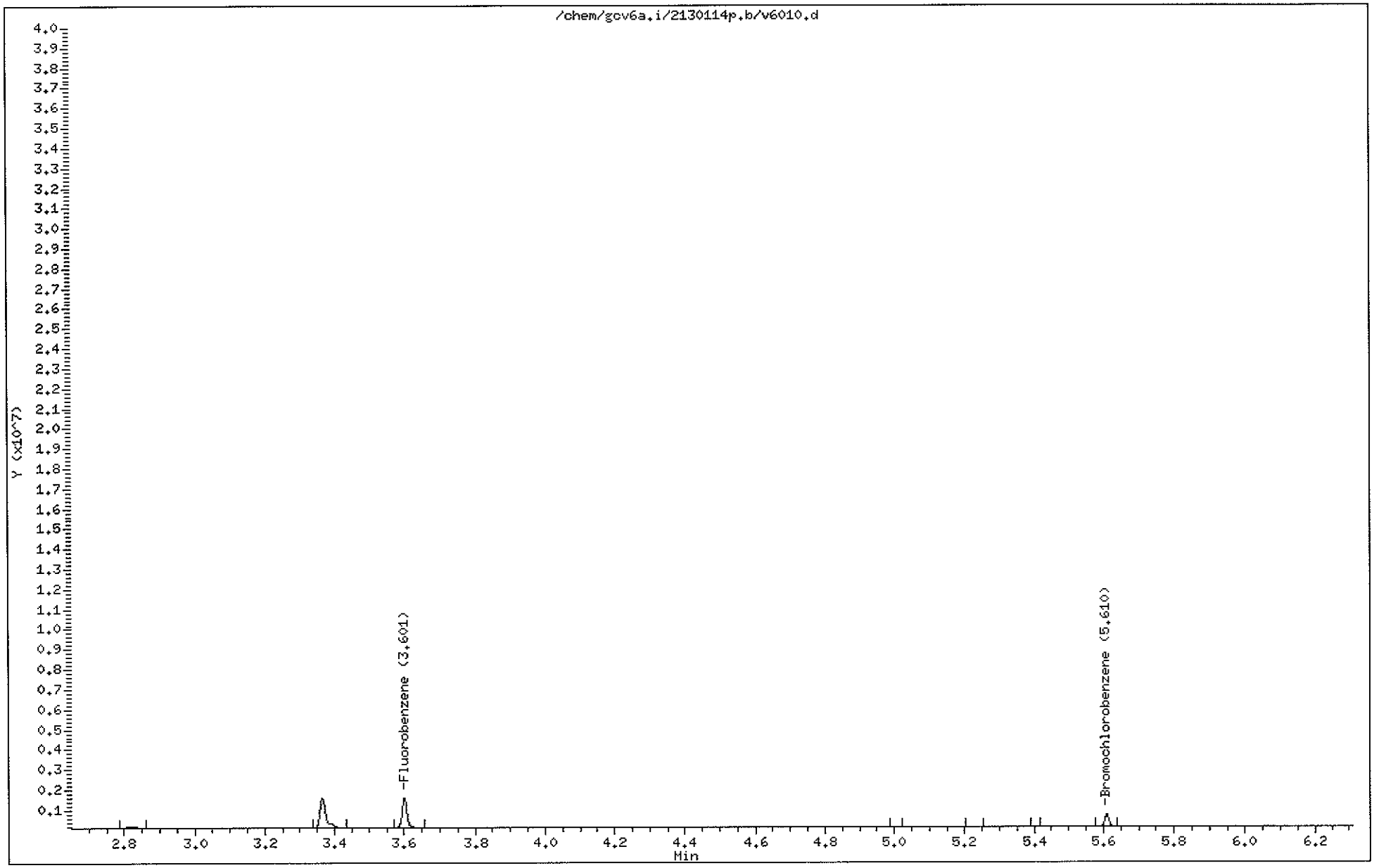


Data File: /chem/gcv6a.i/2130114p.b/v6010.d
Date : 14-JAN-2013 20:34
Client ID: 21301034005
Sample Info: 21301034005

Instrument: gcv6a.i

Operator: BMR

Column phase: DB-624-30
Column diameter: 0.53



Data File: /chem/gcsv20a.i/2130108.b/sv20a022.d

Date : 08-JAN-2013 21:23

Client ID:

Instrument: gcsv20a.i

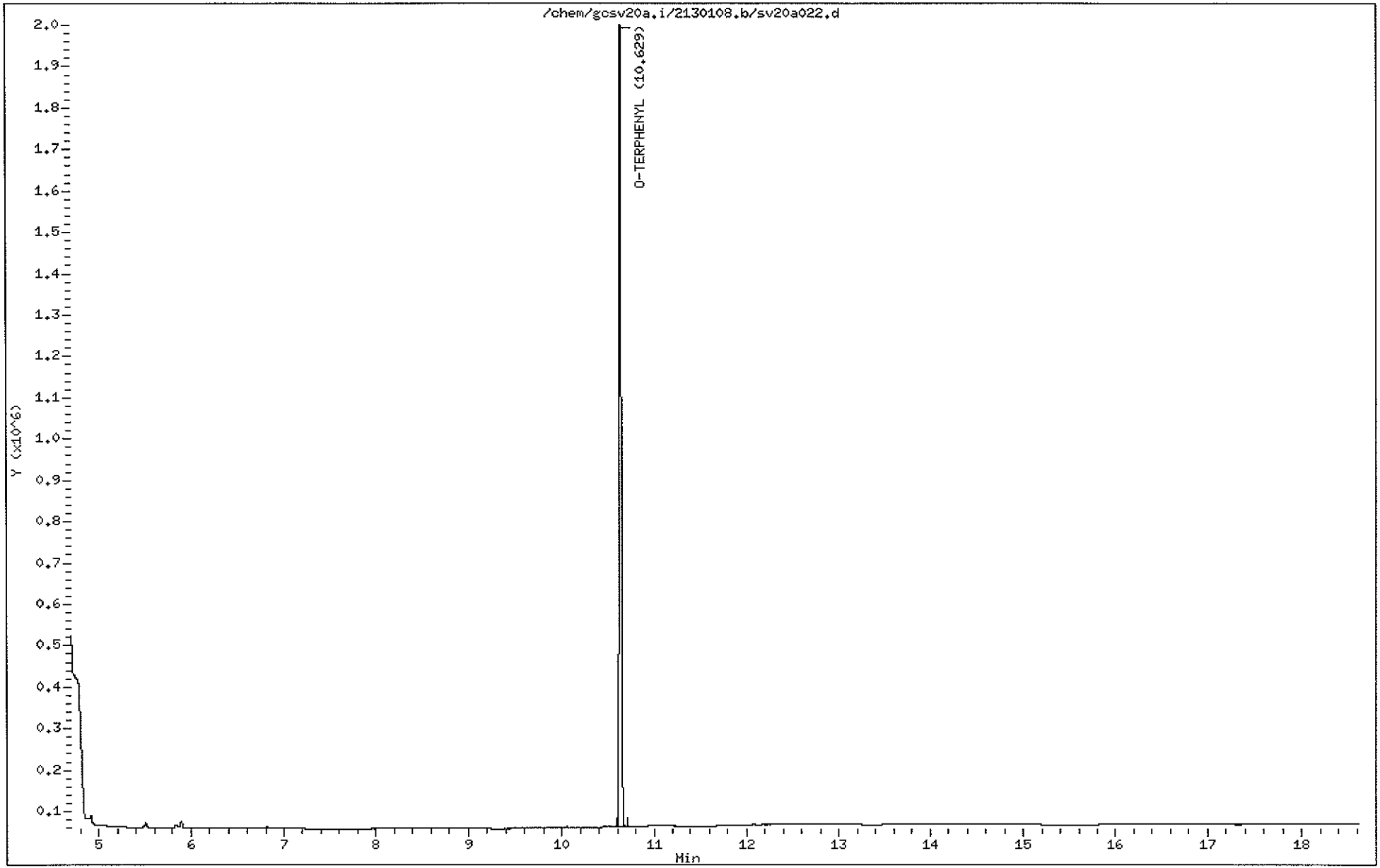
Sample Info: 21301034005*1

Volume Injected (uL): 1.0

Operator: smh

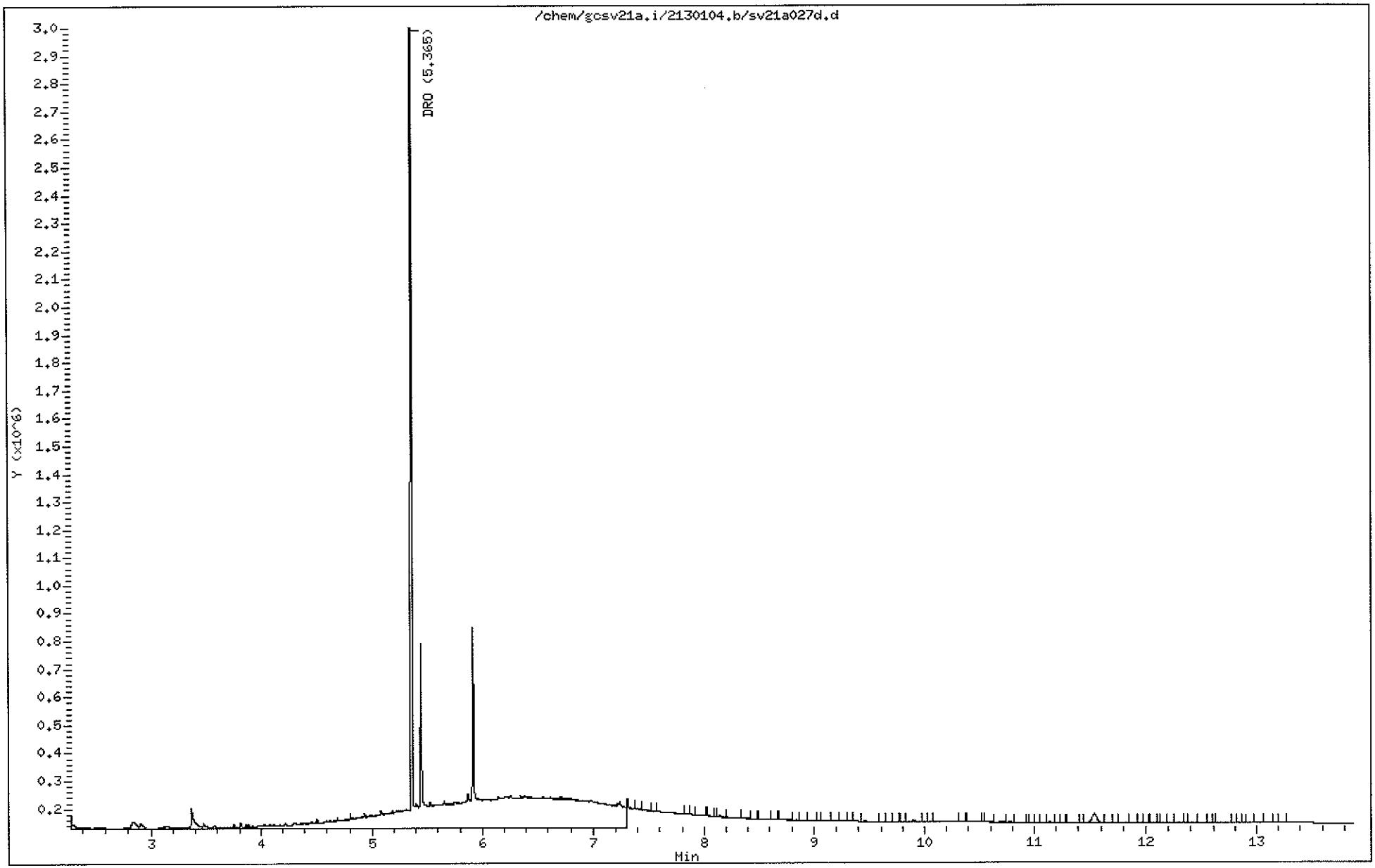
Column phase: DB-5MS-30M

Column diameter: 0.25



Data File: /chem/gcsv21a.i/2130104.b/sv21a027d.d
Date : 04-JAN-2013 20:04
Client ID:
Sample Info: 21301034005*1
Volume Injected (uL): 1.0
Column phase: RTX-5-30M

Instrument: gcsv21a.i
Operator: smh
Column diameter: 0.53

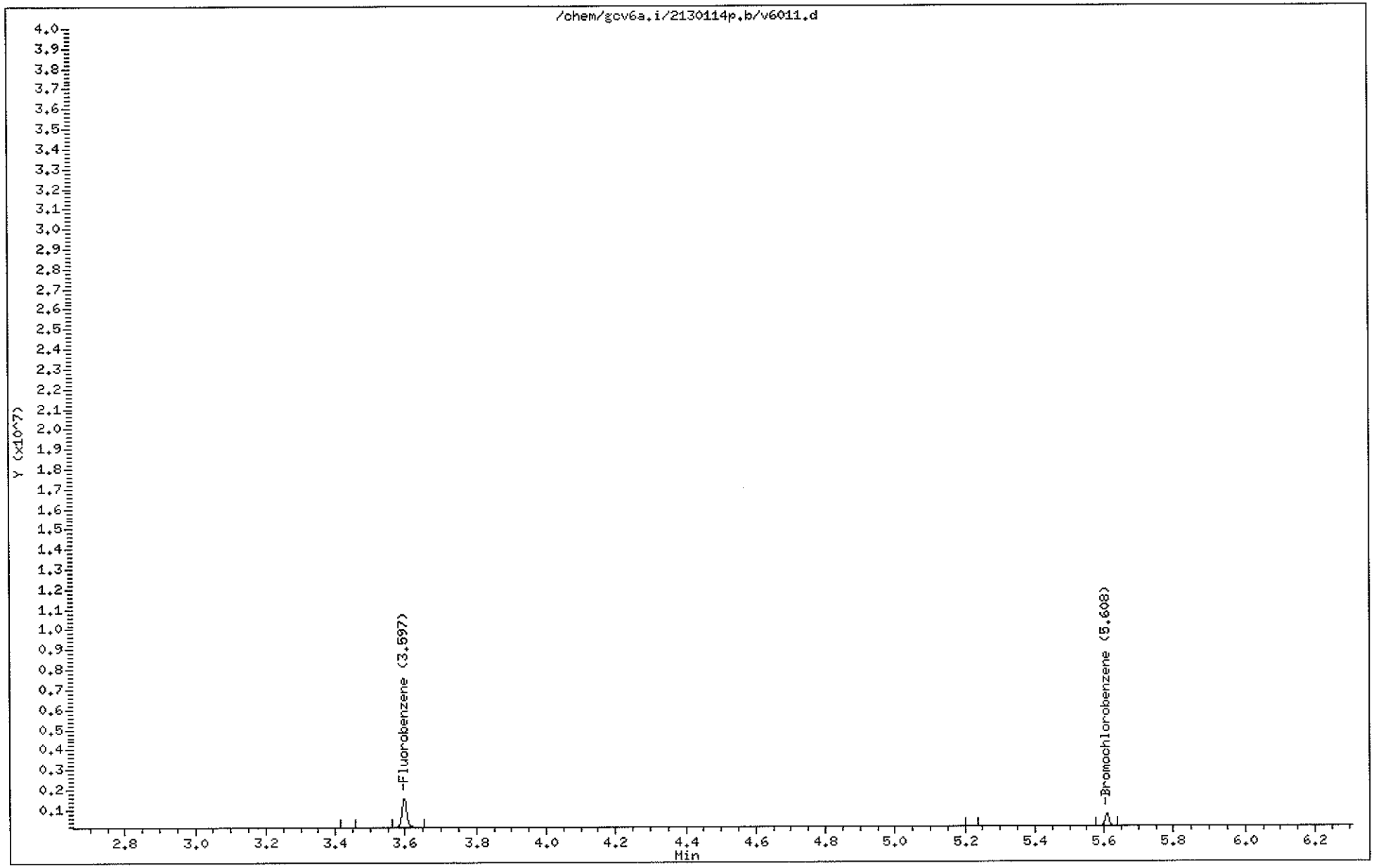


Data File: /chem/gcv6a.i/2130114p.b/v6011.d
Date : 14-JAN-2013 20:48
Client ID: 21301034006
Sample Info: 21301034006

Instrument: gcv6a.i

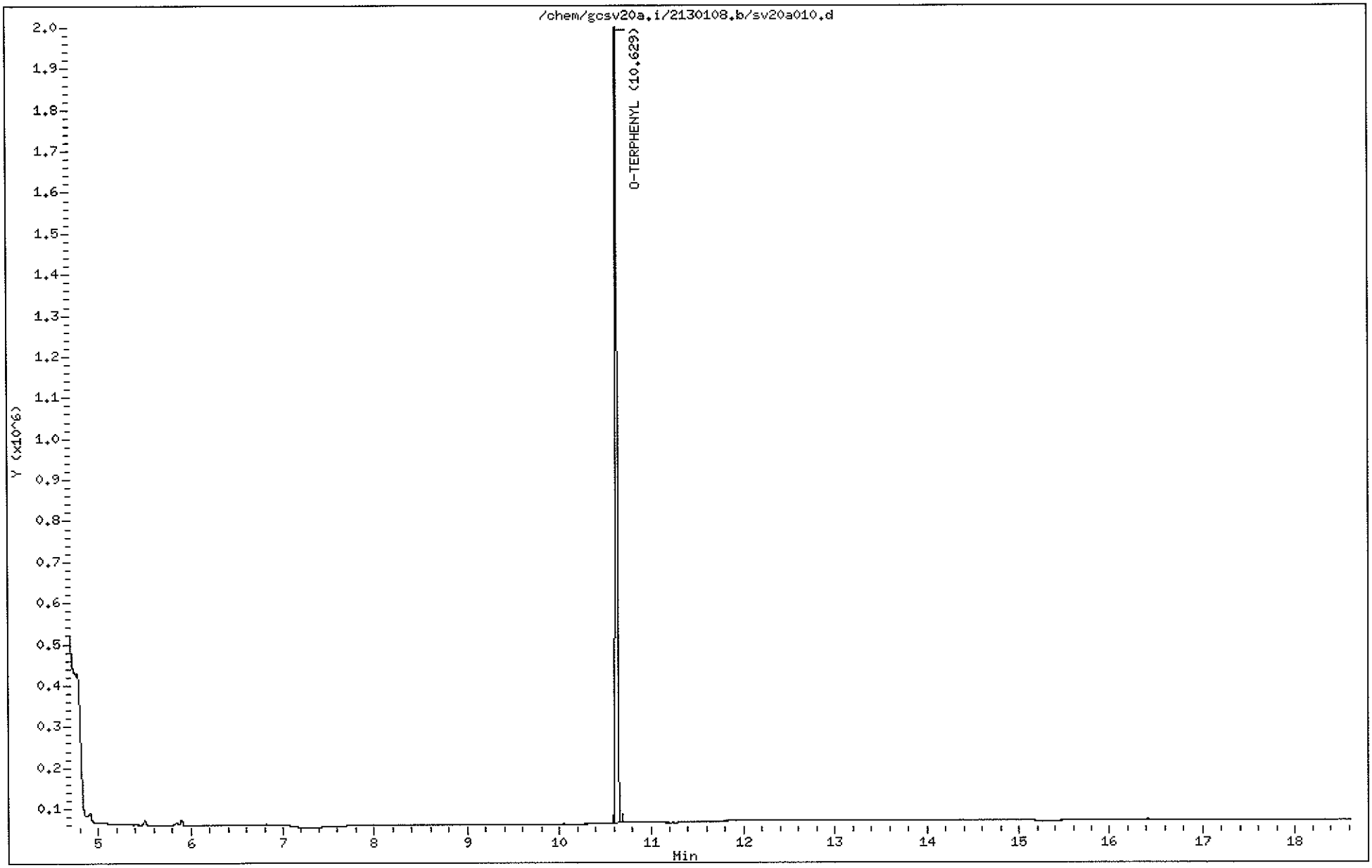
Operator: BMR
Column diameter: 0.53

Column phase: DB-624-30



Data File: /chem/gcsv20a.i/2130108.b/sv20a010.d
Date : 08-JAN-2013 15:03
Client ID:
Sample Info: 21301034006*1
Volume Injected (uL): 1.0
Column phase: DB-5MS-30M

Instrument: gcsv20a.i
Operator: smh
Column diameter: 0.25



GCAL

GULF COAST ANALYTICAL LABORATORIES, INC
7979 GSRI Avenue, Baton Rouge, Louisiana 70820-7402
Phone 225.769.4900 • Fax 225.767.5717

CHAIN OF CUSTODY RECORD

Lab use only	Client Name	Client #	Workorder #	Due Date
	Michael Pisani	4271	213010340	1/14/13

Report to:
Client: Michael Pisani & Associates
Address: 1100 Poydras St 1430 Energy Ctr
New Orleans, LA 70163
Contact: Patrick Ritchie
Phone:
Fax:

Bill to:
Client: same
Address:
Contact:
Phone:
Fax:

P.O. Number: 80-05
Project Name/Number: Assumption Parish Sinkhole
Sampled By: Patrick Ritchie

Analytical Requests & Method

Lab use only:
Custody Seal used ☐ yes ☑ no
intact ☐ yes ☐ no
Temperature °C 3.1, 2.8

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	Preservatives	No Containers	TPH GRO & DRO 8015	TPH 1006 (GRO & DRO ranges)	Cl	Remarks:	Lab ID
H_2O	1/3/13	10:45		X	~~BC-MW~~ GP-2 same 1/10/13	HCl, --	7	X	X	X		1
		11:50		X	~~BC-MW~~ GP-1 per client			X	X	X		2
		14:20		X	~~BC-MW~~ GP-4			X	X	X		3
	1/3/13	10:30		X	~~BC-MW~~ GP-6			X	X	X		4
	"	12:10		X	~~BC-MW~~ GP-5			X	X	X		5
	1/3/13	00:00		X	TRIP BLANK	HCl	3	X	X			6

Turn Around Time: ☐ 24-48 hrs. ☐ 3 days ☐ 1 week ☒ Standard ☐ Other

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
[signature]	[signature]	1/3/13	14:55
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Note:

By submitting these samples, you agree to the terms and conditions contained in our most recent schedule of services.

Matrix[1]: W = water, S = soil, SD = solid, L = liquid, SL = sludge, o = oil, CT = charcoal tube, A = air bag

We cannot accept verbal changes. Please fax written changes to (225) 767-5717

WHITE: CLIENT FINAL REPORT — CANARY: LABORATORY — PINK: CLIENT

GCAL-06 11/98

GCAL ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIVING CHECKLIST

213010340

SAMPLE DELIVERY GROUP	213010340
Client 4271 - Michael Pisani & Associates	**Transport Method** CUST
Profile 233926 - 80-05 Assumption Parish Sinkhole	**Received By** Pfeifer, Ben J.
Line Item(s) 3 - Waters Std Cat/Anions	**Receive Date(s)** 01/03/13

CHECKLIST

	Yes	No	NA
Were all samples received using proper thermal preservation?	☑	☐	☐
When used, were all custody seals intact?	☐	☐	☑
Were all samples received in proper containers?	☑	☐	☐
Were all samples received using proper chemical preservation?	☑	☐	☐
Was preservative added to any container at the lab?	☐	☑	☐
Were all containers received in good condition?	☑	☐	☐
Were all VOA vials received with no head space?	☑	☐	☐
Do all sample labels match the Chain of Custody?	☑	☐	☐
Did the Chain of Custody list the sampling technician?	☑	☐	☐
Was the COC maintained i.e. all signatures, dates and time of receipt included?	☑	☐	☐

COOLERS

Airbill	Temp(oC)
	3.1
	2.8

DISCREPANCIES

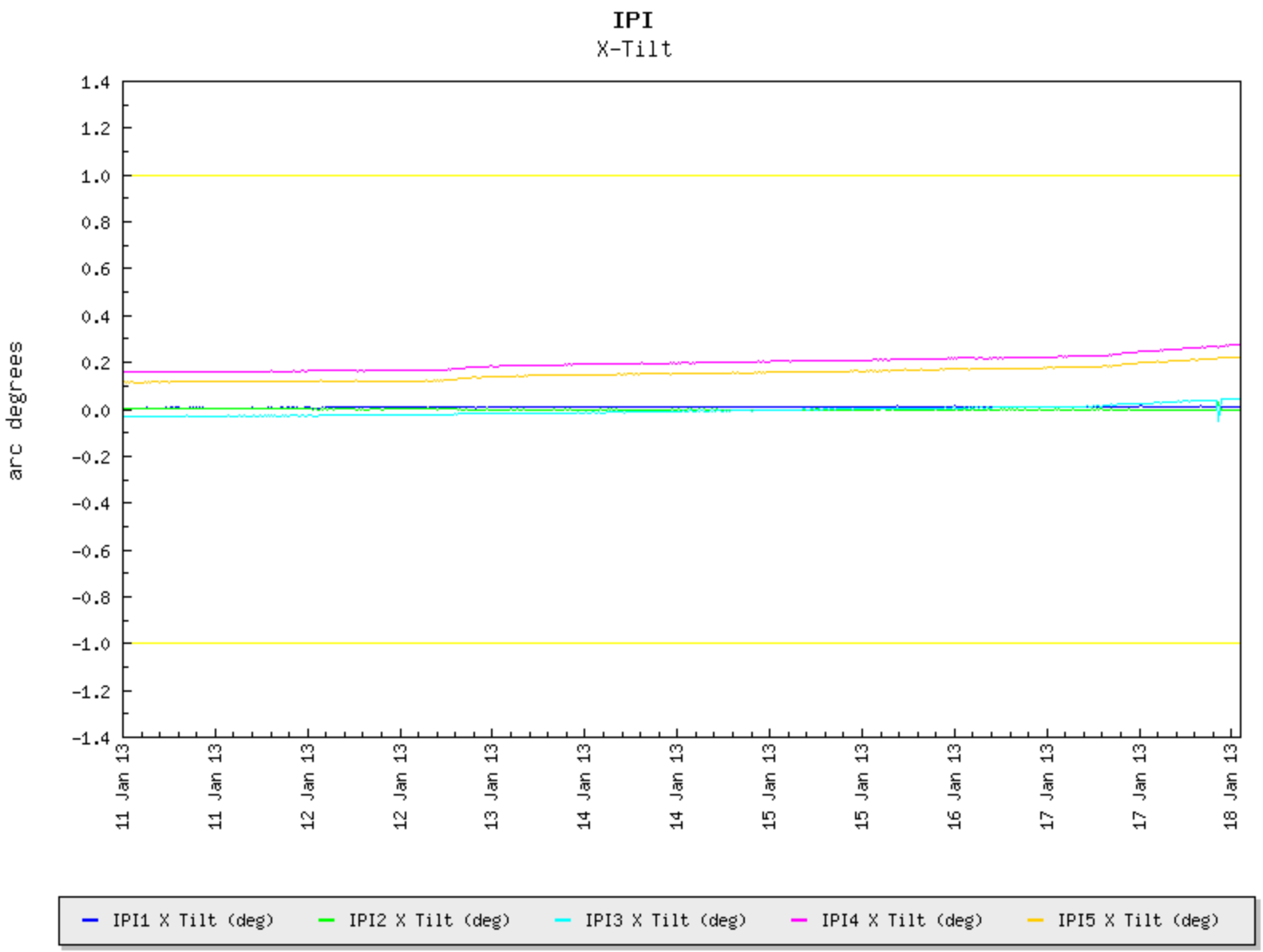
None

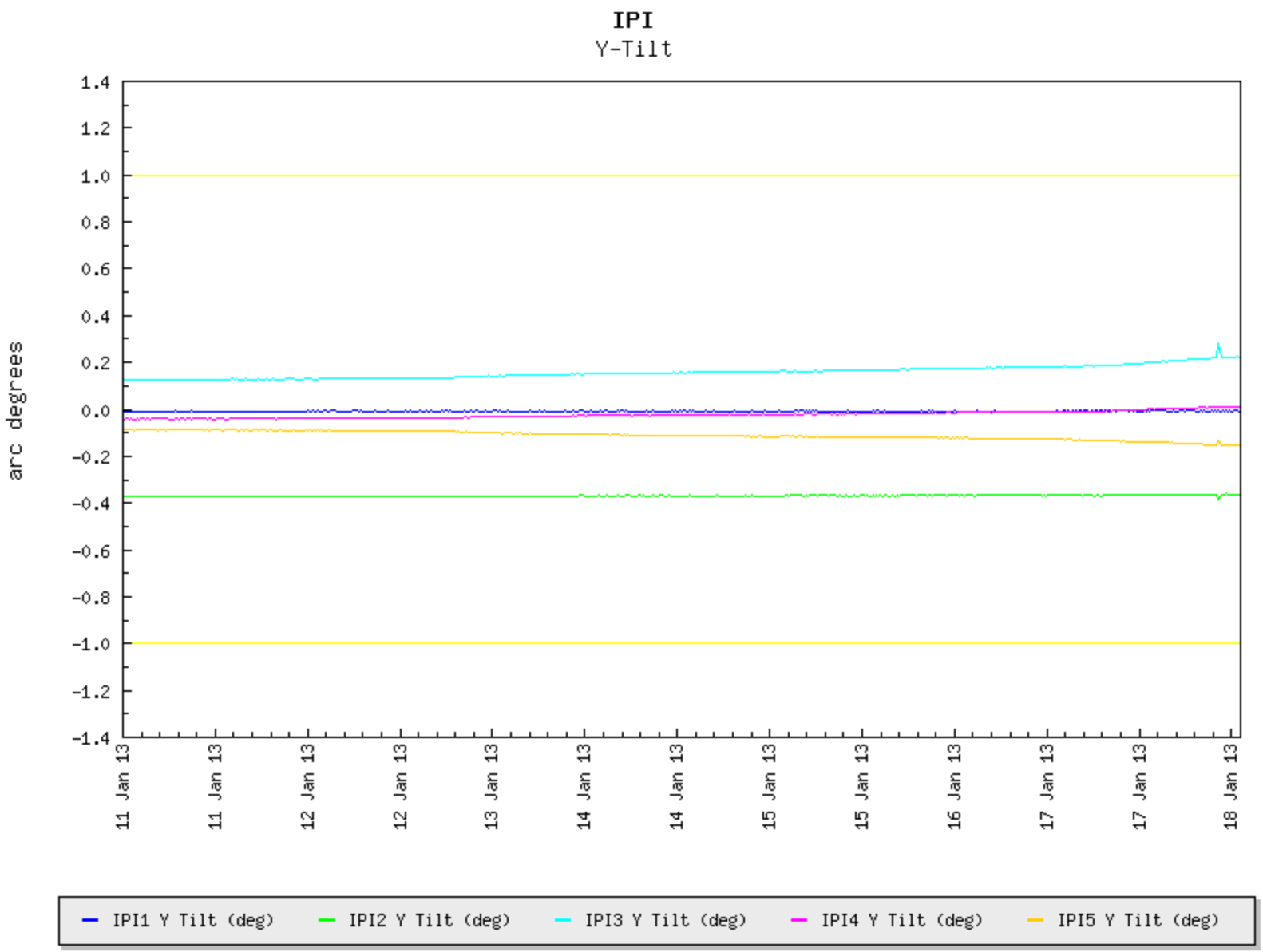
LABORATORY PRESERVATIONS

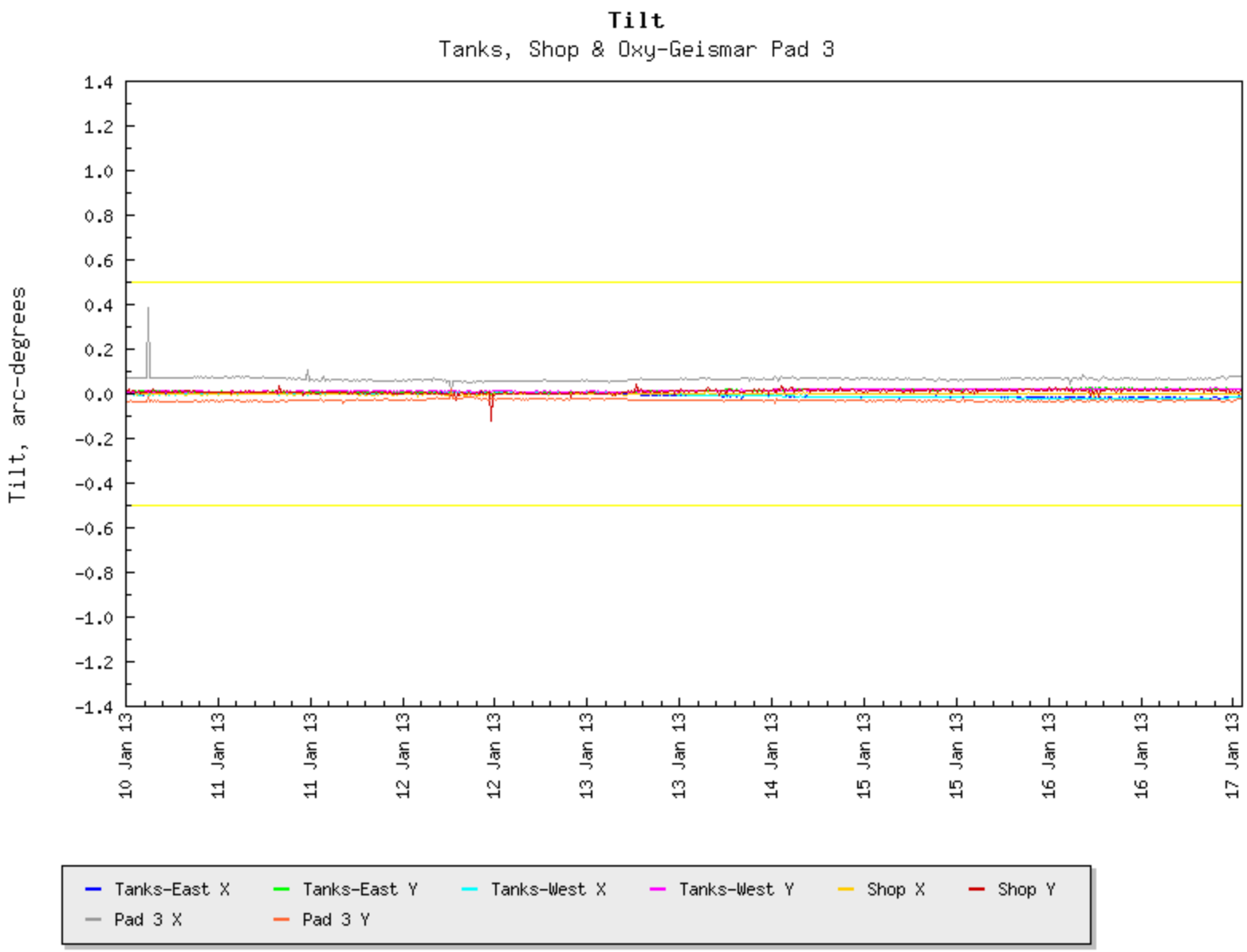
None

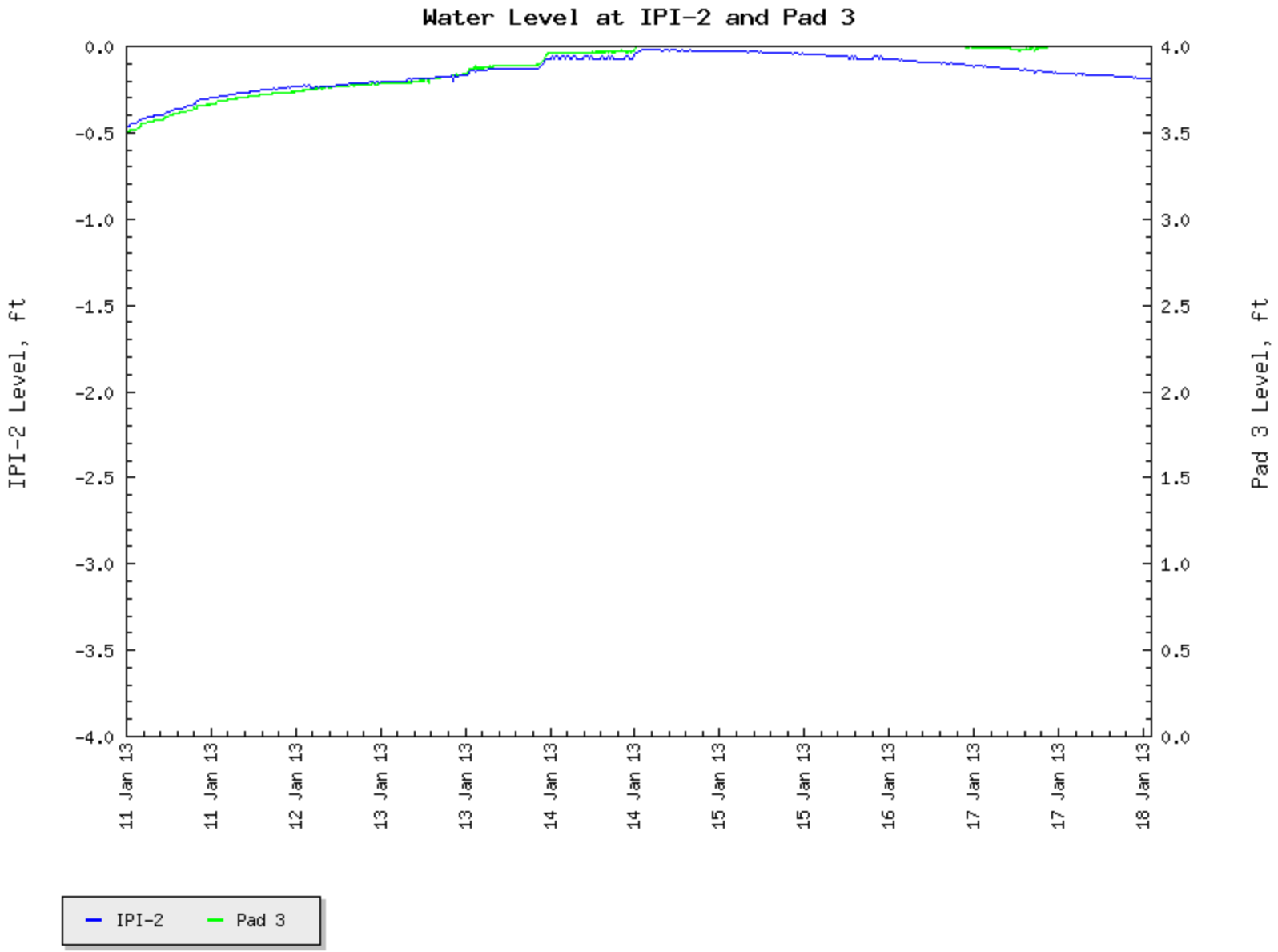
NOTES

Sinkhole survey data provided by Joel Miller & Associates. Survey date 10/30/12.


IPI
X-Tilt
arc degrees
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
-1.4
11 Jan 13
11 Jan 13
12 Jan 13
12 Jan 13
13 Jan 13
14 Jan 13
14 Jan 13
15 Jan 13
15 Jan 13
16 Jan 13
17 Jan 13
17 Jan 13
18 Jan 13
IPI1 X Tilt (deg)
IPI2 X Tilt (deg)
IPI3 X Tilt (deg)
IPI4 X Tilt (deg)
IPI5 X Tilt (deg)


IPI
Y-Tilt
arc degrees
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
-1.4
11 Jan 13
11 Jan 13
12 Jan 13
12 Jan 13
13 Jan 13
14 Jan 13
14 Jan 13
15 Jan 13
15 Jan 13
16 Jan 13
17 Jan 13
17 Jan 13
18 Jan 13
IPI1 Y Tilt (deg)
IPI2 Y Tilt (deg)
IPI3 Y Tilt (deg)
IPI4 Y Tilt (deg)
IPI5 Y Tilt (deg)


Tilt
Tanks, Shop & Oxy-Geismar Pad 3
Tilt, arc-degrees
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
-1.2
-1.4
10 Jan 13
11 Jan 13
11 Jan 13
12 Jan 13
12 Jan 13
13 Jan 13
13 Jan 13
14 Jan 13
15 Jan 13
15 Jan 13
16 Jan 13
16 Jan 13
17 Jan 13
Tanks-East X
Tanks-East Y
Tanks-West X
Tanks-West Y
Shop X
Shop Y
Pad 3 X
Pad 3 Y


Water Level at IPI-2 and Pad 3
IPI-2 Level, ft
Pad 3 Level, ft
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-4.0
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
11 Jan 13
11 Jan 13
12 Jan 13
13 Jan 13
13 Jan 13
14 Jan 13
14 Jan 13
15 Jan 13
15 Jan 13
16 Jan 13
17 Jan 13
17 Jan 13
18 Jan 13
IPI-2
Pad 3

BAKER HUGHES

HIGH DEFINITION INDUCTION LOG [B1]
COMPENSATED Z-DENSILOG [B1]
COMPENSATED NEUTRON LOG
GAMMA RAY LOG
TTRM SUB [B1]

FILE NO:	
API NO:	
COMPANY	TEXAS BRINE COMPANY, LLC
WELL	MRAA-03
FIELD	NAPOLEONVILLE
PARISH	ASSUMPTION
STATE	LOUISIANA

Ver. 3.87
MEASURED DEPTH

LOCATION:
LAT: 29.9694
LONG: -91.2669
SEC 40 TWP 12S RGE 13E

OTHER SERVICES
NONE

PERMANENT DATUM	GL	ELEVATION	4 FT
LOG MEASURED FROM	KB	1.5 FT	ABOVE P.D.
DRILL. MEAS. FROM	KB		

ELEVATIONS:

KB	5.5 FT
DF	4.5 FT
GL	4 FT

DATE		17-JAN-2013		17-JAN-2013	
RUN	TRIP	1	1	1	2
SERVICE ORDER		US563666		US563666	
DEPTH DRILLER		344 FT		344 FT	
DEPTH LOGGER		343 FT		343 FT	
BOTTOM LOGGED INTERVAL		337 FT		337 FT	
TOP LOGGED INTERVAL		101 FT		101 FT	
CASING DRILLER		7.875 IN @ 101 FT		7.875 IN @ 101 FT	
CASING LOGGER		101 FT		101 FT	
BIT SIZE		7.875 IN		7.875 IN	
TYPE OF FLUID IN HOLE		WBM		WBM	
DENSITY	VISCOSITY	9.1 LB/G	54 S	9.1 LB/G	54 S
PH	FLUID LOSS	NA	NA	NA	NA
SOURCE OF SAMPLE		MEASURED		MEASURED	
RM AT MEAS. TEMP.		1.837 OHMM @ 75 DEGF		1.837 OHMM @ 75 DEGF	
RMF AT MEAS. TEMP.		1.378 OHMM @ 75 DEGF		1.378 OHMM @ 75 DEGF	
RMC AT MEAS. TEMP.		2.296 OHMM @ 75 DEGF		2.296 OHMM @ 75 DEGF	
SOURCE OF RMF	RMC	CALCULATED	CALCULATED	CALCULATED	CALCULATED
RM AT BHT		1.837 OHMM @ 75 DEGF		1.837 OHMM @ 75 DEGF	
TIME SINCE CIRCULATION		2 HOURS		3 HOURS	
MAX. RECORDED TEMP.		75 DEGF		75 DEGF	
EQUIP. NO.	LOCATION	HL-6659	BROUSSARD	HL-6659	BROUSSARD
RECORDED BY		G. FADDIS		G. FADDIS	
WITNESSED BY		R. TRAHAN		R. TRAHAN	

IN MAKING INTERPRETATIONS OF LOGS OUR EMPLOYEES WILL GIVE CUSTOMER THE BENEFIT OF THEIR BEST JUDGEMENT. BUT SINCE ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS, WE CANNOT, AND WE DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION. WE SHALL NOT BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COST, DAMAGES, OR EXPENSES WHATSOEVER INCURRED OR SUSTAINED BY THE CUSTOMER RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR EMPLOYEES.

BOREHOLE RECORD

BIT SIZE	FROM	TO
7.875 IN	101 FT	344 FT

CASING RECORD

SIZE	WEIGHT	GRADE	FROM	TO
8.625 IN	NA	NA	0 FT	101 FT

REMARKS

RUN 1 TRIP 1 : NA DENOTES NOT AVAILABLE OR NOT APPLICABLE

THANK YOU FOR CHOOSING BAKER ATLAS
CREW: L. LANDRY/ R. WALBROUGH
RIG: GARDNERDENVER

RUN 1 TRIP 2 : NA DENOTES NOT AVAILABLE OR NOT APPLICABLE

POROSITY RECORDED USING A SANDSTONE MATRIX (2.65 G/CC)

TOLTAL BOREHOLE VOLUME (BVOL) IN CUBIC FT
TOTAL CEMENT VOLUME (CVOL) COMPUTED FOR 7.0 IN CASING

THANK YOU FOR CHOOSING BAKER ATLAS
CREW: L. LANDRY/ R. MALBROUGH
RIG: GARDNERDENVER

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIES NO.	SERIAL NO.	POSITION
1	1	PWR ADP	4430XA	189646	FREE
1	1	TTRM	3881XA	1023373	FREE
1	1	COM REM	3514KB	10087318	FREE
1	1	GR	1329XA	121837	FREE
1	1	HDIL	1515EA	185335	STAND OFF
1	1	HDIL	1515MA	178551	STAND OFF
1	2	PWR ADP	4430XA	189646	FREE
1	2	TTRM	3881XA	1023373	FREE
1	2	COM REM	3514KB	10087318	FREE
1	2	GR	1329XA	121837	FREE
1	2	CN	2446XA	179877	DECENTRALIZED
1	2	ZDL	2234XA	10211831	PAD DEVICE

MAIN LOG 1"/100FT SCALE

ECLIPS 6.1p Aug 06, 2010
Updates: 1,2 Patches: 3

Thu Jan 17 19:02:58 2013

Perpit /main/62 Cplot Pdf_Cpp /main/16 Fileview 5.61

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/TexcoBrine/MRAA03/run1/m763h_GrCnZdl_RP03.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 41.500 ft BOTTOM DEPTH: 347.750 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
TENSION	FILTER ()	medium (1)			
GR	FILTER ()	medium (1)		"	"
	FILTER (.1)	medium (1)		"	"

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/TexcoBrine/MRAA03/run1/m763h_GrHdIl_RP01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 29.500 ft BOTTOM DEPTH: 344.500 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
TTRM	FILTER ()	medium (1)			
	FILTER (.h)	medium (1)		"	"
	FILTER (.1)	medium (1)		"	"
TENSION	FILTER ()	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
	FILTER (.1)	medium (1)		"	"
SP-SPDN	FILTER ()	medium (1)		"	"
	FILTER (.1)	medium (1)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	77.0	degF		
	MUD SAMPLE RES	1.000	ohm.m	"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	77.0	degF	"	"

BOREHOLE TEMP FROM GRADIENT	Mean BH REF TEMP	77.0	degF		
	at BH REF DEPTH	0.0	ft	''	''
	with TEMP GRADIENT	1.200	0.01 degF/ft	''	''
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (mbh*)	USE FIXED SIZE		''	''
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mbh*)	7.875	in	''	''
BH MUD RESISTIVITY SOURCE	Rmud SOURCE (HDIL)	TOOL MEASURED		''	''

SP CONTROL

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
SP CONTROL	Tool/Bridle	TOOL		TOP	BOTTOM

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
HDIL TEMPERATURE CORRECTION	TEMP CORR SOURCE	USE RXTEMP		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		''	''
	ABC to CALCULATE	STANDOFF		''	''
	STANDOFF	1.50	in	''	''
	TOOL POSITION	ECCENTERED		''	''
	Rmud MULTIPLIER	1.000		''	''

CURVE DESCRIPTION REPORT

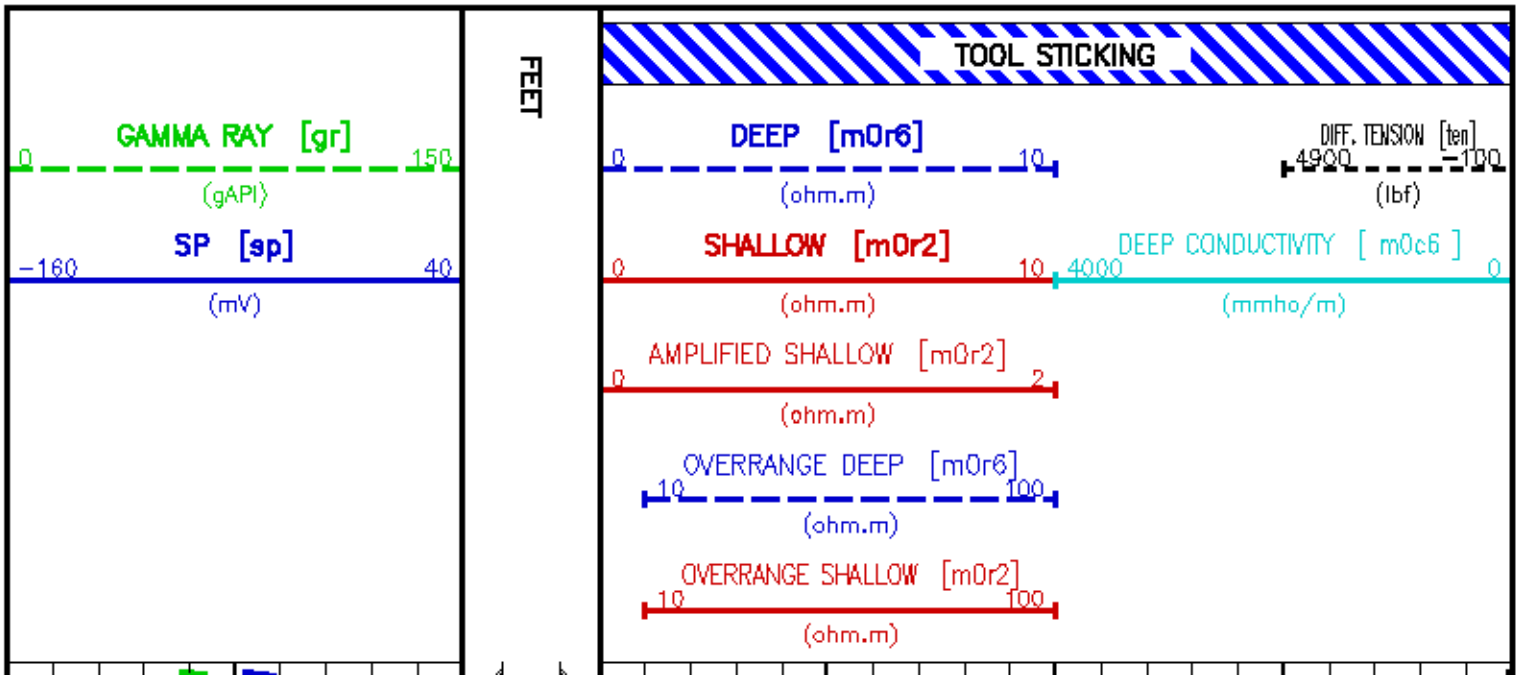
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:GR	Jan 17 16:53:15 2013	GAMMA RAY
F1:MOC6	Jan 17 16:53:15 2013	FOCUSED CONDUCTIVITY, 60-INCH DOI
F1:MOR2	Jan 17 16:53:15 2013	TRUE FOCUSED RESISTIVITY FOR HDIL, 20-INCH DOI
F1:MOR6	Jan 17 16:53:15 2013	TRUE FOCUSED RESISTIVITY FOR HDIL, 60-INCH DOI
F1:SP	Jan 17 16:53:15 2013	SPONTANEOUS POTENTIAL
F1:TEN	Jan 17 16:53:15 2013	DIFFERENTIAL TENSION

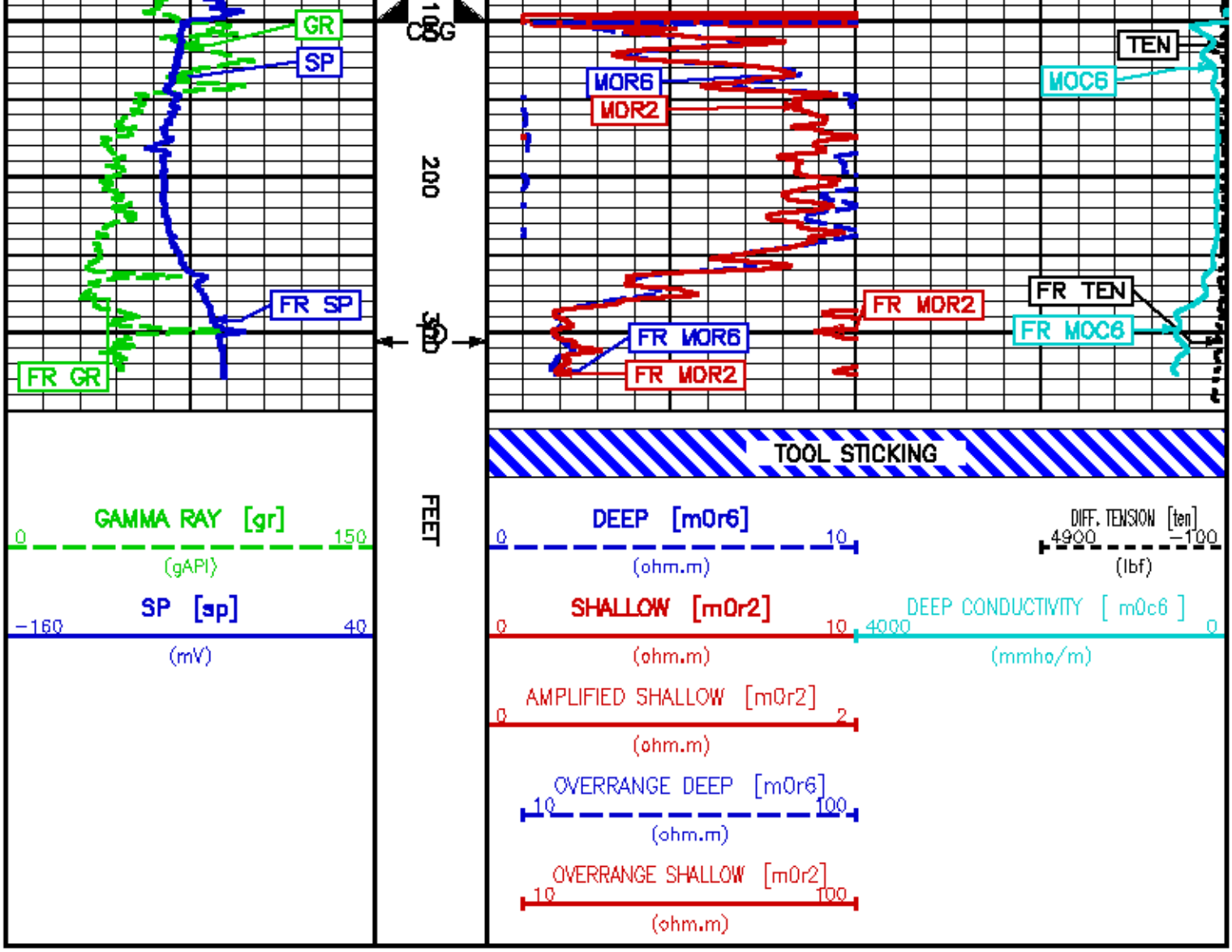
CURVE MEASURE POINT OFFSET

CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
GR	28.75	MOR2	8.00	SP	14.00		
MOC6	8.00	MOR6	8.00	TEN	0.00		

Presentation : sysc/data/TexasBrine/MRAA03/run1/m1hdl11in.pdf [1"/100' Scale]
Plot Interval : 85 – 344.5 Feet

Data File 1 : F1 : sysc/data/TexasBrine/MRAA03/run1/m1malcm.xtf
Created On : Jan 17 16:53:15 2013
Company : TEXAS BRINE COMPANY, LLC
Well : MRAA-03
Field : NAPOLEONVILLE
File Interval : -11.5 – 344.5 Feet
Out : m7633_0r





MAIN LOG 5"/100FT SCALE

ECLIPS 6.1p Aug 06, 2010
Updates: 1,2 Patches: 3

Thu Jan 17 19:00:09 2013

Perplt /main/62 Cplot Pdf_Cpp /main/16 Fileview 5.61

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/TexcoBrine/MRAA03/run1/m763h_GrCnZdl_RP03.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 41.500 ft BOTTOM DEPTH: 347.750 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft) TOP	BOTTOM
Y AXIS CALIPER	FILTER ()	medium (1)		TOP	BOTTOM
TENSION	FILTER ()	medium (1)		"	"
SPCH	FILTER (.l)	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.l)	medium (1)		"	"

CN	FILTER ()	medium (1)	''	''
	FILTER (.h)	medium (1)	''	''
	FILTER (.l)	medium (1)	''	''
CALIPER	FILTER ()	medium (1)	''	''
	FILTER (.h)	medium (1)	''	''
	FILTER (.l)	medium (1)	''	''
ZDL MED RES	FILTER (hrd1*)	medium	''	''
	FILTER (hrd1a*)	medium	''	''
	FILTER (hrd2*)	medium	''	''
	FILTER (hrd2a*)	medium	''	''
ZDL HIGH RES	FILTER (hrd1*)	light	''	''
	FILTER (hrd1a*)	light	''	''
	FILTER (hrd2*)	light	''	''
	FILTER (hrd2a*)	light	''	''

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	7.000	in	TOP	BOTTOM
	CASING THICKNESS	0.000	in	''	''
BIT SIZE	BIT SIZE	7.875	in	''	''
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (onbh*)	USE CALIPER		''	''
	CALIPER/FIXED DIA. (zdbh*)	USE CALIPER		''	''
BOREHOLE CORR DIAMETER	FIXED DIAMETER (onbh*)	7.875	in	''	''

SP CONTROL

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
SP CONTROL	Tool/Bridle	TOOL		TOP	BOTTOM

CN PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
2446 CN MATRIX	2446 MATRIX	SANDSTONE		TOP	BOTTOM
CN SALINITY CORRECTION	SALINITY	0	ppm	''	''
CN CASING & CEMENT CORRECTION	CORRECTION	OFF		''	''
	BIT SIZE BEHIND CSNG	7.875	in	''	''

ZDL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
MUD DENSITY	MUD DENSITY	9.10	lbm/gal	TOP	BOTTOM
DENSITY POROSITY	RHOmatrix	2.650	g/cm3	''	''
	RHOfluid	1.000	g/cm3	''	''
ZDL	DENX TRACKING	ON		''	''

PARAMETER AND FILTER SUMMARY REPORT

FILE: /data/TexcoBrine/MRAA03/run1/m763h_GrHdll_RP01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 29.500 ft BOTTOM DEPTH: 344.500 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
TTRM	FILTER ()	medium (1)		TOP	BOTTOM
	FILTER (.h)	medium (1)		''	''
	FILTER (.l)	medium (1)		''	''
TENSION	FILTER ()	medium (1)		''	''
SPCH	FILTER (.l)	medium (1)		''	''
GR	FILTER ()	medium (1)		''	''
	FILTER (.h)	medium (1)		''	''
	FILTER (.l)	medium (1)		''	''
SP-SPCH	FILTER ()	medium (1)		''	''
	FILTER (.l)	medium (1)		''	''

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
CASING - BOREHOLE & CEMENT VOLUME	CASING O.D.	7.000	in	TOP	BOTTOM
BIT SIZE	BIT SIZE	7.875	in	''	''
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	77.0	degF	''	''
	MUD SAMPLE RES	1.000	ohm.m	''	''

BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	77.0	degF	''	''
	at BH REF DEPTH	0.0	ft	''	''
	with TEMP GRADIENT	1.200	0.01 degF/ft	''	''
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (mbh*)	USE FIXED SIZE		''	''
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mbh*)	7.875	in	''	''
BH MUD RESISTIVITY SOURCE	RMUD SOURCE (HDIL)	TOOL MEASURED		''	''

SP CONTROL

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
SP CONTROL	Tool/Bridle	TOOL		TOP	BOTTOM

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
HDIL TEMPERATURE CORRECTION	TEMP CORR SOURCE	USE RXTEMP		TOP	BOTTOM
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		''	''
	ABC to CALCULATE	STANDOFF		''	''
	STANDOFF	1.50	in	''	''
	TOOL POSITION	ECCENTERED		''	''
	Rmud MULTIPLIER	1.000		''	''

CURVE DESCRIPTION REPORT

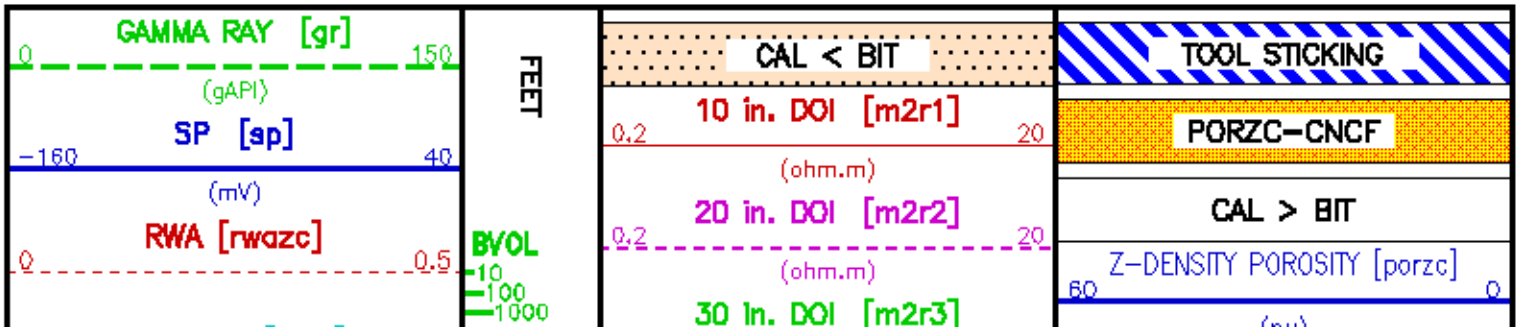
CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:BVOL	Jan 17 16:53:15 2013	BOREHOLE VOLUME
F1:CALX	Jan 17 18:16:46 2013	CALIPER FROM X-AXIS OF XY CALIPER(S)
F1:CNCF	Jan 17 18:16:46 2013	FIELD NORMALIZED COMPENSATED NEUTRON POROSITY
F1:CVOL	Jan 17 16:53:15 2013	CEMENT VOLUME
F1:GR	Jan 17 16:53:15 2013	GAMMA RAY
F1:M2R1	Jan 17 16:53:15 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R2	Jan 17 16:53:15 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 20-INCH DOI
F1:M2R3	Jan 17 16:53:15 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 30-INCH DOI
F1:M2R6	Jan 17 16:53:15 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Jan 17 16:53:15 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:M2RX	Jan 17 16:53:15 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 120-INCH DOI
F1:PORZC	Jan 17 18:16:46 2013	CORRECTED POROSITY
F1:RWAZC	Jan 17 18:45:29 2013	APPARENT FORMATION WATER RESISTIVITY (CORRECTED)
F1:SP	Jan 17 16:53:15 2013	SPONTANEOUS POTENTIAL
F1:TEN	Jan 17 16:53:15 2013	DIFFERENTIAL TENSION
F1:ZCOR	Jan 17 18:16:46 2013	DENSITY CORRECTION

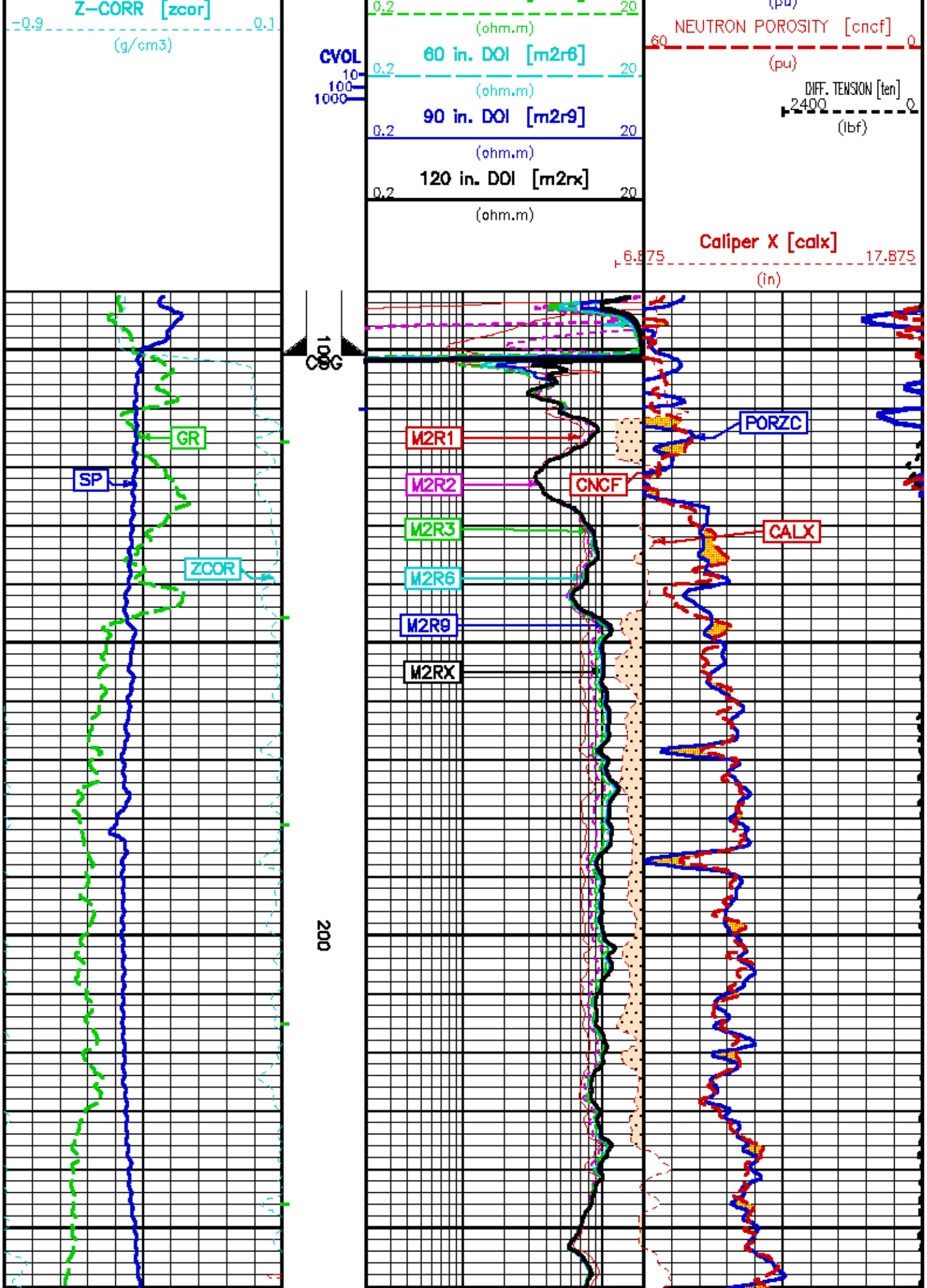
CURVE MEASURE POINT OFFSET

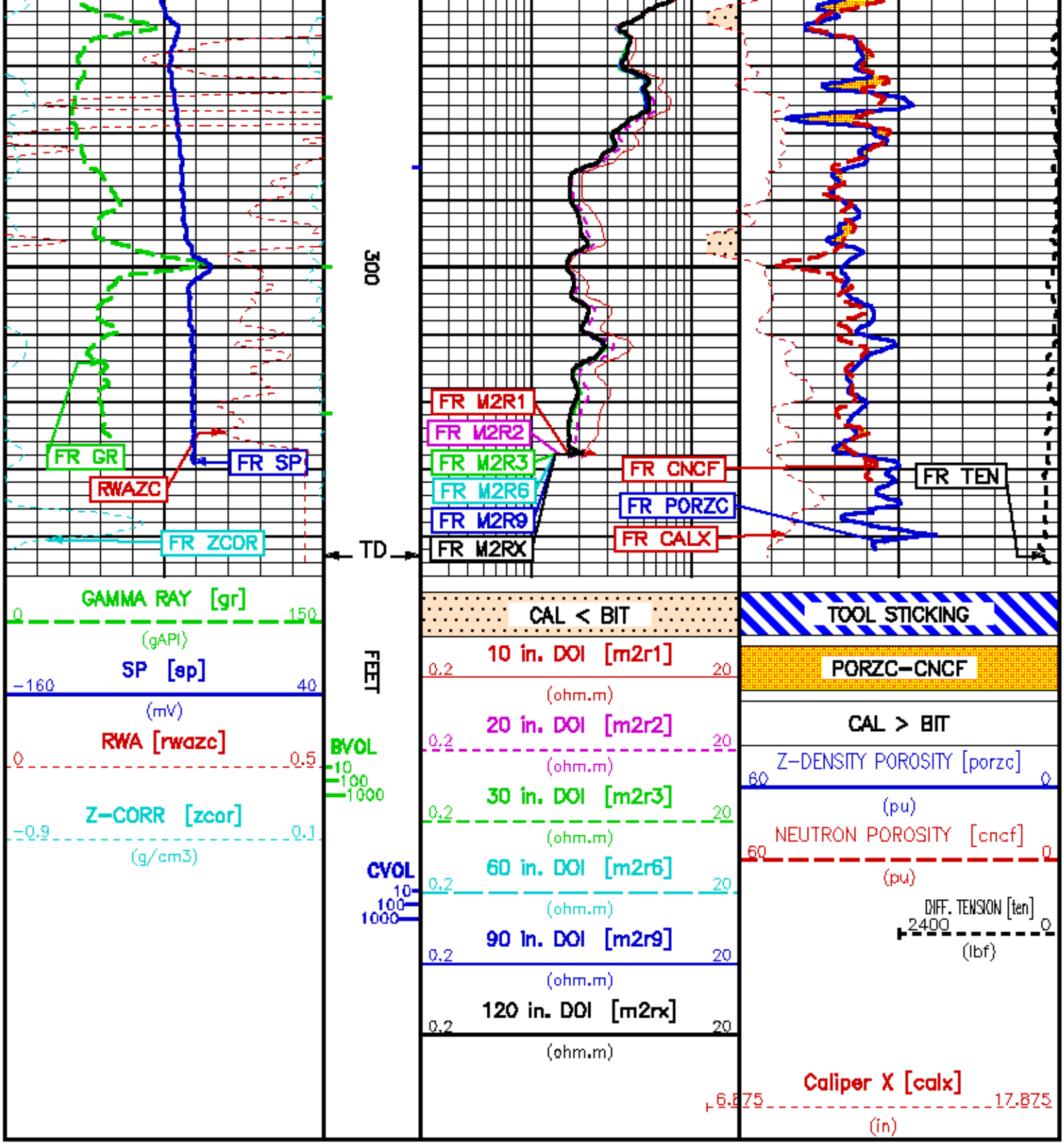
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CALX	3.25	M2R2	8.00	M2RX	8.00	TEN	0.00
CNCF	13.50	M2R3	8.00	PORZC	2.50	ZCOR	2.50
GR	28.75	M2R6	8.00	RWAZC	0.00		
M2R1	8.00	M2R9	8.00	SP	14.00		

Presentation : sysc:/data/TexasBrine/MRAA05/run1/m1mslam5in.pdf [5"/100' Scale]
Plot Interval : 91 – 344.5 Feet

Data File 1 : F1 : sysc:/data/TexasBrine/MRAA05/run1/m1mslam.xtf
Created On : Jan 17 16:53:15 2013
Company : TEXAS BRINE COMPANY, LLC
Well : MRAA-05
Field : NAPOLEONVILLE
File Interval : -11.5 – 344.5 Feet
Out : m7633_Gr




Z-CORR [zcor]
-0.9
0.1
(g/cm3)
CVOL
10
100
1000
0.2
20
(ohm.m)
60 in. DOI [m2r6]
90 in. DOI [m2r9]
120 in. DOI [m2rx]
(pu)
NEUTRON POROSITY [cncf]
60
0
DIFF. TENSION [ten]
2400
(lbf)
Caliper X [calx]
6.875
17.875
(in)
100
CSG
200
GR
SP
ZCOR
M2R1
M2R2
M2R3
M2R6
M2R9
M2RX
CNCF
PORZC
CALX



REPEAT LOG

ECLIPS 6.1p Aug 06, 2010
Updates: 1,2 Patches: 3

Thu Jan 17 17:26:43 2013

Perpit /main/62 Cplot Pdf_Cpp /main/16 Fileview 5.61

PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/TexasBrine/MRAA03/run1/m763h_GrHdll_RP01.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 29.500 ft BOTTOM DEPTH: 344.500 ft

SYMMETRIC FILTER

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
				TOP	BOTTOM
TTRM	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.l)	medium (1)		"	"
TENSION	FILTER ()	medium (1)		"	"
SPCH	FILTER (.l)	medium (1)		"	"
GR	FILTER ()	medium (1)		"	"
	FILTER (.h)	medium (1)		"	"
	FILTER (.l)	medium (1)		"	"
SP-SPCH	FILTER (.l)	medium (1)		"	"

BOREHOLE & CEMENT

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
				TOP	BOTTOM
MUD SAMPLE RESISTIVITY	MUD SAMPLE TEMP	77.0	degF	"	"
	MUD SAMPLE RES	1.000	ohm.m	"	"
BOREHOLE TEMP from GRADIENT	Known BH REF TEMP	77.0	degF	"	"
	at BH REF DEPTH	0.0	ft	"	"
	with TEMP GRADIENT	1.200	0.01 degF/ft	"	"
BOREHOLE CORR DIAMETER SOURCE	CALIPER/FIXED DIA. (mbh*)	USE FIXED SIZE		"	"
BOREHOLE CORR DIAMETER	FIXED DIAMETER (mbh*)	7.875	in	"	"
BH MUD RESISTIVITY SOURCE	Rmud SOURCE (HDIL)	TOOL MEASURED		"	"

SP CONTROL

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
SP CONTROL	Tool/Bridle	TOOL		TOP	BOTTOM

HDIL PROCESSING

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	INTERVAL (ft)	
				TOP	BOTTOM
HDIL TEMPERATURE CORRECTION	TEMP CORR SOURCE	USE RXTEMP		"	"
ADAPTIVE BOREHOLE CORRECTION	ABC PROCESSING	ON		"	"
	ABC to CALCULATE	STANDOFF		"	"
	STANDOFF	1.50	in	"	"
	TOOL POSITION	ECCENTERED		"	"
	Rmud MULTIPLIER	1.000		"	"

CURVE DESCRIPTION REPORT

CURVE NAME	CREATION DATE	CURVE DESCRIPTION
F1:GR	Jan 17 16:53:13 2013	GAMMA RAY
F1:M2R1	Jan 17 16:53:13 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI
F1:M2R2	Jan 17 16:53:13 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 20-INCH DOI
F1:M2R3	Jan 17 16:53:13 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 30-INCH DOI
F1:M2R6	Jan 17 16:53:13 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI
F1:M2R9	Jan 17 16:53:13 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI
F1:M2RX	Jan 17 16:53:13 2013	VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 120-INCH DOI
F1:TEN	Jan 17 16:53:13 2013	DIFFERENTIAL TENSION

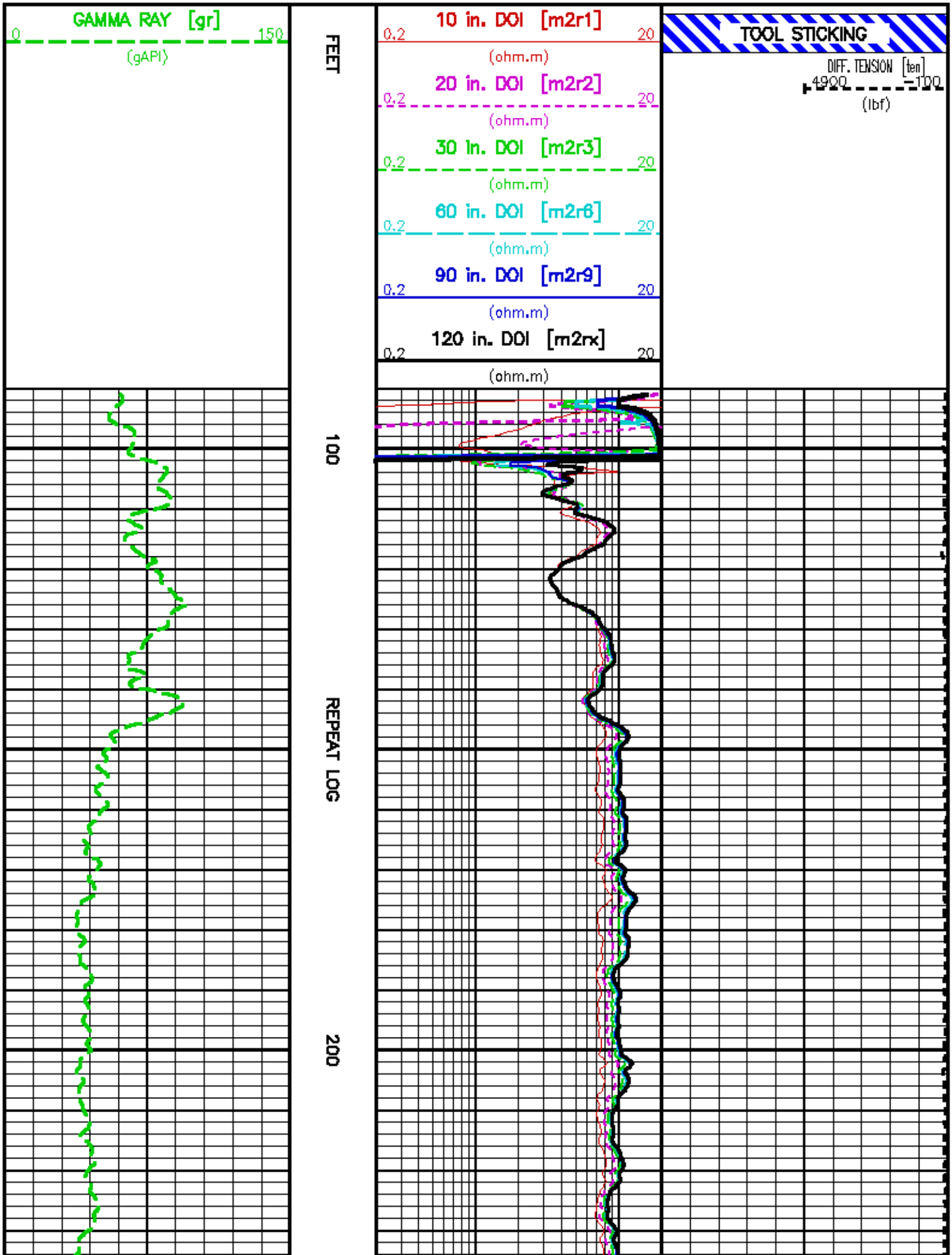
CURVE MEASURE POINT OFFSET

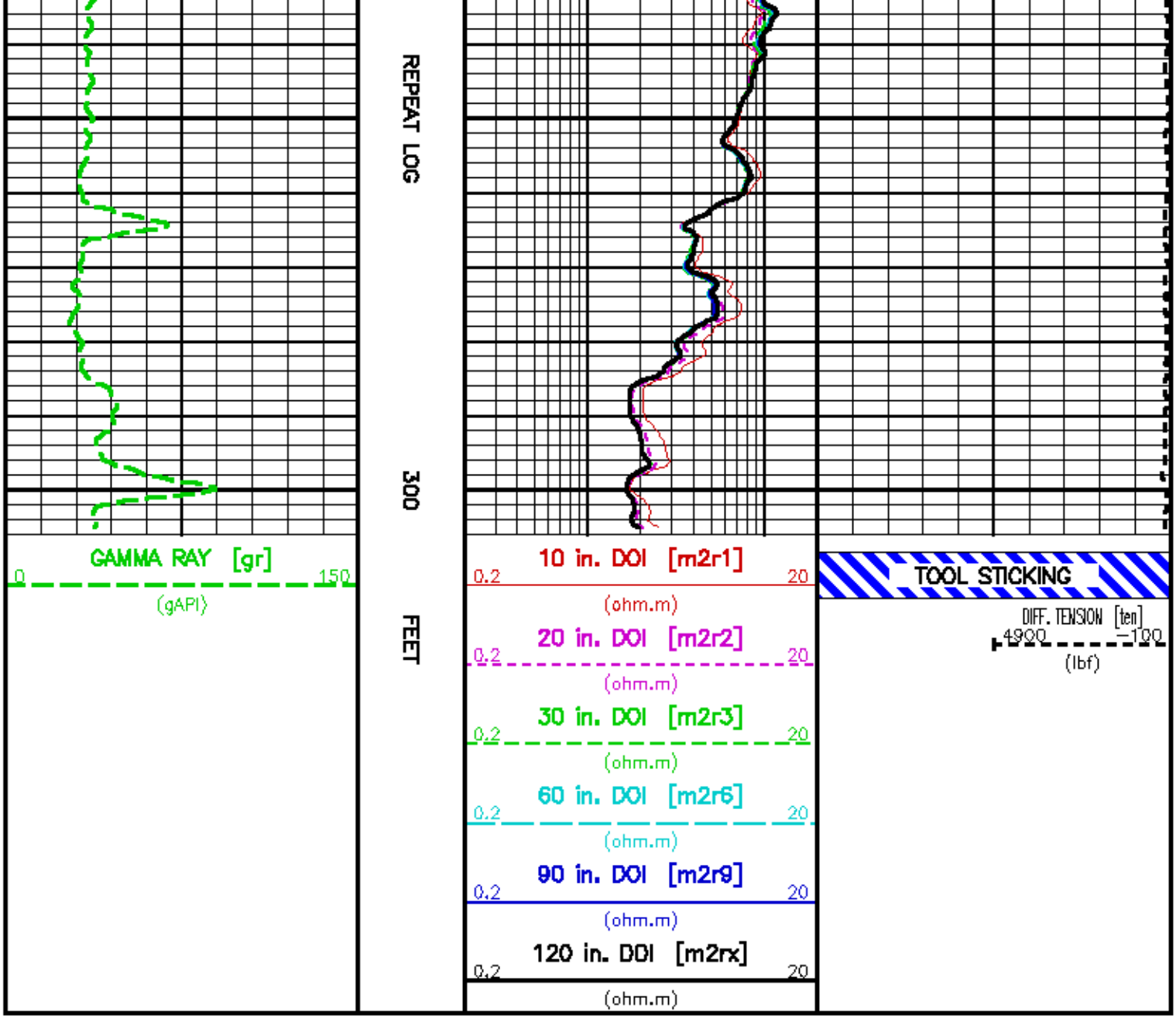
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
GR	29.75	M2R2	8.00	M2R6	8.00	M2RX	8.00
M2R1	8.00	M2R3	8.00	M2R9	8.00	TEN	0.00

Presentation : sysc:/dat1a/TexasBrine/MRAA03/run1/m1repeat.pdf [5"/100' Scale]
Plot Interval : 91 – 305 Feet

Data File 1 : F1 : sysc:/dat1a/TexasBrine/MRAA03/run1/m1GrHdll.xtf
Created On : Jan 17 16:53:13 2013
Company : TEXAS BRINE COMPANY, LLC
Well : MRAA-03

Field : NAPOLEONVILLE
File Interval : -11.5 - 344.5 Feet
Dcf : m7638_Gr





CALIBRATION / VERIFICATION SUMMARY

Source File: /dall0/TexcoBrine/MRAA03/run1/m1main.tp1

CHT PRIMARY CALIBRATION SUMMARY

TOOL #: 3981XA 10203373

DATE/TIME PERFORMED: Thu Nov 1 17:47:58 2012

UNIT #: 3880TA HL6659

	Signal Low (raw)	Signal High (raw)	Scale Mult	Scale Add	Engr Low (lbf)	Engr High (lbf)
CHT	20.02	423.20	3.61	-72.30	0.00	1456.00

GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 121837 DATE/TIME PERFORMED: Tue Jan 15 13:10:21 2013

UNIT #: 3880TA HL6659 CALB JIG #: 4702NK WA-630

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	CR DIFF (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	CALBRTR (gAPI)
GR	136.33	1006.49	870.2 (830.0 – 960.0)	0.172	23.50	173.50	150

GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 121837 DATE/TIME PERFORMED: Tue Jan 15 13:12:52 2013

UNIT #: 3880TA HL6659 VERI JIG #: 4702NK WA-630

	BACKGROUND (cts/s)	CALBRTR ON (cts/s)	MULT	BACKGROUND (gAPI)	CALBRTR ON (gAPI)	DIFF. (gAPI)
GR	139.93	1013.73	0.172	24.12	174.75	150.63 (140.00 – 160.00)

SL PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 121837 DATE/TIME PERFORMED: Tue Jan 15 13:08:57 2013

UNIT #: 3880TA HL6659 CALIBRATOR ID: 4702NA WA-630

	Bkgnd (cts/s)	Cal ON (cts/s)	Mult (gAPI/(cts/s))	Bkgnd (gAPI)	Cal ON (gAPI)	Cal Value (gAPI)
GR-SL (.06-3.5)	129.82	981.41	0.176	22.87	172.87	150

	Std Rate (cts/s)	Meas Rate (cts/s)	Tool Norm	Std Mult	Log Mult	App Con (pct ppm)
E (.25-3.0)	554	548.6	1.010 (0.900 – 1.100)			
K				0.01602	0.01618	8.900
U				0.03851	0.03889	21.300
TH				0.10135	0.10235	56.100

Mult chnl/MeV	Add chnls	QSA	QCAL	GAIN	U Pk Res %

SPECTRUM	72.990	-1.386	0.123	0.999 (0.980 1.020)	3049	8.84

	P1 .352 MeV	P2 .609 MeV	P3 1.120 MeV	P4 1.765 MeV	P5 2.204 MeV
Std Pk	25.80	44.20	81.00	127.40	159.00
Meas Pk	24.07 (22.80 28.80)	43.04 (40.20 48.20)	80.71 (76.00 86.00)	127.64 (121.40 133.40)	159.19 (152.00 166.00)
Fit Pk	24.31	43.06	80.36	127.44	159.48

SL PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 121837 DATE/TIME PERFORMED: Tue Jan 15 13:12:56 2013

UNIT #: 3880TA HL6659 CALIBRATOR ID: 4702NA WA-630

	Bkgnd (cts/s)	Cal ON (cts/s)	Mult (gAPI/(cts/s))	Bkgnd (gAPI)	Cal ON (gAPI)	Cal Value (gAPI)
GR-SL (.06-3.5)	131.57	995.87	0.176	23.17	175.41	152 (135 165)

	Std rate	Meas rate	Tool norm	Std Mult	Log Mult	App Con (pct ppm)
E (.25-3.0)	554	559.3	1.010			
K				0.01602	0.01618	9.048 (8.010 9.790)
U				0.03851	0.03889	21.749 (19.170 23.430)
TH				0.01602	0.10235	57.239 (50.490 61.710)

	Mult chnl/MeV	Add chnls	QSA	QCAL	GAIN	U Pk Res %
SPECTRUM	73.184	-1.562	0.049	1.000 (0.980 1.020)	3049	8.44

	P1 .352 MeV	P2 .609 MeV	P3 1.120 MeV	P4 1.765 MeV	P5 2.204 MeV
Std Pk	25.80	44.20	81.00	127.40	159.00
Meas Pk	23.97 (22.80 28.80)	43.14 (40.20 48.20)	80.57 (76.00 86.00)	127.67 (121.40 133.40)	159.60 (152.00 166.00)
Fit Pk	24.20	43.01	80.40	127.61	159.74

CN PRIMARY CALIBRATION SUMMARY

TOOL #: 2446XA 179977 DATE/TIME PERFORMED: Thu Dec 13 13:35:58 2012

UNIT #: 3880TA HL6659 CALIBRATOR #: 2437XB 10078127 SOURCE #: 4717XS 48468B

	MEASURED CPS	DEADTM CORR CPS	DTC SSN/LSN	NOMINAL SSN/LSN	CORRECTION FACTOR	POROSITY (pu)
LSN	704.74	716.86				
SSN	1799.16	1866.31				
RATIO			2.60345	2.75100	1.05668 0.97000 1.07000	
CN						21.358

CN PRIMARY VERIFICATION SUMMARY

TOOL #: 2446XA 179977 DATE/TIME PERFORMED: Thu Dec 13 13:39:50 2012

UNIT #: 3880TA HL6659 ICE BLOCK #: 4717ND D-0053

	MEASURED CPS	DEADTM CORR CPS	DTC SSN/LSN	CORRECTION FACTOR	DTC CORR SSN/LSN	POROSITY (pu)
LSN	1864.37	1951.74				
SSN	4238.98	4631.73				
RATIO			2.37314	1.05668	2.50877	
CN						17.976

CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2234XA 10211831 DATE/TIME PERFORMED: Tue Jan 15 11:19:59 2013

UNIT #: 3880TA HL6659

	SMALL RING	LARGE RING	MULT	ADD	SMALL RING (in)	LARGE RING (in)
CALIPER	1383.6	2405.6	0.00783	-3.83053	7.000	15.000

ZDL PRIMARY CALIBRATION SUMMARY

TOOL: 2234XA 10211831 DATE/TIME PERFORMED: Tue Jan 15 12:09:28 2013

UNIT: 3880TA HL6659 CALB BLKS: 2225XA 094055 CS SRC: 4703NT 16086B

	SS CS PK	LS CS PK	SS BKGD	LS BKGD

(Channel)	(Channel)	(cps)	(cps)
225.9 (220.0 – 230.0)	226.3 (220.0 – 230.0)	1452.3	1478.0

	SS (cps)	LS (cps)	SHR	DEN (g/cm3)	CORR (g/cm3)	PE (b/e)
MG (LO PE)	21031.5	11203.3	0.651 (0.565 – 0.665)	1.700	0.003	2.160
AL	12229.0	1104.1		2.698	-0.010	
AL + SHIM	16735.9	1928.9		2.619	0.158	
MG + SHIM (HI PE)	10215.9	5380.7	0.254 (0.210 – 0.270)			8.500
RATIO AL + SHIM/AL	1.37 (1.32 – 1.42)	1.75 (1.64 – 1.84)				
RATIO MG/AL	1.72 (1.65 – 1.78)	10.15 (9.40 – 10.20)				

HDIL PRIMARY CALIBRATION SUMMARY

TOOL #: 1515MA 179551 DATE/TIME PERFORMED: Wed Dec 19 11:00:03 2012

UNIT #: 3880TA HL6659 GRCOND ID & DATE: 30 083096

ZERO DATA(mv)	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	-0.001 (-0.200 – 0.200)	0.001 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)	0.002 (-0.100 – 0.100)	-0.000 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)	-0.002 (-0.100 – 0.100)
Coil 0 Q	0.003 (-1.000 – 1.000)	0.005 (-0.200 – 0.200)	-0.001 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)	0.002 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)	0.000 (-0.100 – 0.100)
Coil 1 R	-0.007 (-0.200 – 0.200)	-0.001 (-0.100 – 0.100)	0.002 (-0.100 – 0.100)	0.006 (-0.100 – 0.100)	0.005 (-0.100 – 0.100)	0.003 (-0.100 – 0.100)	0.002 (-0.100 – 0.100)	-0.001 (-0.100 – 0.100)
Coil 1 Q	-0.002 (-1.000 – 1.000)	-0.005 (-0.200 – 0.200)	-0.007 (-0.100 – 0.100)	-0.002 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)	0.003 (-0.100 – 0.100)	0.003 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)
Coil 2 R	0.004 (-0.200 – 0.200)	0.004 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)	0.002 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)	0.000 (-0.100 – 0.100)	0.002 (-0.100 – 0.100)	0.004 (-0.100 – 0.100)
Coil 2 Q	-0.005 (-1.000 – 1.000)	-0.007 (-0.200 – 0.200)	-0.003 (-0.100 – 0.100)	0.000 (-0.100 – 0.100)	-0.002 (-0.100 – 0.100)	-0.002 (-0.100 – 0.100)	-0.001 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)
Coil 3 R	-0.002 (-0.100 – 0.100)	0.007 (-0.100 – 0.100)	0.006 (-0.100 – 0.100)	0.008 (-0.100 – 0.100)	0.007 (-0.100 – 0.100)	0.003 (-0.100 – 0.100)	0.005 (-0.100 – 0.100)	0.008 (-0.100 – 0.100)
Coil 3 Q	-0.008 (-0.500 – 0.500)	-0.010 (-0.200 – 0.200)	-0.002 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)	-0.001 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)	0.001 (-0.100 – 0.100)
Coil 4 R	0.001 (-0.200 – 0.200)	0.021 (-0.200 – 0.200)	0.037 (-0.200 – 0.200)	0.032 (-0.200 – 0.200)	0.031 (-0.200 – 0.200)	0.021 (-0.200 – 0.200)	0.020 (-0.200 – 0.200)	0.017 (-0.200 – 0.200)
Coil 4 Q	-0.018 (-1.000 – 1.000)	-0.014 (-0.400 – 0.400)	-0.016 (-0.200 – 0.200)	0.008 (-0.200 – 0.200)	0.008 (-0.200 – 0.200)	0.010 (-0.200 – 0.200)	0.005 (-0.200 – 0.200)	0.001 (-0.200 – 0.200)
Coil 5 R	-0.004 (-0.400 – 0.400)	0.008 (-0.400 – 0.400)	0.008 (-0.400 – 0.400)	0.010 (-0.400 – 0.400)	0.002 (-0.400 – 0.400)	-0.005 (-0.400 – 0.400)	-0.013 (-0.400 – 0.400)	-0.010 (-0.400 – 0.400)
Coil 5 Q	-0.004 (-2.000 – 2.000)	-0.011 (-0.800 – 0.800)	-0.003 (-0.400 – 0.400)	0.012 (-0.400 – 0.400)	0.008 (-0.400 – 0.400)	0.015 (-0.400 – 0.400)	0.005 (-0.400 – 0.400)	-0.001 (-0.400 – 0.400)
Coil 6 R	-0.010 (-1.000 – 1.000)	0.024 (-1.000 – 1.000)	0.032 (-1.000 – 1.000)	0.022 (-1.000 – 1.000)	-0.004 (-1.000 – 1.000)	-0.026 (-1.000 – 1.000)	-0.030 (-1.000 – 1.000)	-0.034 (-1.000 – 1.000)

Coil 6 Q	-0.023	-0.005	-0.005	0.027	0.047	0.010	0.014	-0.009
	-5.000 5.000	-2.000 2.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000	-1.000 1.000

ELEC. GAINS	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	127.71	126.47	124.03	120.38	115.33	109.27	101.80	93.51
	100.00 150.00	100.00 150.00	98.00 150.00	96.00 140.00	92.00 140.00	87.00 130.00	82.00 120.00	76.00 110.00
Coil 0 P	7.549	23.865	39.997	56.114	72.358	88.674	105.067	121.465
	6.000 9.000	19.000 28.000	32.000 47.000	44.000 66.000	57.000 85.000	70.000 100.000	82.000 120.000	95.000 140.000
Coil 1 M	220.06	217.95	213.73	207.43	198.84	188.62	175.83	161.85
	180.00 270.00	180.00 270.00	170.00 260.00	170.00 250.00	160.00 250.00	160.00 230.00	150.00 220.00	140.00 200.00
Coil 1 P	7.577	23.881	39.990	56.119	72.343	88.630	104.977	121.391
	6.000 9.000	19.000 28.000	32.000 49.000	45.000 67.000	57.000 86.000	70.000 110.000	83.000 120.000	96.000 140.000
Coil 2 M	442.90	437.99	428.30	414.27	395.63	373.46	347.26	318.46
	360.00 540.00	360.00 540.00	350.00 530.00	340.00 510.00	330.00 500.00	310.00 470.00	300.00 440.00	270.00 410.00
Coil 2 P	7.805	24.614	41.177	57.707	74.215	90.765	107.303	123.871
	6.000 9.000	19.000 29.000	32.000 49.000	45.000 67.000	58.000 87.000	71.000 110.000	84.000 130.000	96.000 140.000
Coil 3 M	723.56	716.79	702.95	682.64	654.84	621.16	580.16	535.23
	590.00 880.00	580.00 870.00	570.00 850.00	560.00 830.00	530.00 800.00	500.00 760.00	470.00 710.00	440.00 650.00
Coil 3 P	7.631	24.127	40.412	56.714	73.080	89.484	105.927	122.364
	6.000 10.000	20.000 29.000	33.000 49.000	46.000 69.000	59.000 88.000	72.000 110.000	85.000 130.000	98.000 150.000
Coil 4 M	1139.1	1128.3	1107.0	1075.1	1031.4	979.1	915.0	844.3
	900.0 1400.0	900.0 1300.0	900.0 1300.0	850.0 1300.0	800.0 1200.0	800.0 1200.0	750.0 1100.0	700.0 1000.0
Coil 4 P	7.888	24.914	41.736	58.551	75.453	92.406	109.397	126.393
	6.000 10.000	20.000 30.000	33.000 50.000	46.000 70.000	60.000 90.000	73.000 110.000	86.000 130.000	99.000 150.000
Coil 5 M	2293.4	2265.6	2211.5	2133.0	2032.7	1917.2	1783.6	1642.1
	1900.0 2800.0	1800.0 2800.0	1800.0 2700.0	1800.0 2600.0	1700.0 2500.0	1600.0 2400.0	1500.0 2200.0	1400.0 2100.0
Coil 5 P	8.091	25.407	42.454	59.365	76.195	92.944	109.628	126.299
	6.000 10.000	20.000 31.000	34.000 51.000	48.000 72.000	62.000 93.000	76.000 110.000	89.000 130.000	100.000 150.000
Coil 6 M	5954.4	5876.3	5725.6	5510.8	5237.8	4922.2	4564.7	4177.3
	4700.0 7100.0	4700.0 7000.0	4600.0 6900.0	4400.0 6600.0	4200.0 6400.0	4000.0 6000.0	3700.0 5600.0	3400.0 5100.0
Coil 6 P	8.187	26.090	43.612	60.962	78.238	95.432	112.543	129.644
	7.000 10.000	22.000 32.000	36.000 54.000	51.000 76.000	65.000 98.000	80.000 120.000	94.000 140.000	110.000 160.000

AM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 R	233	-294	-326	-318	-302	-286	-272	-259
	-200 800	-500 200	-600 100	-600 50	-500 20	-500 20	-500 20	-500 20
Coil 0 Q	3206	1065	564	333	196	103	34	-21
	-3000 6000	-1000 2000	-1000 1200	-500 900	-400 700	-400 600	-400 500	-400 400
Coil 1 R	518	57	-4	-25	-35	-41	-44	-46
	450 650	20 130	-30 80	-50 40	-55 30	-60 20	-60 10	-60 10
Coil 1 Q	927	388	244	175	133	105	83	67
	0 2500	0 900	0 600	0 450	0 350	0 300	0 250	0 250
Coil 2 R	174.0	21.0	2.6	-3.5	-6.6	-8.3	-9.5	-10.2
	140.0 230.0	0.0 51.0	-10.0 25.0	-15.0 15.0	-16.0 10.0	-16.0 7.0	-16.0 5.0	-16.0 3.0
Coil 2 Q	381.8	154.8	99.3	75.1	61.8	53.8	48.7	44.7
	-200.0 1000.0	0.0 350.0	0.0 220.0	0.0 160.0	0.0 130.0	0.0 110.0	0.0 100.0	0.0 90.0
Coil 3 R	46.5	5.8	0.9	-0.8	-1.5	-2.1	-2.7	-3.0
	37.0 62.0	0.0 12.0	-3.0 6.0	-4.0 4.0	-5.0 2.0	-5.0 1.0	-6.0 1.0	-6.0 1.0
Coil 3 Q	89.8	39.5	28.5	24.9	23.6	23.7	24.2	24.8
	-140.0 280.0	-40.0 100.0	-20.0 70.0	-10.0 60.0	-10.0 50.0	-10.0 50.0	-10.0 50.0	-10.0 50.0
Coil 4 R	10.93	0.70	-0.61	-1.17	-1.40	-1.55	-1.39	-1.60
	2.00 18.00	-3.00 6.00	-3.50 3.00	-3.90 2.00	-4.20 2.00	-4.50 2.00	-4.70 2.00	-5.00 2.00
Coil 4 Q	31.34	15.64	13.87	14.37	15.78	17.56	19.58	21.80
	-100.00 100.00	-30.00 50.00	-20.00 40.00	-10.00 40.00	-10.00 40.00	-10.00 45.00	-10.00 50.00	-10.00 60.00

Coil 5 R	1.70	-0.49	-0.88	-1.04	-1.10	-1.10	-1.18	-1.16
	-2.00 5.80	-3.20 2.40	-4.50 3.10	-4.70 3.20	-4.80 3.20	-5.00 3.30	-5.20 3.40	-5.40 3.50
Coil 5 Q	6.71	6.26	8.10	10.45	12.90	15.59	18.01	20.80
	-60.00 70.00	-20.00 30.00	-20.00 30.00	-20.00 35.00	-20.00 45.00	-20.00 50.00	-20.00 60.00	-30.00 70.00
Coil 6 R	-1.27	-0.93	-0.77	-0.88	-0.83	-0.88	-0.66	-0.81
	-4.80 1.00	-5.70 3.80	-6.50 4.90	-6.90 5.40	-7.30 5.80	-7.50 6.00	-7.70 6.10	-7.90 6.30
Coil 6 Q	5.13	5.00	7.05	9.16	11.64	13.88	16.33	19.02
	-30.00 30.00	-20.00 25.00	-20.00 35.00	-30.00 50.00	-35.00 60.00	-40.00 70.00	-50.00 80.00	-60.00 100.00

MM Factor	10 KHz	30 KHz	50 KHz	70 KHz	90 KHz	110 KHz	130 KHz	150 KHz
Coil 0 M	1.022	1.019	1.015	1.015	1.013	1.012	1.011	1.011
	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100
Coil 0 P	0.073	0.244	0.325	0.289	0.276	0.244	0.209	0.116
	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000
Coil 1 M	1.008	1.005	1.001	1.001	0.998	0.999	0.997	0.997
	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100
Coil 1 P	0.107	0.268	0.325	0.345	0.333	0.294	0.268	0.181
	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000
Coil 2 M	1.019	1.016	1.015	1.014	1.013	1.012	1.012	1.011
	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100
Coil 2 P	0.032	0.065	0.092	0.140	0.150	0.153	0.119	0.103
	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000
Coil 3 M	1.021	1.020	1.019	1.019	1.018	1.017	1.018	1.019
	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100
Coil 3 P	0.035	0.074	0.122	0.157	0.175	0.122	0.087	0.083
	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000
Coil 4 M	1.028	1.028	1.027	1.027	1.026	1.025	1.025	1.025
	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100
Coil 4 P	0.020	0.084	0.101	0.141	0.159	0.181	0.148	0.104
	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000
Coil 5 M	1.031	1.031	1.031	1.030	1.030	1.031	1.029	1.030
	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100
Coil 5 P	0.025	-0.049	-0.016	-0.045	-0.101	-0.180	-0.196	-0.274
	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000
Coil 6 M	1.031	1.032	1.030	1.028	1.028	1.033	1.032	1.031
	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100	0.900 1.100
Coil 6 P	0.043	0.166	0.102	0.174	0.070	-0.011	-0.039	-0.226
	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000	-2.000 2.000

PARMS	TCID 0	TCID 1	Cal Temp (degF)	T Factor
IDs	2.171	0.805	96.9	1.04

INSTRUMENT CONFIGURATION

Source File: /dell1a/TexacoBrine/MRAA03/run1/m10rHdll-4dg

52.00'

CABLEHEAD 3 3/8 WITH SP

Diameter	: 3.38"
Length	: 2.00'
Weight	: 35 lbs
Series	: 3060ZZ
Mnemonic	: CH

SP — 51.69'

DOWNHOLE POWER ADAPTER

Diameter	: 3.62"
Length	: 6.27'
Weight	: 88 lbs
Series	: 4430XB
Mnemonic	: DHPA

TTRM SUB

Diameter	: 3.63"
Length	: 3.83'
Weight	: 62 lbs
Series	: 3981XA
Mnemonic	: TTRM

TEMP MP — 43.14'
RM MP — 42.89'

MTS COMMON REMOTE

Diameter	: 3.63"
Length	: 6.36'
Weight	: 126 lbs
Series	: 3514XB
Mnemonic	: MTS

DIGITAL SPECTRALOG

Diameter	: 3.63"
Length	: 7.31'
Weight	: 130 lbs
Series	: 1322XA
Mnemonic	: DSL

GR MP — 29.69'

HIGH DEFINITION INDUCTION TOOL

Diameter	: 3.62"
Length	: 27.13'
Weight	: 415 lbs
Series	: 16100A
Mnemonic	: HDIL

BULL PLUG 3 3/8

0.00'

TOTAL LENGTH: 52.86'
TOTAL WEIGHT: 862 lbs
MAX DIAMETER: 0'6.38"

INSTRUMENT CONFIGURATION

Source File: /dell1c/TexasBrine/MRAA03/run1/m1GrCaZdl-tdg

44.54'

CABLEHEAD 3 3/8 WITH SP
Diameter : 3.38"
Length : 2.00'
Weight : 35 lbs
Series : 306822
Mnemonic : CH

SP — 43.37'

DOWNHOLE POWER ADAPTER
Diameter : 3.62"
Length : 5.27'
Weight : 66 lbs
Series : 443008
Mnemonic : DHPA

TTRM SUB
Diameter : 3.63"
Length : 3.83'
Weight : 62 lbs
Series : 3981XA
Mnemonic : TTRM

TEMP MP — 34.81'
BM MP — 34.56'

MTS COMMON REMOTE
Diameter : 3.63"
Length : 6.38'
Weight : 128 lbs
Series : 351448
Mnemonic : MTS

DIGITAL SPECTRALOG

Diameter	: 3.63"
Length	: 7.31'
Weight	: 130 lbs
Series	: 13200XA
Mnemonic	: DSL

COMPENSATED NEUTRON

Diameter	: 3.63"
Length	: 7.59'
Weight	: 160 lbs
Series	: 24140XA
Mnemonic	: CN

Z-DENSILOG

Diameter	: 4.50"
Length	: 11.22'
Weight	: 380 lbs
Series	: 22340XA
Mnemonic	: ZDL

BULL PLUG 3 3/8

GR MP — 21.35'

LSN MP — 14.60'

SSN MP — 14.40'

CAL MP — 4.14'

LSD MP — 3.42'

SSD MP — 3.02'

0.00'

TOTAL LENGTH: 44.54'
TOTAL WEIGHT: 988 lbs
MAX DIAMETER: 0'6.38"

BAKER HUGHES EQUIPS	COMPANY	TEXAS BRINE COMPANY, LLC	FILE NO:
	WELL	MRAA-03	
	FIELD	NAPOLEONVILLE	API NO:
	PARISH	ASSUMPTION STATE LOUISIANA	
	LOCATION: LAT: 29.9894 LONG: -91.2689	ELEVATIONS: KB 5.5 FT DF 4.5 FT GL 4 FT	MEASURED DEPTH
	SEC 40 TWP 12S RGE 13E	DATE 17-JAN-2013	

NELAP CERTIFICATE NUMBER 01955
DOD ELAP CERTIFICATE NUMBER ADE - 1482

ANALYTICAL RESULTS

PERFORMED BY

GULF COAST ANALYTICAL LABORATORIES, INC.

7979 GSRI Avenue

Baton Rouge, LA 70820

Report Date 01/09/2013

GCAL Report 212122830

Deliver To	Texas Brine 4800 San Felipe Houston, TX 77074
Attn	Bruce Martin

Project 80-05 Assumption Parish Sinkho

CASE NARRATIVE

Client: Michael Pisani & Associates **Report:** 212122830

Gulf Coast Analytical Laboratories received and analyzed the sample(s) listed on the sample cross-reference page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

CONVENTIONALS

In the SW-846 9056A analysis, all samples had to be diluted in order to bracket the concentration within the calibration range of the instrument.

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with GCAL's Standard Operating Procedures.

Common Abbreviations Utilized in this Report

ND	Indicates the result was Not Detected at the specified RDL
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
RDL	Reporting Detection Limit
00:00	Reported as a time equivalent to 12:00 AM

Reporting Flags Utilized in this Report

J	Indicates the result is between the MDL and RDL
U	Indicates the compound was analyzed for but not detected
B	Indicates the analyte was detected in the associated Method Blank

Sample receipt at GCAL is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of GCAL. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with the NELAC standard and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.

_____

Robyn Migues
Technical Director
GCAL REPORT 212122830

Report Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283001	E-3(TR)	Water	12/28/2012 09:30	12/28/2012 13:14
21212283002	N-3 (TR)	Water	12/28/2012 09:39	12/28/2012 13:14
21212283003	NW-2 (TR)	Water	12/28/2012 09:46	12/28/2012 13:14
21212283004	NW-3 (TR)	Water	12/28/2012 09:53	12/28/2012 13:14
21212283005	NW-4 (TR)	Water	12/28/2012 10:01	12/28/2012 13:14
21212283006	W-2 (TR)	Water	12/28/2012 10:09	12/28/2012 13:14
21212283007	W-3 (TR)	Water	12/28/2012 10:15	12/28/2012 13:14
21212283008	W-4 (TR)	Water	12/28/2012 10:23	12/28/2012 13:14
21212283009	SW-3 (TR)	Water	12/28/2012 10:37	12/28/2012 13:14
21212283010	SW-4 (TR)	Water	12/28/2012 10:45	12/28/2012 13:14
21212283011	S-4 (TR)	Water	12/28/2012 10:56	12/28/2012 13:14
21212283012	BG-1 (TR)	Water	12/28/2012 11:07	12/28/2012 13:14
21212283013	BG-2 (TR)	Water	12/28/2012 11:15	12/28/2012 13:14

Summary of Compounds Detected

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283001	**E-3(TR)**	Water	12/28/2012 09:30	12/28/2012 13:14

SM 2540C TDS

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	Total Dissolved Solids(TDS)	2400	10.0		mg/L

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	Chloride	1450	100		mg/L

SM 2510 B Conductivity

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	4410	10		umhos/cm

SM 4500S H Hydrogen Sulfide

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	4410	10		umhos/cm
Temp	Temperature	20.0			Deg C
pH	pH	7.47	1.00		pH unit

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283002	**N-3 (TR)**	Water	12/28/2012 09:39	12/28/2012 13:14

SM 2540C TDS

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	Total Dissolved Solids(TDS)	2640	10.0		mg/L

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	Chloride	1590	50.0		mg/L

SM 2510 B Conductivity

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	4850	10		umhos/cm

SM 4500S H Hydrogen Sulfide

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	4850	10		umhos/cm

Summary of Compounds Detected (con't)

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283002	**N-3 (TR)**	Water	12/28/2012 09:39	12/28/2012 13:14

SM 4500S H Hydrogen Sulfide

CAS#	Parameter	Result	RDL	REG LIMIT	Units
Temp	Temperature	20.0			Deg C
pH	pH	6.82	1.00		pH unit

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283003	**NW-2 (TR)**	Water	12/28/2012 09:46	12/28/2012 13:14

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	Chloride	1490	50.0		mg/L

SM 2540C TDS

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	Total Dissolved Solids(TDS)	2550	10.0		mg/L

SM 2510 B Conductivity

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	4580	10		umhos/cm

TX1006/LA 1006

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	0.298	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	3.19	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	13.3	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	0.152	0.150		mg/L
GCSV-05-18	Aromatic >C21-C35	0.502	0.150		mg/L

SM 4500S H Hydrogen Sulfide

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	4580	10		umhos/cm
Temp	Temperature	20.0			Deg C
pH	pH	6.95	1.00		pH unit

Summary of Compounds Detected (con't)

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283004	NW-3 (TR)	Water	12/28/2012 09:53	12/28/2012 13:14

SM 2540C TDS

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	Total Dissolved Solids(TDS)	2280	10.0		mg/L

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	Chloride	1390	50.0		mg/L

SM 2510 B Conductivity

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	4240	10		umhos/cm

SM 4500S H Hydrogen Sulfide

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	4240	10		umhos/cm
Temp	Temperature	20.0			Deg C
pH	pH	6.97	1.00		pH unit

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283005	NW-4 (TR)	Water	12/28/2012 10:01	12/28/2012 13:14

SM 2540C TDS

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	Total Dissolved Solids(TDS)	2530	10.0		mg/L

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	Chloride	1480	50.0		mg/L

SM 2510 B Conductivity

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	4460	10		umhos/cm

SM 4500S H Hydrogen Sulfide

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	4460	10		umhos/cm

Summary of Compounds Detected (con't)

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283005	NW-4 (TR)	Water	12/28/2012 10:01	12/28/2012 13:14

SM 4500S H Hydrogen Sulfide

CAS#	Parameter	Result	RDL	REG LIMIT	Units
Temp	Temperature	0.00			Deg C
pH	pH	6.98	1.00		pH unit

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283006	W-2 (TR)	Water	12/28/2012 10:09	12/28/2012 13:14

SM 2540C TDS

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	Total Dissolved Solids(TDS)	2960	10.0		mg/L

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	Chloride	2040	50.0		mg/L

SM 2510 B Conductivity

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	5870	10		umhos/cm

SM 4500S H Hydrogen Sulfide

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	5870	10		umhos/cm
Temp	Temperature	20.0			Deg C
pH	pH	6.90	1.00		pH unit

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283007	W-3 (TR)	Water	12/28/2012 10:15	12/28/2012 13:14

SM 2540C TDS

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	Total Dissolved Solids(TDS)	2440	10.0		mg/L

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	Chloride	1550	50.0		mg/L

Summary of Compounds Detected (con't)

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283007	W-3 (TR)	Water	12/28/2012 10:15	12/28/2012 13:14

SM 2510 B Conductivity

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	4850	10		umhos/cm

TX1006/LA 1006

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	0.318	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	2.12	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	3.79	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	0.712	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	1.90	0.150		mg/L
GCSV-05-18	Aromatic >C21-C35	1.03	0.150		mg/L

SM 4500S H Hydrogen Sulfide

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	4850	10		umhos/cm
Temp	Temperature	0.00			Deg C
pH	pH	6.92	1.00		pH unit

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283008	W-4 (TR)	Water	12/28/2012 10:23	12/28/2012 13:14

SM 2540C TDS

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	Total Dissolved Solids(TDS)	1650	10.0		mg/L

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	Chloride	1070	50.0		mg/L

SM 2510 B Conductivity

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	3510	10		umhos/cm

SM 4500S H Hydrogen Sulfide

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	3510	10		umhos/cm
Temp	Temperature	20.0			Deg C
pH	pH	6.86	1.00		pH unit

Summary of Compounds Detected (con't)

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283009	**SW-3 (TR)**	Water	12/28/2012 10:37	12/28/2012 13:14

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	Chloride	311	10.0		mg/L

SM 2540C TDS

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	Total Dissolved Solids(TDS)	569	10.0		mg/L

SM 2510 B Conductivity

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	1236	10		umhos/cm

SM 4500S H Hydrogen Sulfide

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	1236	10		umhos/cm
Temp	Temperature	20.0			Deg C
pH	pH	7.02	1.00		pH unit

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283010	**SW-4 (TR)**	Water	12/28/2012 10:45	12/28/2012 13:14

SM 2540C TDS

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	Total Dissolved Solids(TDS)	401	10.0		mg/L

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	Chloride	209	10.0		mg/L

SM 2510 B Conductivity

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	892	10		umhos/cm

SM 4500S H Hydrogen Sulfide

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	892	10		umhos/cm

Summary of Compounds Detected (con't)

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283010	SW-4 (TR)	Water	12/28/2012 10:45	12/28/2012 13:14

SM 4500S H Hydrogen Sulfide

CAS#	Parameter	Result	RDL	REG LIMIT	Units
Temp	Temperature	20.0			Deg C
pH	pH	7.04	1.00		pH unit

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283011	S-4 (TR)	Water	12/28/2012 10:56	12/28/2012 13:14

SM 2540C TDS

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	Total Dissolved Solids(TDS)	450	10.0		mg/L

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	Chloride	244	20.0		mg/L

SM 2510 B Conductivity

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	999	10		umhos/cm

SM 4500S H Hydrogen Sulfide

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	999	10		umhos/cm
Temp	Temperature	20.0			Deg C
pH	pH	6.87	1.00		pH unit

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283012	BG-1 (TR)	Water	12/28/2012 11:07	12/28/2012 13:14

SM 2540C TDS

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	Total Dissolved Solids(TDS)	213	10.0		mg/L

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	Chloride	47.6	10.0		mg/L

Summary of Compounds Detected (con't)

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283012	**BG-1 (TR)**	Water	12/28/2012 11:07	12/28/2012 13:14

SM 2510 B Conductivity

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	470	10		umhos/cm

SM 4500S H Hydrogen Sulfide

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	470	10		umhos/cm
Temp	Temperature	20.0			Deg C
pH	pH	7.32	1.00		pH unit

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283013	**BG-2 (TR)**	Water	12/28/2012 11:15	12/28/2012 13:14

SW-846 9056A

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	Chloride	41.0	10.0		mg/L

SM 2540C TDS

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	Total Dissolved Solids(TDS)	206	10.0		mg/L

SM 2510 B Conductivity

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	455	10		umhos/cm

SM 4500S H Hydrogen Sulfide

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	Specific Conductance	455	10		umhos/cm
Temp	Temperature	20.0			Deg C
pH	pH	7.34	1.00		pH unit

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283001	**E-3(TR)**	Water	12/28/2012 09:30	12/28/2012 13:14

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/29/2012 13:46	CGC	498049

CAS#	Parameter	Result	RDL	REG LIMIT	Units
71-43-2	Benzene	ND	0.00500		mg/L
100-41-4	Ethylbenzene	ND	0.00500		mg/L
108-88-3	Toluene	ND	0.00500		mg/L
1330-20-7	Xylene (total)	ND	0.015		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	.05	.047	mg/L	94	78 - 130
1868-53-7	Dibromofluoromethane	.05	.052	mg/L	104	77 - 127
2037-26-5	Toluene d8	.05	.051	mg/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	.05	.051	mg/L	103	71 - 127

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/03/2013 11:45	498026	TX 1006/LA 1006	1	01/04/2013 18:00	SMH	498459

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	ND	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	ND	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	ND	0.150		mg/L
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	ND	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	ND	0.150		mg/L
GCSV-05-18	Aromatic >C21-C35	ND	0.150		mg/L
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	15.5	15.8	mg/L	102	60 - 140

SM 2540C TDS

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/31/2012 11:30	DJH	498129

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	**Total Dissolved Solids(TDS)**	**2400**	**10.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283001	**E-3(TR)**	Water	12/28/2012 09:30	12/28/2012 13:14

SM 2510 B Conductivity

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 16:10	DJH	497971

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	**Specific Conductance**	**4410**	**10**		**umhos/cm**

SM 4500S H Hydrogen Sulfide

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/02/2013 14:40	CALC	498238

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7783-06-4	Hydrogen Sulfide, Unionized	ND	2.00		mg S/L
C-011	**Specific Conductance**	**4410**	**10**		**umhos/cm**
18496-25-8	Sulfide	ND	2.00		mg/L
Temp	**Temperature**	**20.0**			**Deg C**
pH	**pH**	**7.47**	**1.00**		**pH unit**

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1000	12/31/2012 17:01	AEL	498156

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**1450**	**100**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283002	**N-3 (TR)**	Water	12/28/2012 09:39	12/28/2012 13:14

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/29/2012 14:06	CGC	498049

CAS#	Parameter	Result	RDL	REG LIMIT	Units
71-43-2	Benzene	ND	0.00500		mg/L
100-41-4	Ethylbenzene	ND	0.00500		mg/L
108-88-3	Toluene	ND	0.00500		mg/L
1330-20-7	Xylene (total)	ND	0.015		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	.05	.05	mg/L	100	78 - 130
1868-53-7	Dibromofluoromethane	.05	.053	mg/L	106	77 - 127
2037-26-5	Toluene d8	.05	.052	mg/L	103	76 - 134
17060-07-0	1,2-Dichloroethane-d4	.05	.051	mg/L	102	71 - 127

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/03/2013 11:45	498026	TX 1006/LA 1006	1	01/04/2013 19:05	SMH	498459

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	ND	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	ND	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	ND	0.150		mg/L
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	ND	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	ND	0.150		mg/L
GCSV-05-18	Aromatic >C21-C35	ND	0.150		mg/L
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	14.7	19.6	mg/L	133	60 - 140

SM 2540C TDS

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/31/2012 11:30	DJH	498129

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	**Total Dissolved Solids(TDS)**	**2640**	**10.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283002	**N-3 (TR)**	Water	12/28/2012 09:39	12/28/2012 13:14

SM 2510 B Conductivity

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 16:10	DJH	497971

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	**Specific Conductance**	**4850**	**10**		**umhos/cm**

SM 4500S H Hydrogen Sulfide

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/02/2013 14:40	CALC	498238

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7783-06-4	Hydrogen Sulfide, Unionized	ND	2.00		mg S/L
C-011	**Specific Conductance**	**4850**	**10**		**umhos/cm**
18496-25-8	Sulfide	ND	2.00		mg/L
Temp	**Temperature**	**20.0**			**Deg C**
pH	**pH**	**6.82**	**1.00**		**pH unit**

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			500	12/31/2012 17:54	AEL	498156

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**1590**	**50.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283003	**NW-2 (TR)**	Water	12/28/2012 09:46	12/28/2012 13:14

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/29/2012 14:26	CGC	498049

CAS#	Parameter	Result	RDL	REG LIMIT	Units
71-43-2	Benzene	ND	0.00500		mg/L
100-41-4	Ethylbenzene	ND	0.00500		mg/L
108-88-3	Toluene	ND	0.00500		mg/L
1330-20-7	Xylene (total)	ND	0.015		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	.05	.048	mg/L	96	78 - 130
1868-53-7	Dibromofluoromethane	.05	.05	mg/L	100	77 - 127
2037-26-5	Toluene d8	.05	.051	mg/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	.05	.051	mg/L	102	71 - 127

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/03/2013 11:45	498026	TX 1006/LA 1006	1	01/04/2013 21:12	SMH	498459

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	**Aliphatic >C10-C12**	**0.298**	**0.150**		**mg/L**
GCSV-02-12	**Aliphatic >C12-C16**	**3.19**	**0.150**		**mg/L**
GCSV-02-31	**Aliphatic >C16-C35**	**13.3**	**0.150**		**mg/L**
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	ND	0.150		mg/L
GCSV-02-17	**Aromatic >C16-C21**	**0.152**	**0.150**		**mg/L**
GCSV-05-18	**Aromatic >C21-C35**	**0.502**	**0.150**		**mg/L**
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	15	17.4	mg/L	116	60 - 140

SM 2540C TDS

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/31/2012 11:30	DJH	498129

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	**Total Dissolved Solids(TDS)**	**2550**	**10.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283003	**NW-2 (TR)**	Water	12/28/2012 09:46	12/28/2012 13:14

SM 2510 B Conductivity

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 16:10	DJH	497971

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	**Specific Conductance**	**4580**	**10**		**umhos/cm**

SM 4500S H Hydrogen Sulfide

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/02/2013 14:40	CALC	498238

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7783-06-4	Hydrogen Sulfide, Unionized	ND	2.00		mg S/L
C-011	**Specific Conductance**	**4580**	**10**		**umhos/cm**
18496-25-8	Sulfide	ND	2.00		mg/L
Temp	**Temperature**	**20.0**			**Deg C**
pH	**pH**	**6.95**	**1.00**		**pH unit**

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			500	12/31/2012 18:11	AEL	498156

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**1490**	**50.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283004	**NW-3 (TR)**	Water	12/28/2012 09:53	12/28/2012 13:14

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/29/2012 14:46	CGC	498049

CAS#	Parameter	Result	RDL	REG LIMIT	Units
71-43-2	Benzene	ND	0.00500		mg/L
100-41-4	Ethylbenzene	ND	0.00500		mg/L
108-88-3	Toluene	ND	0.00500		mg/L
1330-20-7	Xylene (total)	ND	0.015		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	.05	.048	mg/L	96	78 - 130
1868-53-7	Dibromofluoromethane	.05	.052	mg/L	104	77 - 127
2037-26-5	Toluene d8	.05	.05	mg/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	.05	.051	mg/L	102	71 - 127

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/03/2013 11:45	498026	TX 1006/LA 1006	1	01/04/2013 22:15	SMH	498459

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	ND	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	ND	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	ND	0.150		mg/L
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	ND	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	ND	0.150		mg/L
GCSV-05-18	Aromatic >C21-C35	ND	0.150		mg/L
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	15.5	18.1	mg/L	117	60 - 140

SM 2540C TDS

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/31/2012 11:30	DJH	498129

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	**Total Dissolved Solids(TDS)**	**2280**	**10.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283004	**NW-3 (TR)**	Water	12/28/2012 09:53	12/28/2012 13:14

SM 2510 B Conductivity

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 16:10	DJH	497971

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	**Specific Conductance**	**4240**	**10**		**umhos/cm**

SM 4500S H Hydrogen Sulfide

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/02/2013 14:40	CALC	498238

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7783-06-4	Hydrogen Sulfide, Unionized	ND	2.00		mg S/L
C-011	**Specific Conductance**	**4240**	**10**		**umhos/cm**
18496-25-8	Sulfide	ND	2.00		mg/L
Temp	**Temperature**	**20.0**			**Deg C**
pH	**pH**	**6.97**	**1.00**		**pH unit**

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			500	12/31/2012 18:29	AEL	498156

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**1390**	**50.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283005	**NW-4 (TR)**	Water	12/28/2012 10:01	12/28/2012 13:14

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/29/2012 15:09	CGC	498049

CAS#	Parameter	Result	RDL	REG LIMIT	Units
71-43-2	Benzene	ND	0.00500		mg/L
100-41-4	Ethylbenzene	ND	0.00500		mg/L
108-88-3	Toluene	ND	0.00500		mg/L
1330-20-7	Xylene (total)	ND	0.015		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	.05	.049	mg/L	97	78 - 130
1868-53-7	Dibromofluoromethane	.05	.052	mg/L	104	77 - 127
2037-26-5	Toluene d8	.05	.05	mg/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	.05	.052	mg/L	104	71 - 127

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/03/2013 11:45	498026	TX 1006/LA 1006	1	01/04/2013 23:17	SMH	498459

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	ND	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	ND	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	ND	0.150		mg/L
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	ND	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	ND	0.150		mg/L
GCSV-05-18	Aromatic >C21-C35	ND	0.150		mg/L
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	14.7	11.8	mg/L	80	60 - 140

SM 2540C TDS

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/31/2012 11:30	DJH	498129

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	**Total Dissolved Solids(TDS)**	**2530**	**10.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283005	**NW-4 (TR)**	Water	12/28/2012 10:01	12/28/2012 13:14

SM 2510 B Conductivity

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 16:10	DJH	497971

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	**Specific Conductance**	**4460**	**10**		**umhos/cm**

SM 4500S H Hydrogen Sulfide

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/02/2013 14:40	CALC	498238

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7783-06-4	Hydrogen Sulfide, Unionized	ND	2.00		mg S/L
C-011	**Specific Conductance**	**4460**	**10**		**umhos/cm**
18496-25-8	Sulfide	ND	2.00		mg/L
Temp	**Temperature**	**0.00**			**Deg C**
pH	**pH**	**6.98**	**1.00**		**pH unit**

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			500	12/31/2012 18:47	AEL	498156

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**1480**	**50.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283006	**W-2 (TR)**	Water	12/28/2012 10:09	12/28/2012 13:14

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/29/2012 15:29	CGC	498049

CAS#	Parameter	Result	RDL	REG LIMIT	Units
71-43-2	Benzene	ND	0.00500		mg/L
100-41-4	Ethylbenzene	ND	0.00500		mg/L
108-88-3	Toluene	ND	0.00500		mg/L
1330-20-7	Xylene (total)	ND	0.015		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	.05	.049	mg/L	99	78 - 130
1868-53-7	Dibromofluoromethane	.05	.052	mg/L	104	77 - 127
2037-26-5	Toluene d8	.05	.05	mg/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	.05	.052	mg/L	104	71 - 127

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/03/2013 11:45	498026	TX 1006/LA 1006	1	01/05/2013 00:19	SMH	498459

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	ND	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	ND	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	ND	0.150		mg/L
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	ND	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	ND	0.150		mg/L
GCSV-05-18	Aromatic >C21-C35	ND	0.150		mg/L
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	15.6	12.9	mg/L	83	60 - 140

SM 2540C TDS

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/31/2012 11:30	DJH	498129

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	**Total Dissolved Solids(TDS)**	**2960**	**10.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283006	**W-2 (TR)**	Water	12/28/2012 10:09	12/28/2012 13:14

SM 2510 B Conductivity

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 16:10	DJH	497971

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	**Specific Conductance**	**5870**	**10**		**umhos/cm**

SM 4500S H Hydrogen Sulfide

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/02/2013 14:40	CALC	498238

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7783-06-4	Hydrogen Sulfide, Unionized	ND	2.00		mg S/L
C-011	**Specific Conductance**	**5870**	**10**		**umhos/cm**
18496-25-8	Sulfide	ND	2.00		mg/L
Temp	**Temperature**	**20.0**			**Deg C**
pH	**pH**	**6.90**	**1.00**		**pH unit**

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			500	12/31/2012 19:04	AEL	498156

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**2040**	**50.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283007	**W-3 (TR)**	Water	12/28/2012 10:15	12/28/2012 13:14

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/29/2012 15:49	CGC	498049

CAS#	Parameter	Result	RDL	REG LIMIT	Units
71-43-2	Benzene	ND	0.00500		mg/L
100-41-4	Ethylbenzene	ND	0.00500		mg/L
108-88-3	Toluene	ND	0.00500		mg/L
1330-20-7	Xylene (total)	ND	0.015		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	.05	.05	mg/L	99	78 - 130
1868-53-7	Dibromofluoromethane	.05	.053	mg/L	106	77 - 127
2037-26-5	Toluene d8	.05	.051	mg/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	.05	.053	mg/L	105	71 - 127

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/03/2013 11:45	498026	TX 1006/LA 1006	1	01/05/2013 01:22	SMH	498459

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	**Aliphatic >C10-C12**	**0.318**	**0.150**		**mg/L**
GCSV-02-12	**Aliphatic >C12-C16**	**2.12**	**0.150**		**mg/L**
GCSV-02-31	**Aliphatic >C16-C35**	**3.79**	**0.150**		**mg/L**
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	**Aromatic >C12-C16**	**0.712**	**0.150**		**mg/L**
GCSV-02-17	**Aromatic >C16-C21**	**1.90**	**0.150**		**mg/L**
GCSV-05-18	**Aromatic >C21-C35**	**1.03**	**0.150**		**mg/L**
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	15.2	19.5	mg/L	129	60 - 140

SM 2540C TDS

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/31/2012 11:30	DJH	498129

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	**Total Dissolved Solids(TDS)**	**2440**	**10.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283007	**W-3 (TR)**	Water	12/28/2012 10:15	12/28/2012 13:14

SM 2510 B Conductivity

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 16:10	DJH	497971

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	**Specific Conductance**	**4850**	**10**		**umhos/cm**

SM 4500S H Hydrogen Sulfide

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/02/2013 14:40	CALC	498238

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7783-06-4	Hydrogen Sulfide, Unionized	ND	2.00		mg S/L
C-011	**Specific Conductance**	**4850**	**10**		**umhos/cm**
18496-25-8	Sulfide	ND	2.00		mg/L
Temp	**Temperature**	**0.00**			**Deg C**
pH	**pH**	**6.92**	**1.00**		**pH unit**

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			500	12/31/2012 19:57	AEL	498156

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**1550**	**50.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283008	**W-4 (TR)**	Water	12/28/2012 10:23	12/28/2012 13:14

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/29/2012 16:09	CGC	498049

CAS#	Parameter	Result	RDL	REG LIMIT	Units
71-43-2	Benzene	ND	0.00500		mg/L
100-41-4	Ethylbenzene	ND	0.00500		mg/L
108-88-3	Toluene	ND	0.00500		mg/L
1330-20-7	Xylene (total)	ND	0.015		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	.05	.048	mg/L	96	78 - 130
1868-53-7	Dibromofluoromethane	.05	.052	mg/L	104	77 - 127
2037-26-5	Toluene d8	.05	.05	mg/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	.05	.051	mg/L	103	71 - 127

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/03/2013 11:45	498026	TX 1006/LA 1006	1	01/07/2013 11:08	SMH	498522

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	ND	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	ND	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	ND	0.150		mg/L
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	ND	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	ND	0.150		mg/L
GCSV-05-18	Aromatic >C21-C35	ND	0.150		mg/L
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	14.7	13.6	mg/L	93	60 - 140

SM 2540C TDS

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/31/2012 11:30	DJH	498129

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	**Total Dissolved Solids(TDS)**	**1650**	**10.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283008	**W-4 (TR)**	Water	12/28/2012 10:23	12/28/2012 13:14

SM 2510 B Conductivity

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 16:10	DJH	497971

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	**Specific Conductance**	**3510**	**10**		**umhos/cm**

SM 4500S H Hydrogen Sulfide

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/02/2013 14:40	CALC	498238

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7783-06-4	Hydrogen Sulfide, Unionized	ND	2.00		mg S/L
C-011	**Specific Conductance**	**3510**	**10**		**umhos/cm**
18496-25-8	Sulfide	ND	2.00		mg/L
Temp	**Temperature**	**20.0**			**Deg C**
pH	**pH**	**6.86**	**1.00**		**pH unit**

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			500	12/31/2012 20:15	AEL	498156

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**1070**	**50.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283009	**SW-3 (TR)**	Water	12/28/2012 10:37	12/28/2012 13:14

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/29/2012 16:29	CGC	498049

CAS#	Parameter	Result	RDL	REG LIMIT	Units
71-43-2	Benzene	ND	0.00500		mg/L
100-41-4	Ethylbenzene	ND	0.00500		mg/L
108-88-3	Toluene	ND	0.00500		mg/L
1330-20-7	Xylene (total)	ND	0.015		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	.05	.048	mg/L	96	78 - 130
1868-53-7	Dibromofluoromethane	.05	.052	mg/L	103	77 - 127
2037-26-5	Toluene d8	.05	.051	mg/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	.05	.051	mg/L	103	71 - 127

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/03/2013 11:45	498026	TX 1006/LA 1006	1	01/07/2013 12:13	SMH	498522

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	ND	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	ND	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	ND	0.150		mg/L
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	ND	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	ND	0.150		mg/L
GCSV-05-18	Aromatic >C21-C35	ND	0.150		mg/L
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	15.4	19.6	mg/L	127	60 - 140

SM 2540C TDS

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/31/2012 11:30	DJH	498129

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	**Total Dissolved Solids(TDS)**	**569**	**10.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283009	**SW-3 (TR)**	Water	12/28/2012 10:37	12/28/2012 13:14

SM 2510 B Conductivity

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 16:35	DJH	498022

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	**Specific Conductance**	**1236**	**10**		**umhos/cm**

SM 4500S H Hydrogen Sulfide

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/02/2013 14:40	CALC	498238

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7783-06-4	Hydrogen Sulfide, Unionized	ND	2.00		mg S/L
C-011	**Specific Conductance**	**1236**	**10**		**umhos/cm**
18496-25-8	Sulfide	ND	2.00		mg/L
Temp	**Temperature**	**20.0**			**Deg C**
pH	**pH**	**7.02**	**1.00**		**pH unit**

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			100	12/31/2012 20:32	AEL	498156

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**311**	**10.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283010	**SW-4 (TR)**	Water	12/28/2012 10:45	12/28/2012 13:14

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/29/2012 16:49	CGC	498049

CAS#	Parameter	Result	RDL	REG LIMIT	Units
71-43-2	Benzene	ND	0.00500		mg/L
100-41-4	Ethylbenzene	ND	0.00500		mg/L
108-88-3	Toluene	ND	0.00500		mg/L
1330-20-7	Xylene (total)	ND	0.015		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	.05	.048	mg/L	97	78 - 130
1868-53-7	Dibromofluoromethane	.05	.052	mg/L	105	77 - 127
2037-26-5	Toluene d8	.05	.051	mg/L	102	76 - 134
17060-07-0	1,2-Dichloroethane-d4	.05	.052	mg/L	105	71 - 127

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/03/2013 11:45	498026	TX 1006/LA 1006	1	01/07/2013 13:19	SMH	498522

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	ND	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	ND	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	ND	0.150		mg/L
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	ND	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	ND	0.150		mg/L
GCSV-05-18	Aromatic >C21-C35	ND	0.150		mg/L
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	15.9	19.2	mg/L	121	60 - 140

SM 2540C TDS

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/31/2012 11:30	DJH	498129

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	**Total Dissolved Solids(TDS)**	**401**	**10.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283010	**SW-4 (TR)**	Water	12/28/2012 10:45	12/28/2012 13:14

SM 2510 B Conductivity

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 16:35	DJH	498022

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	**Specific Conductance**	**892**	**10**		**umhos/cm**

SM 4500S H Hydrogen Sulfide

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/02/2013 14:40	CALC	498238

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7783-06-4	Hydrogen Sulfide, Unionized	ND	2.00		mg S/L
C-011	**Specific Conductance**	**892**	**10**		**umhos/cm**
18496-25-8	Sulfide	ND	2.00		mg/L
Temp	**Temperature**	**20.0**			**Deg C**
pH	**pH**	**7.04**	**1.00**		**pH unit**

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			100	12/31/2012 20:50	AEL	498156

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**209**	**10.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283011	**S-4 (TR)**	Water	12/28/2012 10:56	12/28/2012 13:14

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/29/2012 17:09	CGC	498049

CAS#	Parameter	Result	RDL	REG LIMIT	Units
71-43-2	Benzene	ND	0.00500		mg/L
100-41-4	Ethylbenzene	ND	0.00500		mg/L
108-88-3	Toluene	ND	0.00500		mg/L
1330-20-7	Xylene (total)	ND	0.015		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	.05	.047	mg/L	95	78 - 130
1868-53-7	Dibromofluoromethane	.05	.052	mg/L	103	77 - 127
2037-26-5	Toluene d8	.05	.05	mg/L	100	76 - 134
17060-07-0	1,2-Dichloroethane-d4	.05	.051	mg/L	103	71 - 127

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/03/2013 11:45	498026	TX 1006/LA 1006	1	01/07/2013 14:20	SMH	498522

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	ND	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	ND	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	ND	0.150		mg/L
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	ND	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	ND	0.150		mg/L
GCSV-05-18	Aromatic >C21-C35	ND	0.150		mg/L
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	14.6	13	mg/L	89	60 - 140

SM 2540C TDS

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/31/2012 11:30	DJH	498129

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	**Total Dissolved Solids(TDS)**	**450**	**10.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283011	**S-4 (TR)**	Water	12/28/2012 10:56	12/28/2012 13:14

SM 2510 B Conductivity

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 16:35	DJH	498022

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	**Specific Conductance**	**999**	**10**		**umhos/cm**

SM 4500S H Hydrogen Sulfide

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/02/2013 14:40	CALC	498238

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7783-06-4	Hydrogen Sulfide, Unionized	ND	2.00		mg S/L
C-011	**Specific Conductance**	**999**	**10**		**umhos/cm**
18496-25-8	Sulfide	ND	2.00		mg/L
Temp	**Temperature**	**20.0**			**Deg C**
pH	**pH**	**6.87**	**1.00**		**pH unit**

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			200	12/31/2012 21:08	AEL	498156

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**244**	**20.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283012	**BG-1 (TR)**	Water	12/28/2012 11:07	12/28/2012 13:14

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/29/2012 17:29	CGC	498049

CAS#	Parameter	Result	RDL	REG LIMIT	Units
71-43-2	Benzene	ND	0.00500		mg/L
100-41-4	Ethylbenzene	ND	0.00500		mg/L
108-88-3	Toluene	ND	0.00500		mg/L
1330-20-7	Xylene (total)	ND	0.015		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	.05	.047	mg/L	95	78 - 130
1868-53-7	Dibromofluoromethane	.05	.054	mg/L	107	77 - 127
2037-26-5	Toluene d8	.05	.05	mg/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	.05	.051	mg/L	103	71 - 127

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/03/2013 11:45	498026	TX 1006/LA 1006	1	01/07/2013 15:22	SMH	498522

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	ND	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	ND	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	ND	0.150		mg/L
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	ND	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	ND	0.150		mg/L
GCSV-05-18	Aromatic >C21-C35	ND	0.150		mg/L
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	14.8	14.7	mg/L	99	60 - 140

SM 2540C TDS

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/31/2012 11:30	DJH	498129

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	**Total Dissolved Solids(TDS)**	**213**	**10.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283012	**BG-1 (TR)**	Water	12/28/2012 11:07	12/28/2012 13:14

SM 2510 B Conductivity

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 16:35	DJH	498022

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	**Specific Conductance**	**470**	**10**		**umhos/cm**

SM 4500S H Hydrogen Sulfide

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/02/2013 14:40	CALC	498238

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7783-06-4	Hydrogen Sulfide, Unionized	ND	2.00		mg S/L
C-011	**Specific Conductance**	**470**	**10**		**umhos/cm**
18496-25-8	Sulfide	ND	2.00		mg/L
Temp	**Temperature**	**20.0**			**Deg C**
pH	**pH**	**7.32**	**1.00**		**pH unit**

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			100	12/31/2012 22:00	AEL	498156

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**47.6**	**10.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283013	**BG-2 (TR)**	Water	12/28/2012 11:15	12/28/2012 13:14

SW-846 8260B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/29/2012 17:49	CGC	498049

CAS#	Parameter	Result	RDL	REG LIMIT	Units
71-43-2	Benzene	ND	0.00500		mg/L
100-41-4	Ethylbenzene	ND	0.00500		mg/L
108-88-3	Toluene	ND	0.00500		mg/L
1330-20-7	Xylene (total)	ND	0.015		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
460-00-4	4-Bromofluorobenzene	.05	.048	mg/L	96	78 - 130
1868-53-7	Dibromofluoromethane	.05	.052	mg/L	105	77 - 127
2037-26-5	Toluene d8	.05	.051	mg/L	101	76 - 134
17060-07-0	1,2-Dichloroethane-d4	.05	.053	mg/L	106	71 - 127

TX1006/LA 1006

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
01/03/2013 11:45	498026	TX 1006/LA 1006	1	01/07/2013 17:29	SMH	498522

CAS#	Parameter	Result	RDL	REG LIMIT	Units
GCSV-02-11	Aliphatic >C10-C12	ND	0.150		mg/L
GCSV-02-12	Aliphatic >C12-C16	ND	0.150		mg/L
GCSV-02-31	Aliphatic >C16-C35	ND	0.150		mg/L
GCSV-02-10	Aliphatic >C8-C10	ND	0.150		mg/L
GCSV-02-30	Aliphatic C6-C8	ND	0.150		mg/L
GCSV-02-15	Aromatic >C10-C12	ND	0.150		mg/L
GCSV-02-16	Aromatic >C12-C16	ND	0.150		mg/L
GCSV-02-17	Aromatic >C16-C21	ND	0.150		mg/L
GCSV-05-18	Aromatic >C21-C35	ND	0.150		mg/L
GCSV-02-14	Aromatic >C8-C10	ND	0.150		mg/L

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	15.1	13.9	mg/L	92	60 - 140

SM 2540C TDS

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/31/2012 11:30	DJH	498129

CAS#	Parameter	Result	RDL	REG LIMIT	Units
WET-035	**Total Dissolved Solids(TDS)**	**206**	**10.0**		**mg/L**

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21212283013	**BG-2 (TR)**	Water	12/28/2012 11:15	12/28/2012 13:14

SM 2510 B Conductivity

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	12/28/2012 16:35	DJH	498022

CAS#	Parameter	Result	RDL	REG LIMIT	Units
C-011	**Specific Conductance**	**455**	**10**		**umhos/cm**

SM 4500S H Hydrogen Sulfide

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			1	01/02/2013 14:40	CALC	498238

CAS#	Parameter	Result	RDL	REG LIMIT	Units
7783-06-4	Hydrogen Sulfide, Unionized	ND	2.00		mg S/L
C-011	**Specific Conductance**	**455**	**10**		**umhos/cm**
18496-25-8	Sulfide	ND	2.00		mg/L
Temp	**Temperature**	**20.0**			**Deg C**
pH	**pH**	**7.34**	**1.00**		**pH unit**

SW-846 9056A

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
			100	12/31/2012 22:18	AEL	498156

CAS#	Parameter	Result	RDL	REG LIMIT	Units
16887-00-6	**Chloride**	**41.0**	**10.0**		**mg/L**

GC/MS Volatiles Quality Control Summary

Analytical Batch	498049	**Client ID**	MB498049			LCS498049			LCSD498049		
Prep Batch	N/A	**GCAL ID**	1145736			1145737			1145738		
		Sample Type	Method Blank			LCS			LCSD		
		Analytical Date	12/29/2012 12:59			12/29/2012 11:16			12/29/2012 11:36		
		Matrix	Water			Water			Water		
SW-846 8260B		**Units**	mg/L		**Spike**	**Result**		**Control**	**Result**			**RPD**
		Result	**RDL**		**Added**		**% R**	**Limits % R**		**% R**	**RPD**	**Limit**
100-41-4	Ethylbenzene	ND	0.00500		0.050	0.059	118	74 - 126	0.052	104	13	30
1330-20-7	Xylene (total)	ND	0.015		0.150	0.157	105	74 - 127	0.140	93	11	30
75-35-4	1,1-Dichloroethene	ND	0.00500		0.050	0.058	117	69 - 129	0.053	106	9	20
71-43-2	Benzene	ND	0.00500		0.050	0.059	118	70 - 129	0.055	110	7	20
79-01-6	Trichloroethene	ND	0.00500		0.050	0.059	118	76 - 129	0.055	109	7	20
108-88-3	Toluene	ND	0.00500		0.050	0.053	106	72 - 120	0.050	100	6	20
108-90-7	Chlorobenzene	ND	0.00500		0.050	0.053	106	74 - 123	0.050	100	6	20
Surrogate												
460-00-4	4-Bromofluorobenzene	48.5	97		50	50	100	78 - 130	51.5	103		
1868-53-7	Dibromofluoromethane	54.5	109		50	52.9	106	77 - 127	53.7	107		
2037-26-5	Toluene d8	50.5	101		50	47.1	94	76 - 134	47.6	95		
17060-07-0	1,2-Dichloroethane-d4	50.9	102		50	50.5	101	71 - 127	50.2	100		

General Chromatography Quality Control Summary

Analytical Batch	498459	**Client ID**	MB498026			LCS498026			LCSD498026			
Prep Batch	498026	**GCAL ID**	1145661			1145662			1145663			
Prep Method	TX 1006/LA 1006	**Sample Type**	Method Blank			LCS			LCSD			
		Prep Date	01/03/2013 11:45			01/03/2013 11:45			01/03/2013 11:45			
		Analytical Date	01/04/2013 14:45			01/04/2013 15:49			01/04/2013 16:55			
		Matrix	Water			Water			Water			
TX1006/LA 1006		**Units**	**Result**	mg/L **RDL**	**Spike Added**	**Result**	**% R**	**Control Limits % R**	**Result**	**% R**	**RPD**	**RPD Limit**
GCSV-02-30	Aliphatic C6-C8		ND	0.150								
GCSV-02-10	Aliphatic >C8-C10		ND	0.150								
GCSV-02-11	Aliphatic >C10-C12		ND	0.150								
GCSV-02-12	Aliphatic >C12-C16		ND	0.150								
GCSV-02-31	Aliphatic >C16-C35		ND	0.150								
GCSV-02-14	Aromatic >C8-C10		ND	0.150								
GCSV-02-15	Aromatic >C10-C12		ND	0.150								
GCSV-02-16	Aromatic >C12-C16		ND	0.150								
GCSV-02-17	Aromatic >C16-C21		ND	0.150								
GCSV-05-18	Aromatic >C21-C35		ND	0.150								
GCSV-05-04	Total TPH (C6-C35)		ND	0.150	59.7	50.0	84	60 - 140	56.2	95	12	20
Surrogate												
84-15-1	o-Terphenyl		15300	102	14900	14300	96	60 - 140	18600	126		

General Chemistry Quality Control Summary

Analytical Batch 498129	**Client ID**	MB498129			LCS498129		
Prep Batch N/A	**GCAL ID**	1145976			1145977		
	Sample Type	Method Blank			LCS		
	Analytical Date	12/31/2012 11:30			12/31/2012 11:30		
	Matrix	Water			Water		
SM 2540C TDS		**Units**	mg/L	**Spike**	**Result**		**Control**
		Result	**RDL**	**Added**		**% R**	**Limits % R**
WET-035	Total Dissolved Solids(TDS)	ND	10.0	1000	951	95.1	80 - 120

Analytical Batch 498129	**Client ID**	001C		1145372DUP		
Prep Batch N/A	**GCAL ID**	21212281102		1145978		
	Sample Type	SAMPLE		DUP		
	Analytical Date	12/31/2012 11:30		12/31/2012 11:30		
	Matrix	Water		Water		
SM 2540C TDS		**Units**	mg/L	**Result**		**RPD**
		Result	**RDL**		**RPD**	**Limit**
WET-035	Total Dissolved Solids(TDS)	22100	100	21600	2.3	5

General Chemistry Quality Control Summary

Analytical Batch 497971	**Client ID**	MW-1A		1145013DUP		
Prep Batch N/A	**GCAL ID**	21212272801		1145353		
	Sample Type	SAMPLE		DUP		
	Analytical Date	12/28/2012 10:40		12/28/2012 10:40		
	Matrix	Water		Water		
SM 2510 B Conductivity		**Units**	umhos/cm	**Result**		**RPD**
		Result	**RDL**		**RPD**	**Limit**
C-011	Specific Conductance	968	10	967	0.1	10

Analytical Batch 498022	**Client ID**	SW-3 (TR)		1145568DUP		
Prep Batch N/A	**GCAL ID**	21212283009		1145651		
	Sample Type	SAMPLE		DUP		
	Analytical Date	12/28/2012 16:35		12/28/2012 16:35		
	Matrix	Water		Water		
SM 2510 B Conductivity		**Units**	umhos/cm	**Result**		**RPD**
		Result	**RDL**		**RPD**	**Limit**
C-011	Specific Conductance	1236	10	1239	0.2	10

General Chemistry Quality Control Summary

Analytical Batch 498238	**Client ID**	E-3(TR)	1145560DUP	
Prep Batch N/A	**GCAL ID**	21212283001	1146280	
	Sample Type	SAMPLE	DUP	
	Analytical Date	01/02/2013 14:40	01/02/2013 14:40	
	Matrix	Water	Water	

SM 4500S H Hydrogen Sulfide		**Units**	pH unit	**Result**		**RPD**
		Result	**RDL**		**RPD**	**Limit**
pH	pH	7.47	1.00	7.48	0.1	6
18496-25-8	Sulfide	0.000	2.00	0.000	0	25
C-011	Specific Conductance	4410	10	4410	0	25
Temp	Temperature	20.0		20.0	0.00	
7783-06-4	Hydrogen Sulfide, Unionized	0.000	2.00	0.000	0	25

General Chemistry Quality Control Summary

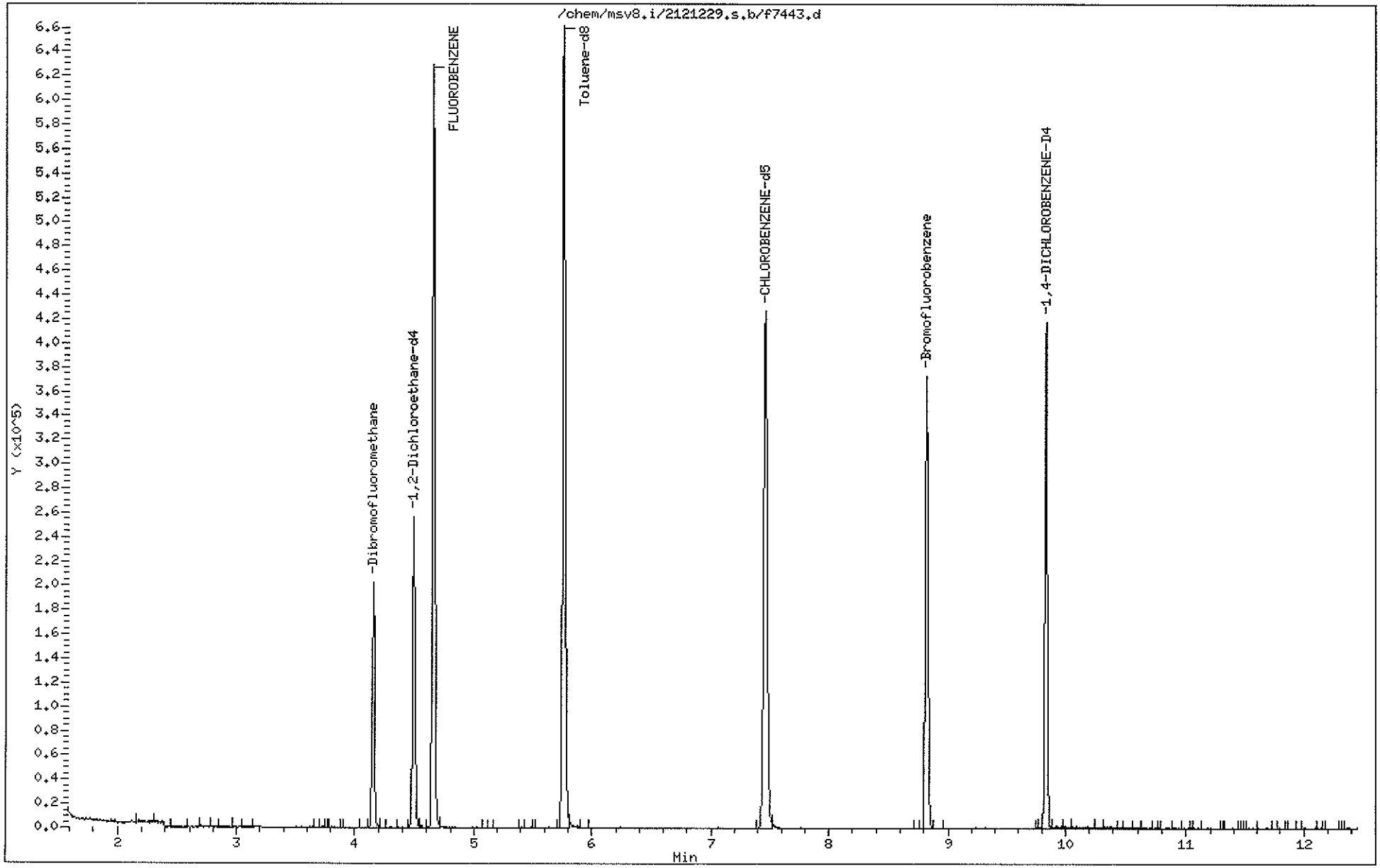
Analytical Batch 498156	**Client ID**	MB498156			LCS498156		
Prep Batch N/A	**GCAL ID**	1146050			1146051		
	Sample Type	Method Blank			LCS		
	Analytical Date	12/31/2012 16:26			12/31/2012 16:43		
	Matrix	Water			Water		
SW-846 9056A		**Units**	mg/L	**Spike**	**Result**		**Control**
		Result	**RDL**	**Added**		**% R**	**Limits % R**
16887-00-6 Chloride		ND	0.100	2.50	2.50	99.8	80 - 120

Analytical Batch 498156	**Client ID**	E-3(TR)			1145560MS			1145560MSD			
Prep Batch N/A	**GCAL ID**	21212283001			1146052			1146053			
	Sample Type	SAMPLE			MS			MSD			
	Analytical Date	12/31/2012 17:01			12/31/2012 17:19			12/31/2012 17:36			
	Matrix	Water			Water			Water			
SW-846 9056A		**Units**	mg/L	**Spike**	**Result**		**Control**	**Result**			**RPD**
		Result	**RDL**	**Added**		**% R**	**Limits % R**		**% R**	**RPD**	**Limit**
16887-00-6 Chloride		1450	100	2500	4010	102	75 - 125	4080	105	1.7	15

Analytical Batch 498156	**Client ID**	S-4 (TR)			1145570MS			1145570MSD			
Prep Batch N/A	**GCAL ID**	21212283011			1146054			1146055			
	Sample Type	SAMPLE			MS			MSD			
	Analytical Date	12/31/2012 21:08			12/31/2012 21:25			12/31/2012 21:43			
	Matrix	Water			Water			Water			
SW-846 9056A		**Units**	mg/L	**Spike**	**Result**		**Control**	**Result**			**RPD**
		Result	**RDL**	**Added**		**% R**	**Limits % R**		**% R**	**RPD**	**Limit**
16887-00-6 Chloride		244	20.0	500	746	100	75 - 125	758	103	1.6	15

Data File: /chem/msv8.i/2121229.s.b/f7443.d
Date : 29-DEC-2012 13:46
Client ID:
Sample Info: 21212283001*
Purge Volume: 5.0
Column phase: RTX-VMS-30M

Instrument: msv8.i
Operator: CGC
Column diameter: 0.25



Data File: /chem/gcsv20a.i/2130104.b/sv20a018.d

Date : 04-JAN-2013 18:00

Client ID:

Instrument: gcsv20a.i

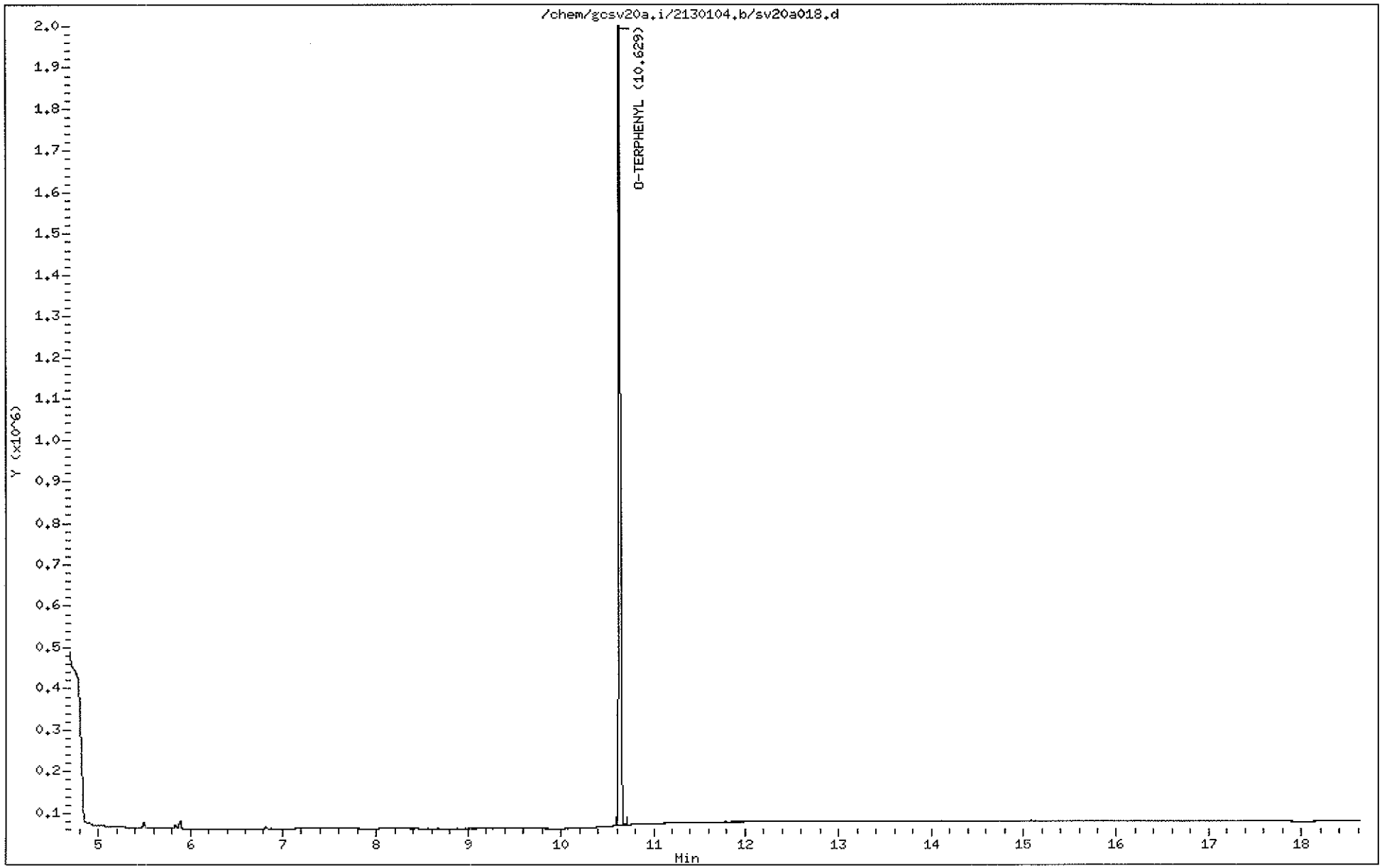
Sample Info: 21212283001*1

Volume Injected (uL): 1.0

Operator: smh

Column phase: DB-5MS-30M

Column diameter: 0.25



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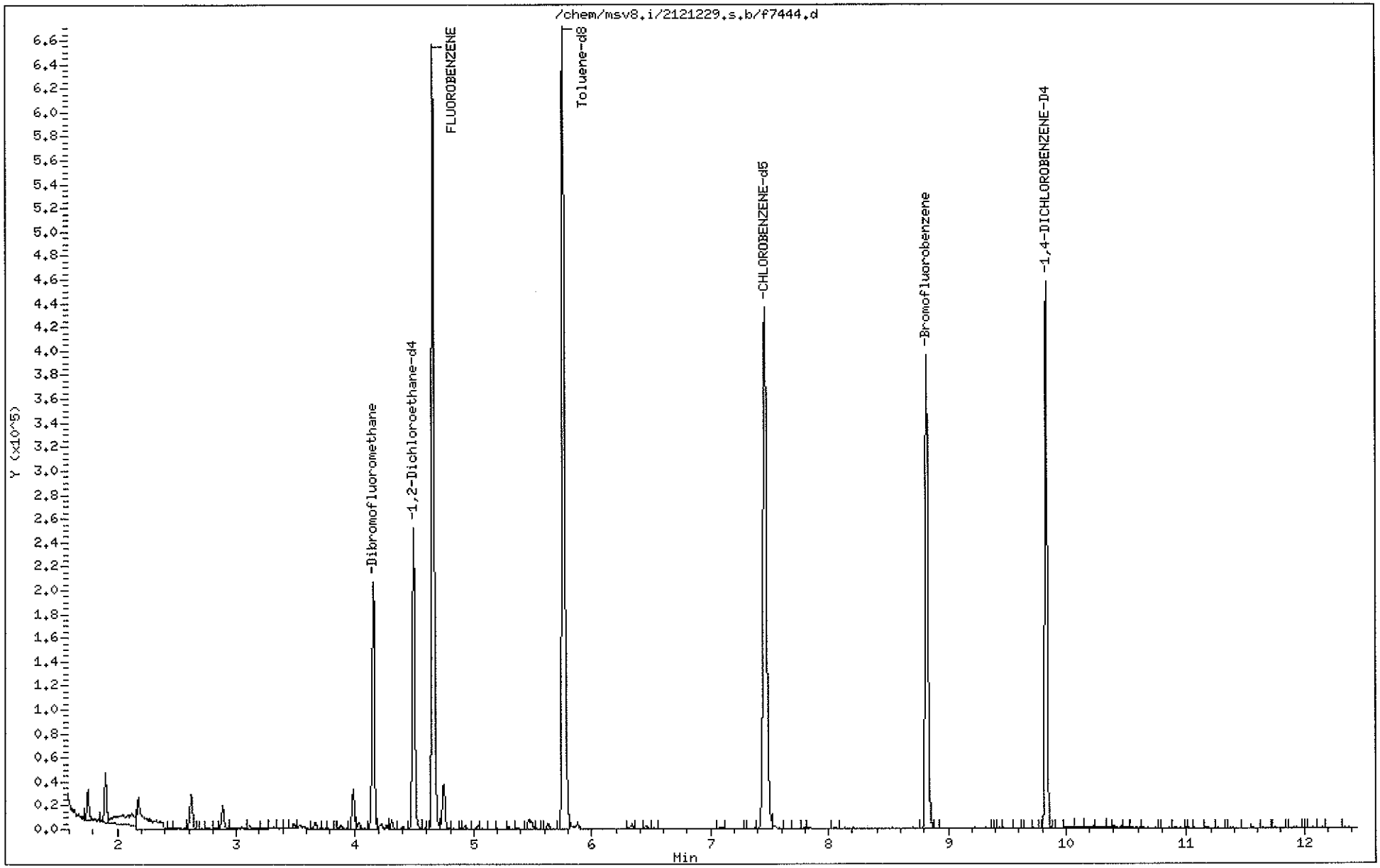
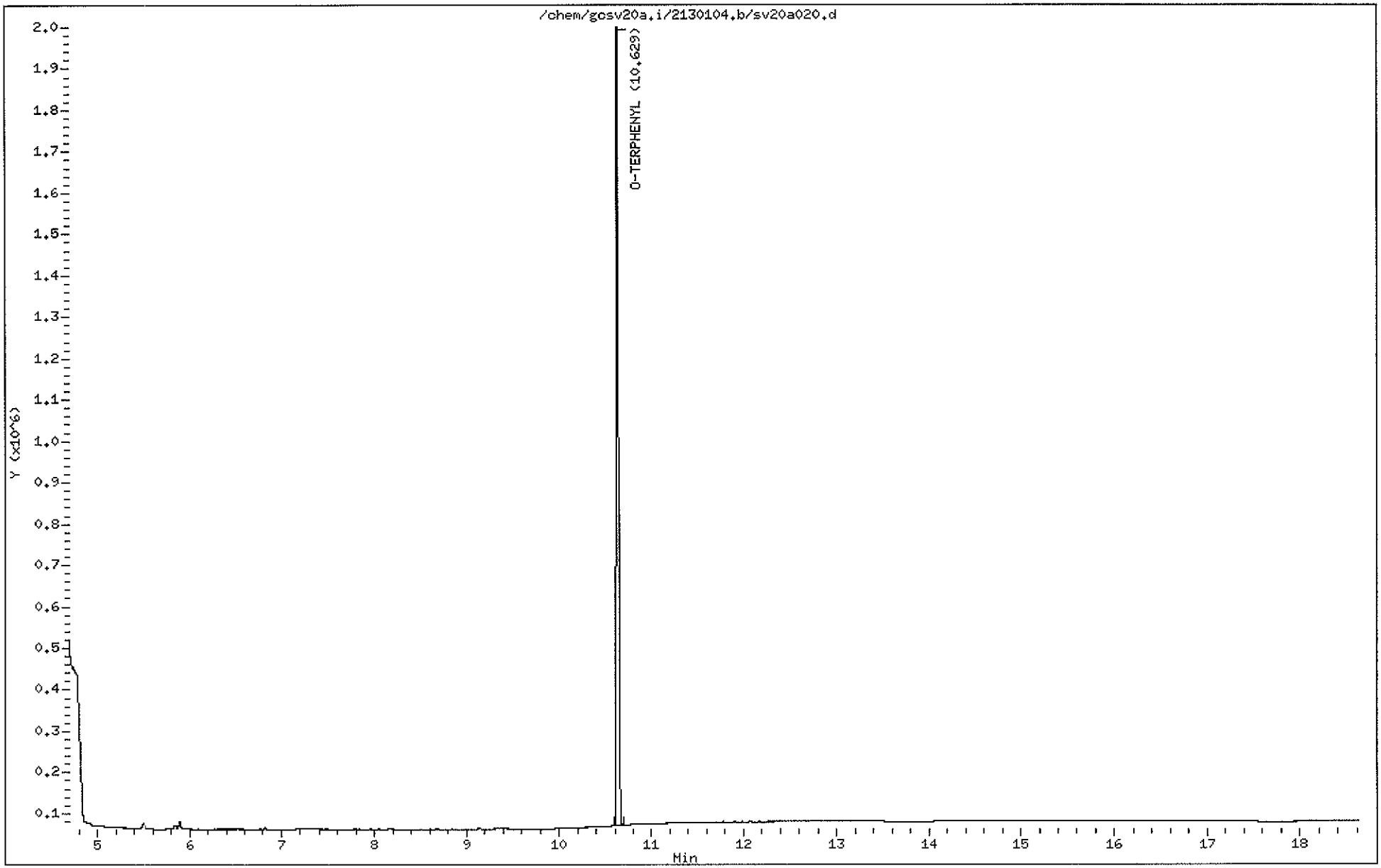
Client ID:
Sample Info: 21212283002*
Purge Volume: 5.0
Column phase: RTX-VMS-30M

Instrument: msv8.i
Operator: CGC
Column diameter: 0.25



Data File: /chem/gcsv20a.i/2130104.b/sv20a020.d
Date : 04-JAN-2013 19:05
Client ID:
Sample Info: 21212283002*1
Volume Injected (uL): 1.0
Column phase: DB-5MS-30M

Instrument: gcsv20a.i
Operator: smh
Column diameter: 0.25



Data File: /chem/msv8.i/2121229.s.b/f7445.d
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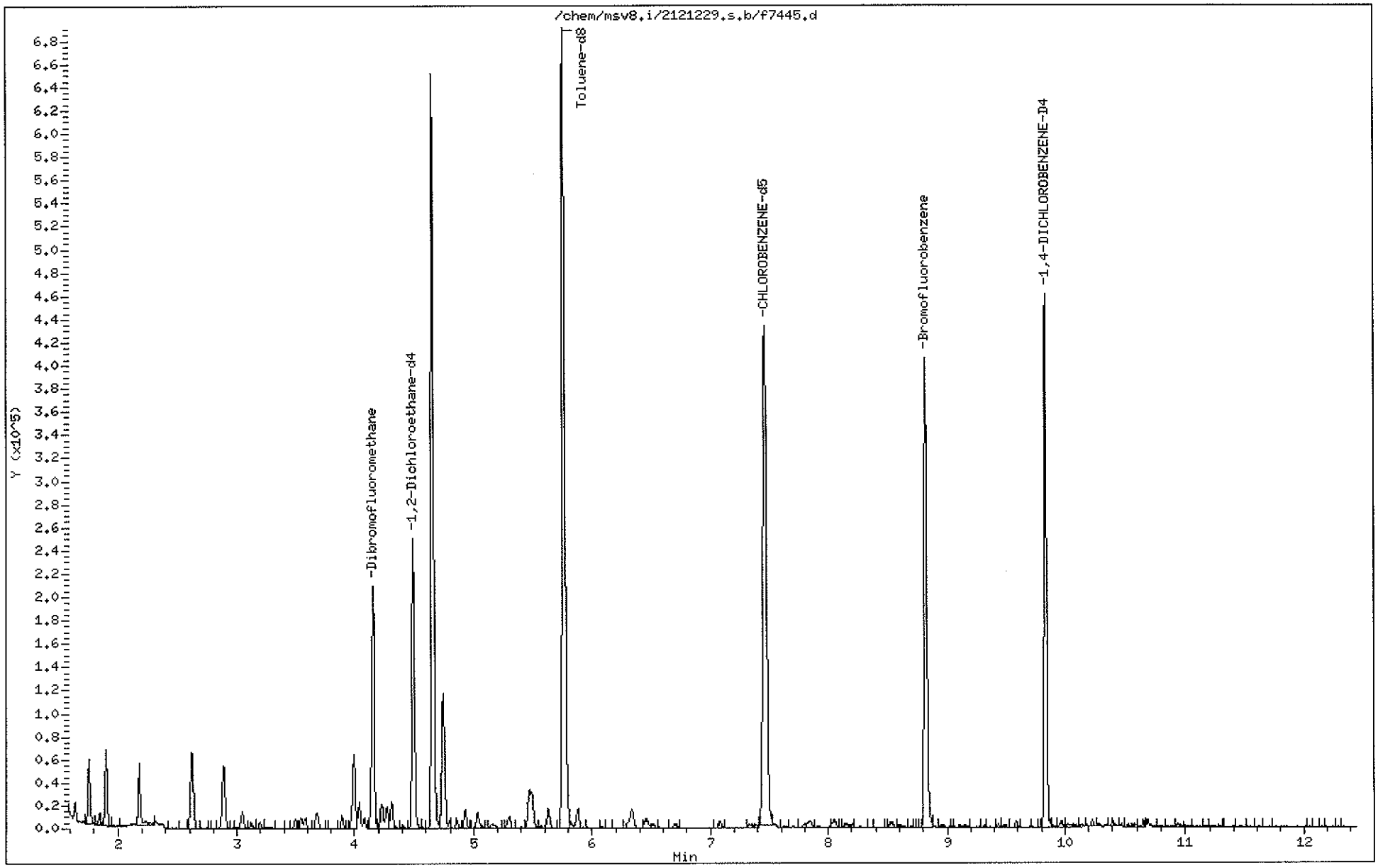
Client ID:
Sample Info: 21212283003*
Purge Volume: 5.0
Column phase: RTX-VMS-30M

Instrument: msv8.i

Operator: CGC
Column diameter: 0.25



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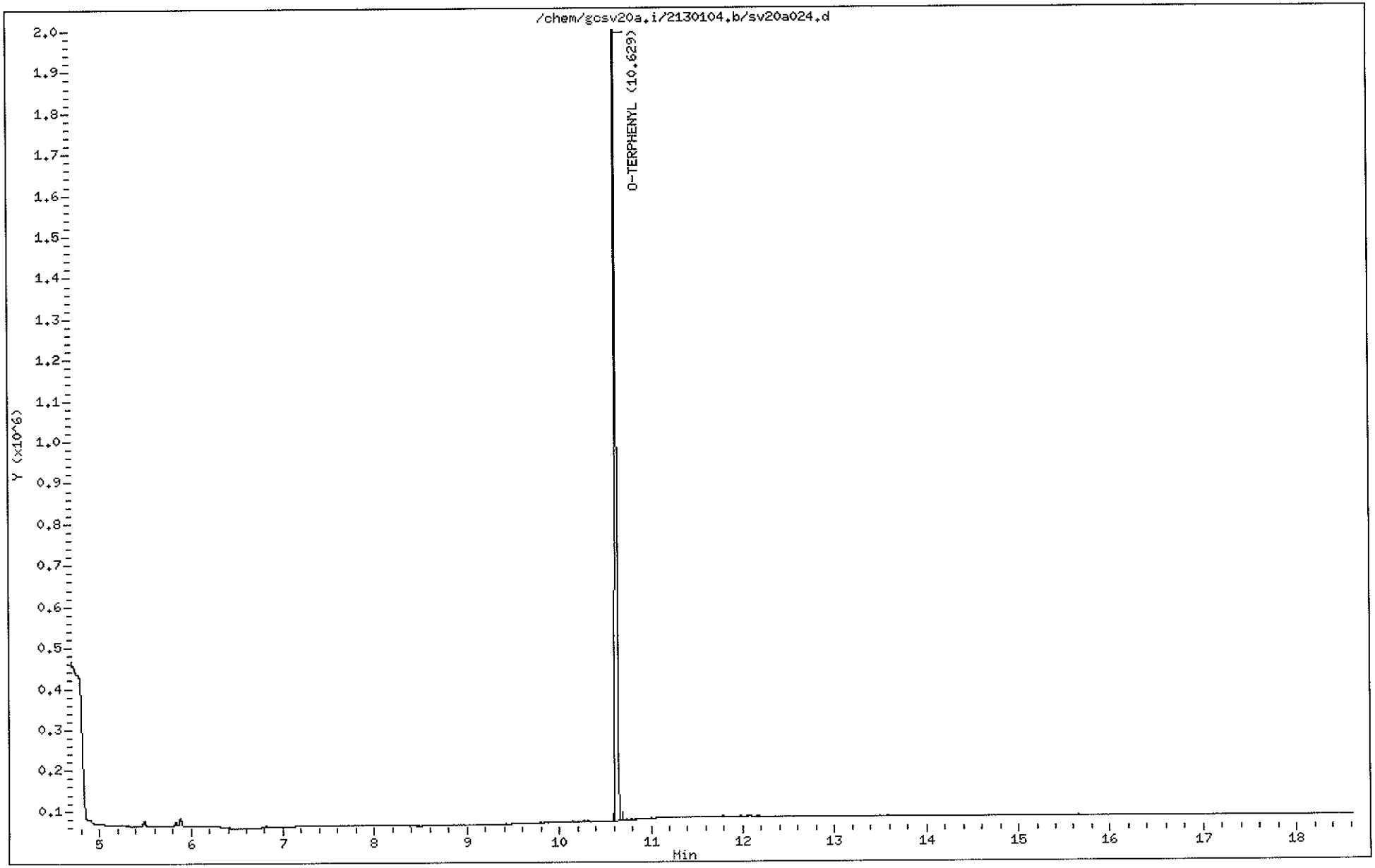
Client ID:
Sample Info: 21212283003*1
Volume Injected (uL): 1.0
Column phase: DB-5MS-30M

Instrument: gcsv20a.i

Operator: smh
Column diameter: 0.25



Data File: /chem/msv8.i/2121229.s.b/f7446.d
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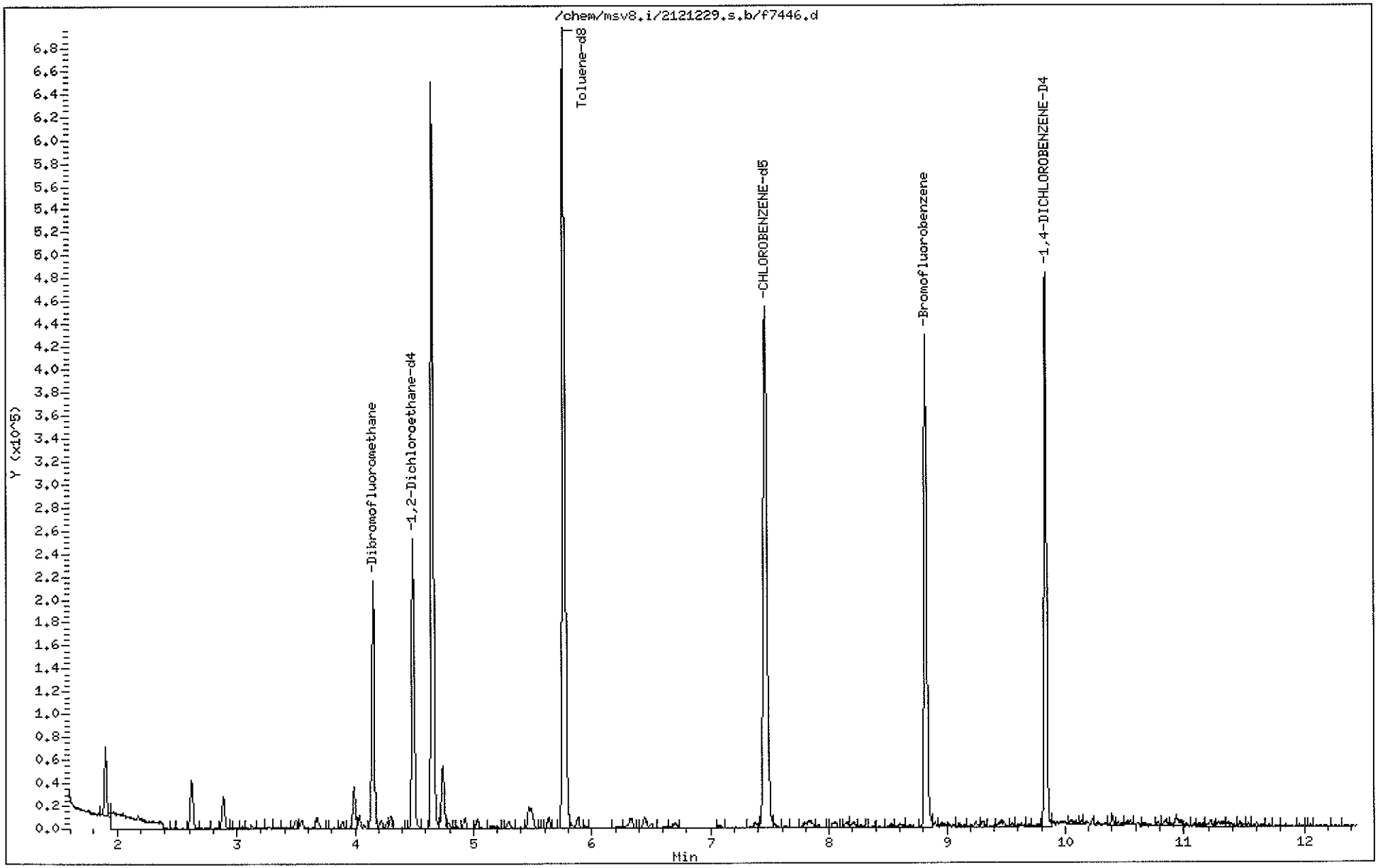
Client ID:
Sample Info: 21212283004*
Purge Volume: 5.0
Column phase: RTX-VMS-30M

Instrument: msv8.i

Operator: CGC
Column diameter: 0.25



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Date : 04-JAN-2013 22:15

Client ID:

Instrument: gcsv20a.i

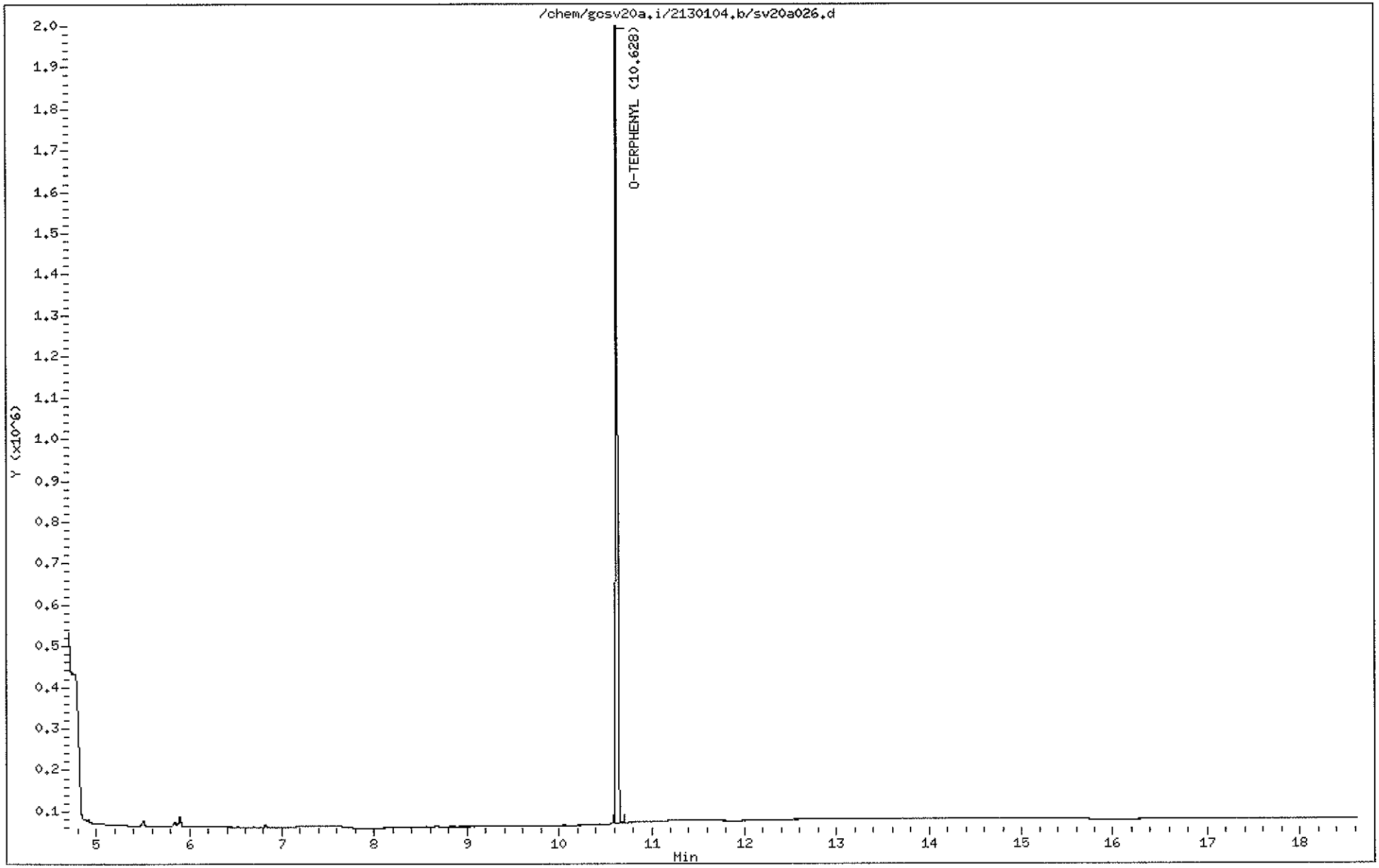
Sample Info: 21212283004*1

Volume Injected (uL): 1.0

Operator: smh

Column phase: DB-5MS-30M

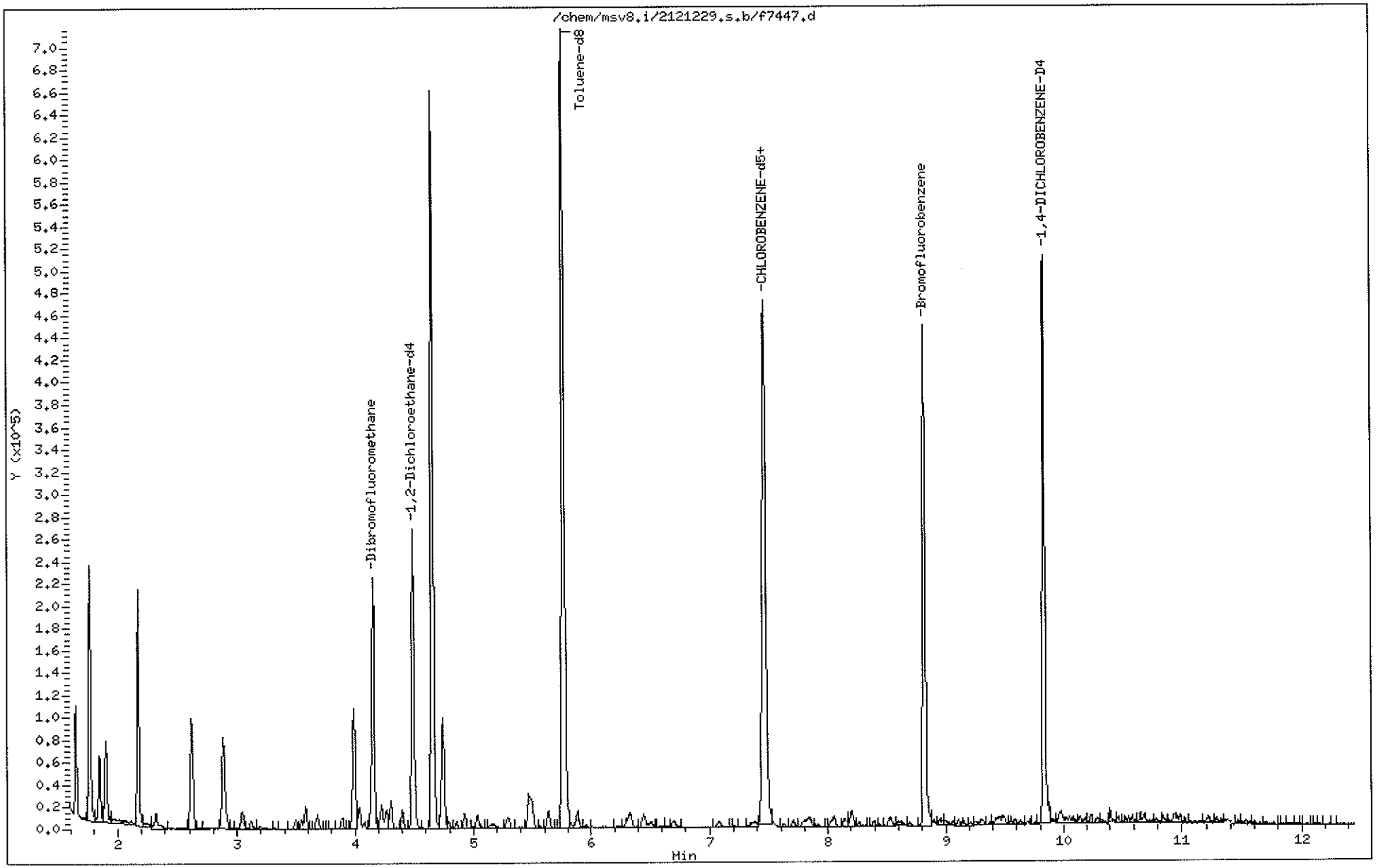
Column diameter: 0.25



Data File: /chem/msv8.i/2121229.s.b/f7447.d
Date : 29-DEC-2012 15:09
Client ID:
Sample Info: 21212283005*
Purge Volume: 5.0
Column phase: RTX-VMS-30M

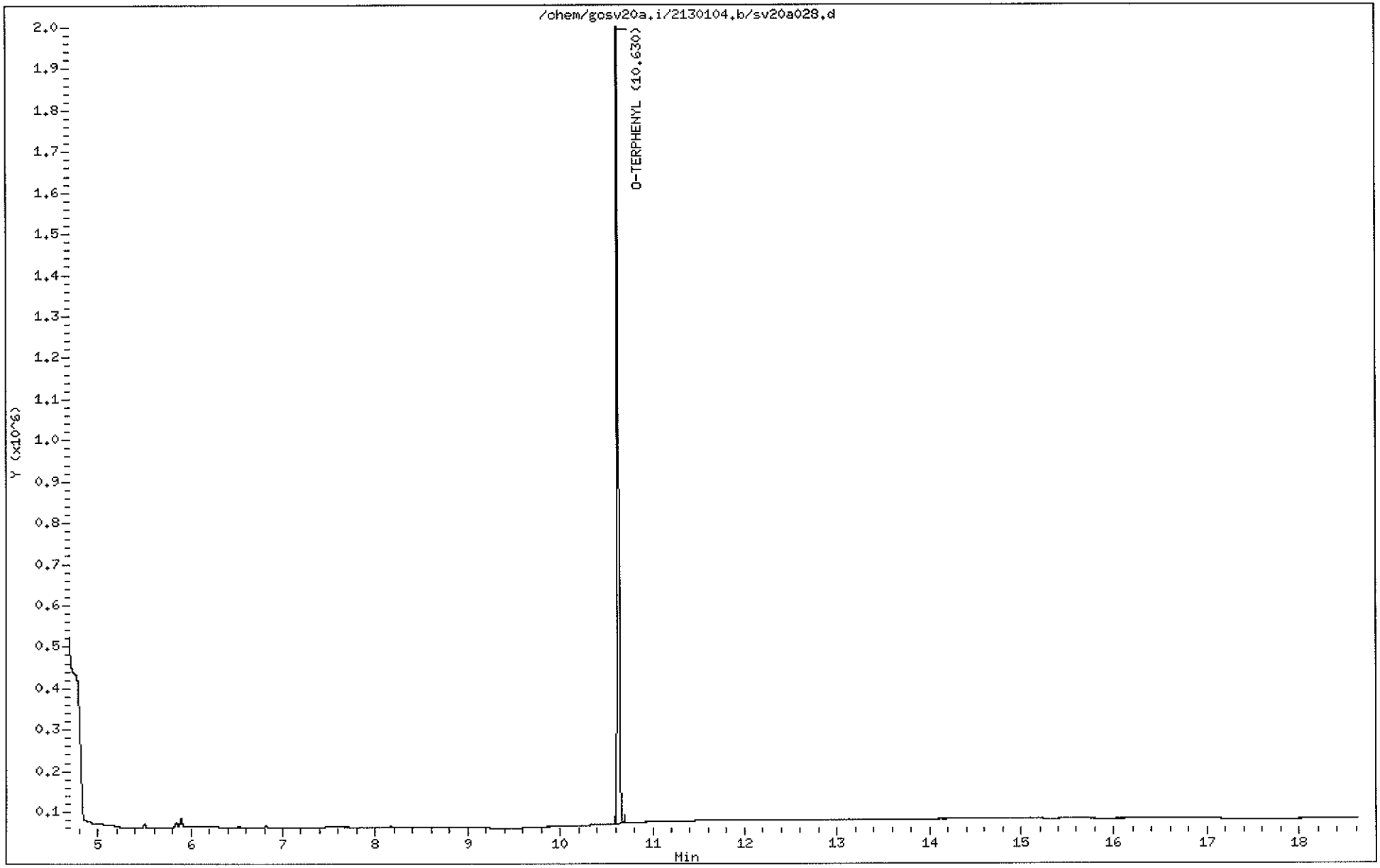
Instrument: msv8.i

Operator: CGC
Column diameter: 0.25



Data File: /chem/gcsv20a.i/2130104.b/sv20a028.d
Date : 04-JAN-2013 23:17
Client ID:
Sample Info: 21212283005*1
Volume Injected (uL): 1.0
Column phase: DB-5MS-30M

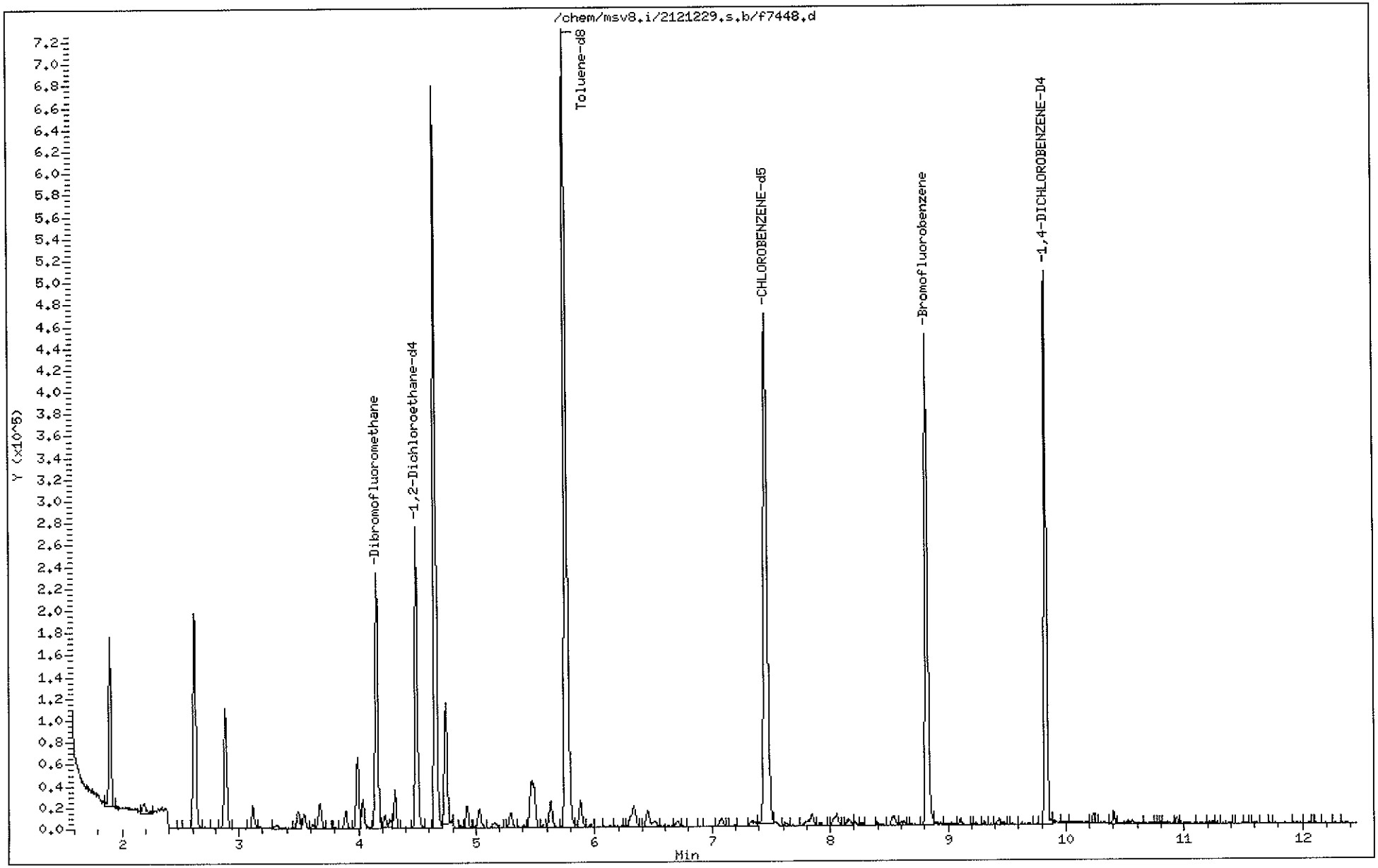
Instrument: gcsv20a.i
Operator: smh
Column diameter: 0.25



Data File: /chem/msv8.i/2121229.s.b/f7448.d
Date : 29-DEC-2012 15:29
Client ID:
Sample Info: 21212283006*
Purge Volume: 5.0
Column phase: RTX-VMS-30M

Instrument: msv8.i

Operator: CGC
Column diameter: 0.25



Data File: /chem/gcsv20a.i/2130104.b/sv20a030.d

Date : 05-JAN-2013 00:19

Client ID:

Instrument: gcsv20a.i

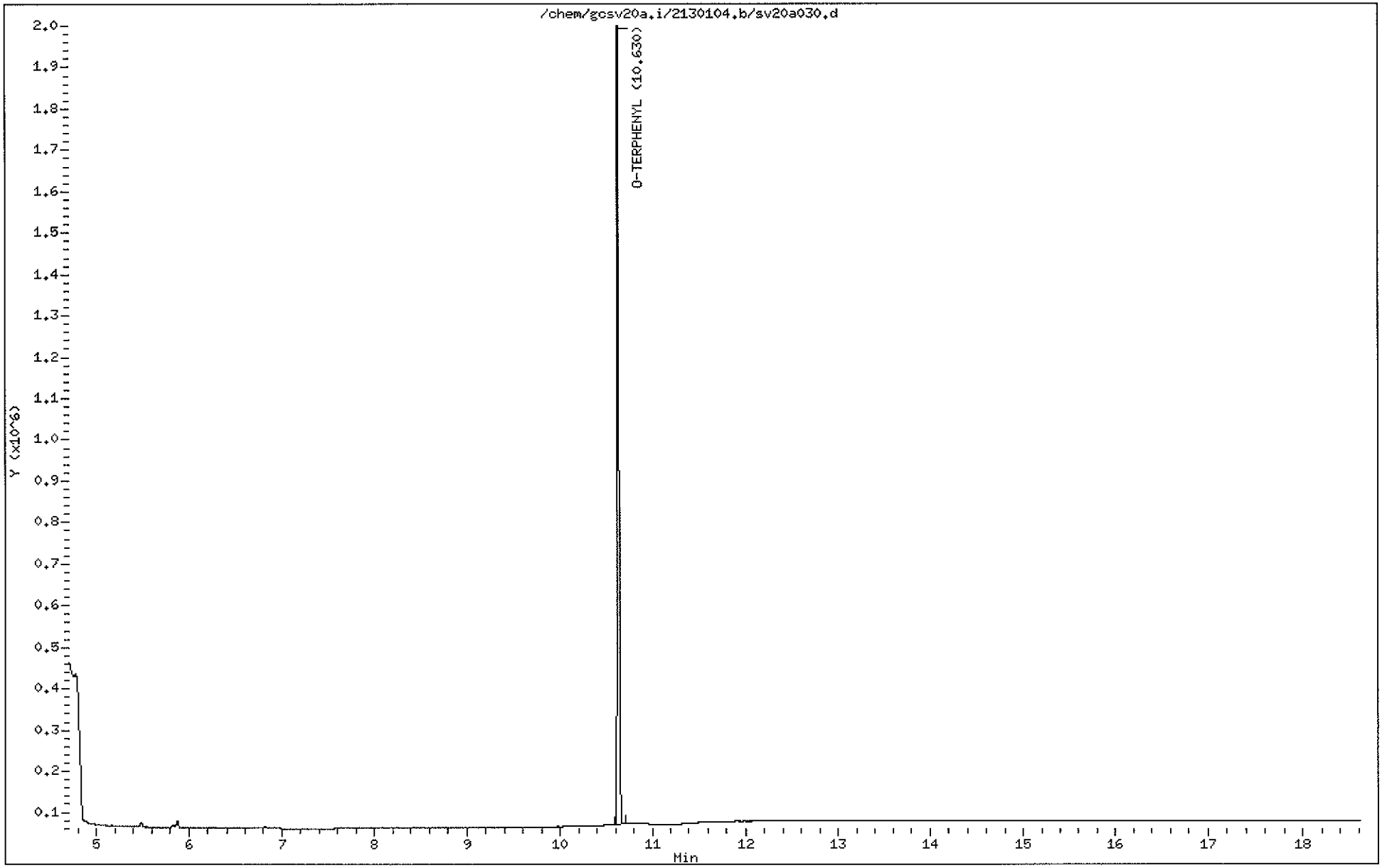
Sample Info: 21212283006*1

Volume Injected (uL): 1.0

Operator: smh

Column phase: DB-5MS-30M

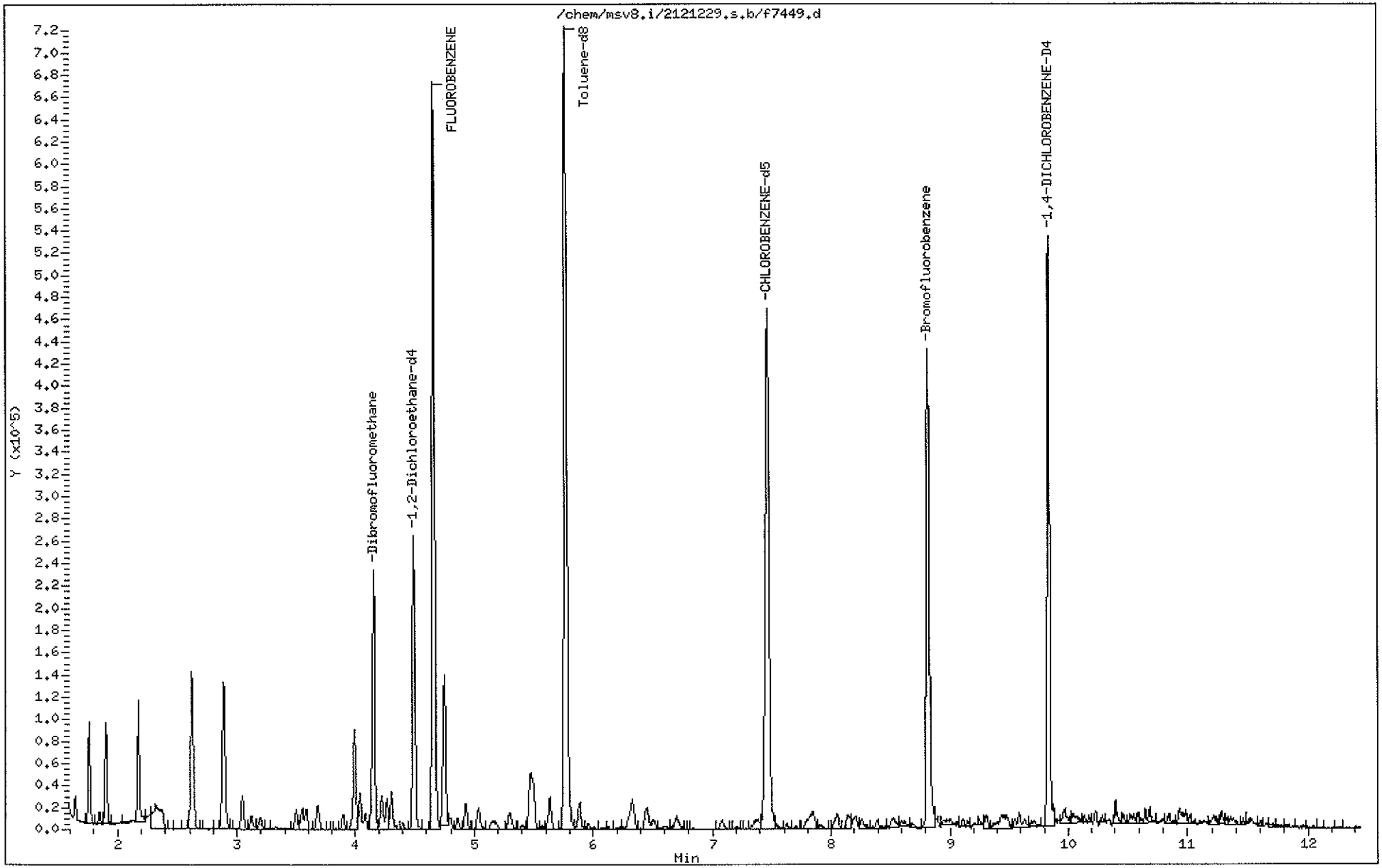
Column diameter: 0.25



Data File: /chem/msv8.i/2121229.s.b/f7449.d
Date : 29-DEC-2012 15:49
Client ID:
Sample Info: 21212283007*
Purge Volume: 5.0
Column phase: RTX-VMS-30M

Instrument: msv8.i

Operator: CGC
Column diameter: 0.25



Data File: /chem/gcsv20a.i/2130104.b/sv20a032.d

Date : 05-JAN-2013 01:22

Client ID:

Sample Info: 21212283007M1

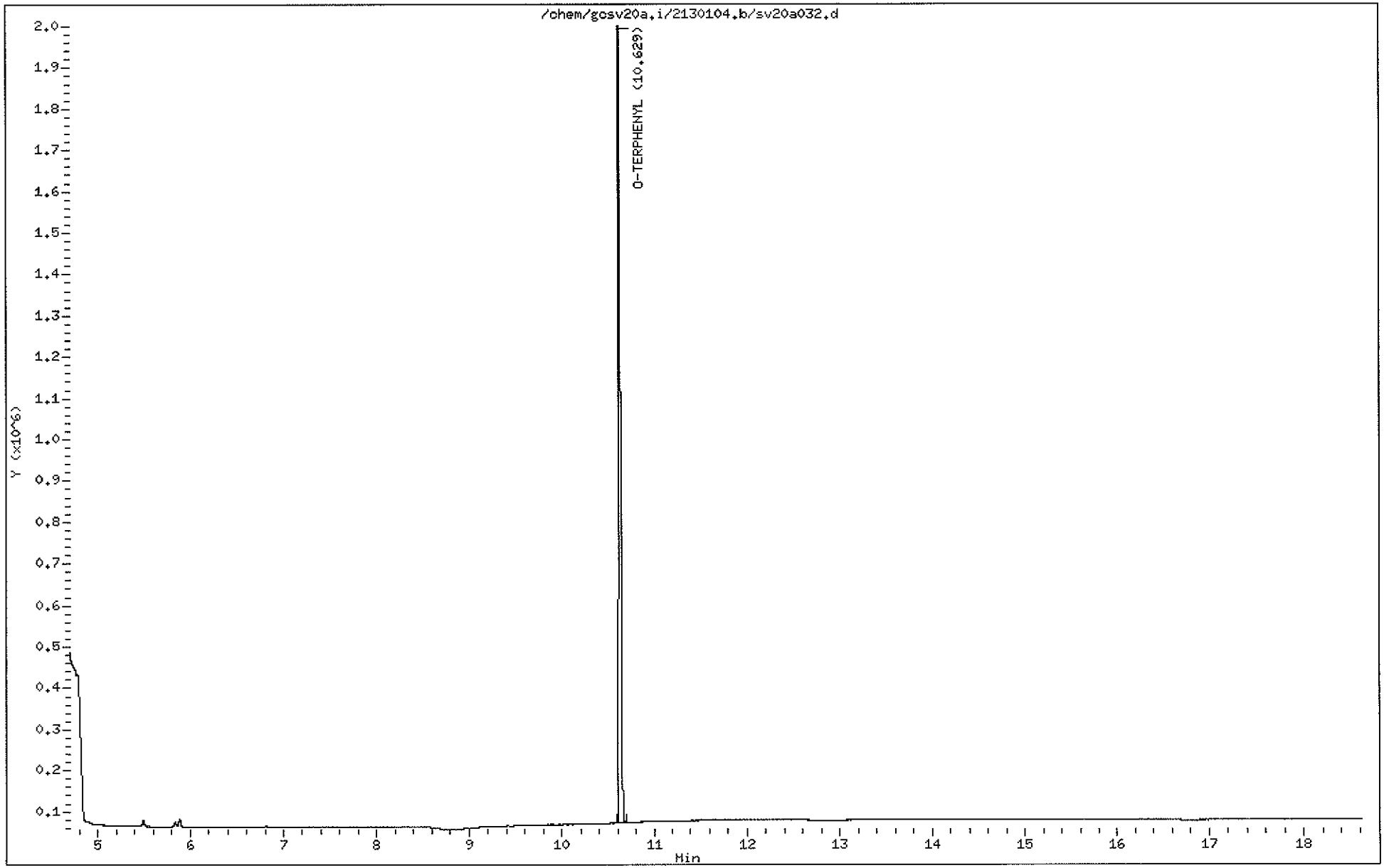
Volume Injected (uL): 1.0

Column phase: DB-5MS-30M

Instrument: gcsv20a.i

Operator: smh

Column diameter: 0.25



Data File: /chem/msv8.i/2121229.s.b/f7450.d

Date : 29-DEC-2012 16:09

Client ID:

Instrument: msv8.i

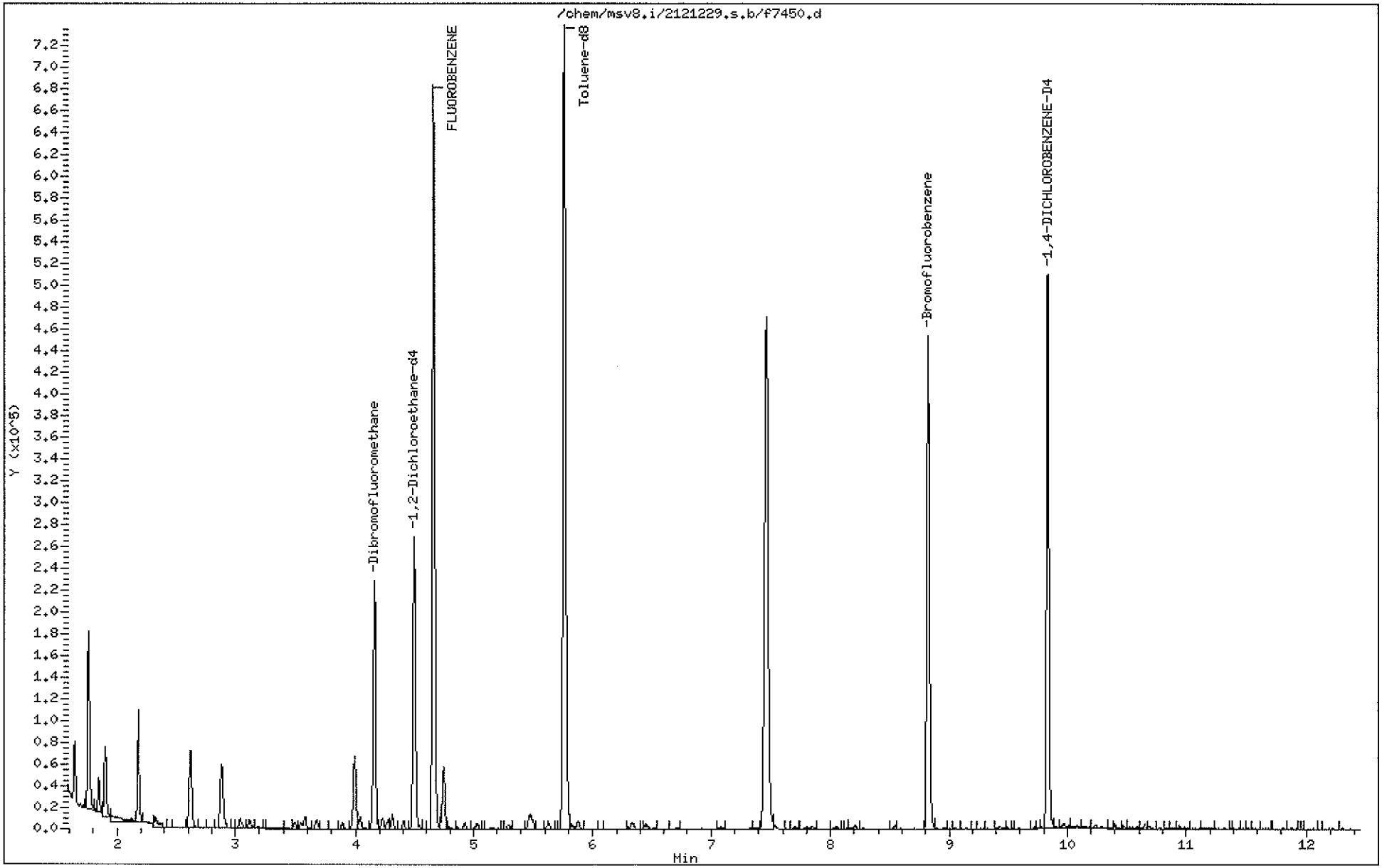
Sample Info: 21212283008*

Purge Volume: 5.0

Operator: CGC

Column phase: RTX-VMS-30M

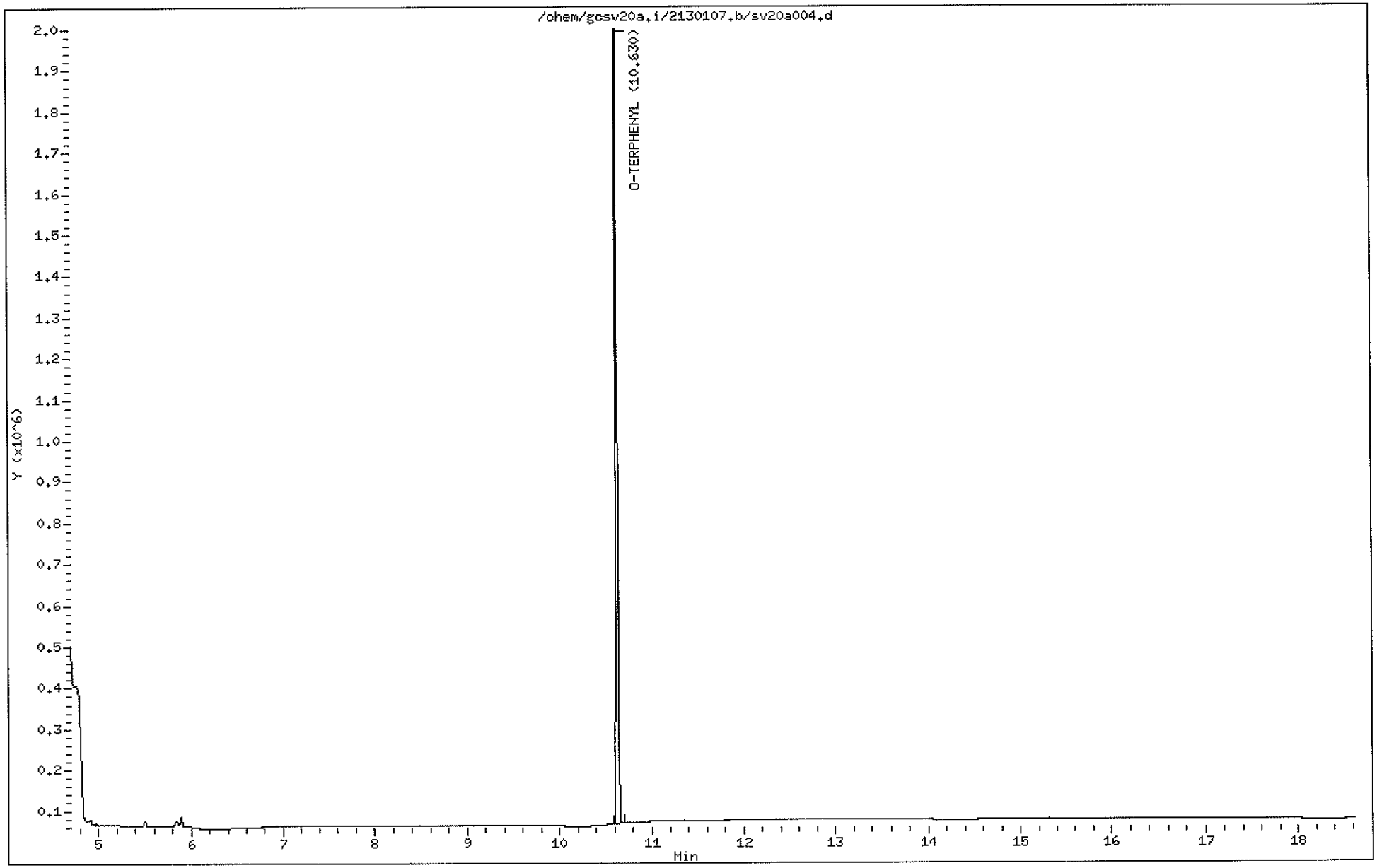
Column diameter: 0.25



Data File: /chem/gcsv20a.i/2130107.b/sv20a004.d
Date : 07-JAN-2013 11:08
Client ID:
Sample Info: 21212283008*1
Volume Injected (uL): 1.0
Column phase: DB-5MS-30M

Instrument: gcsv20a.i

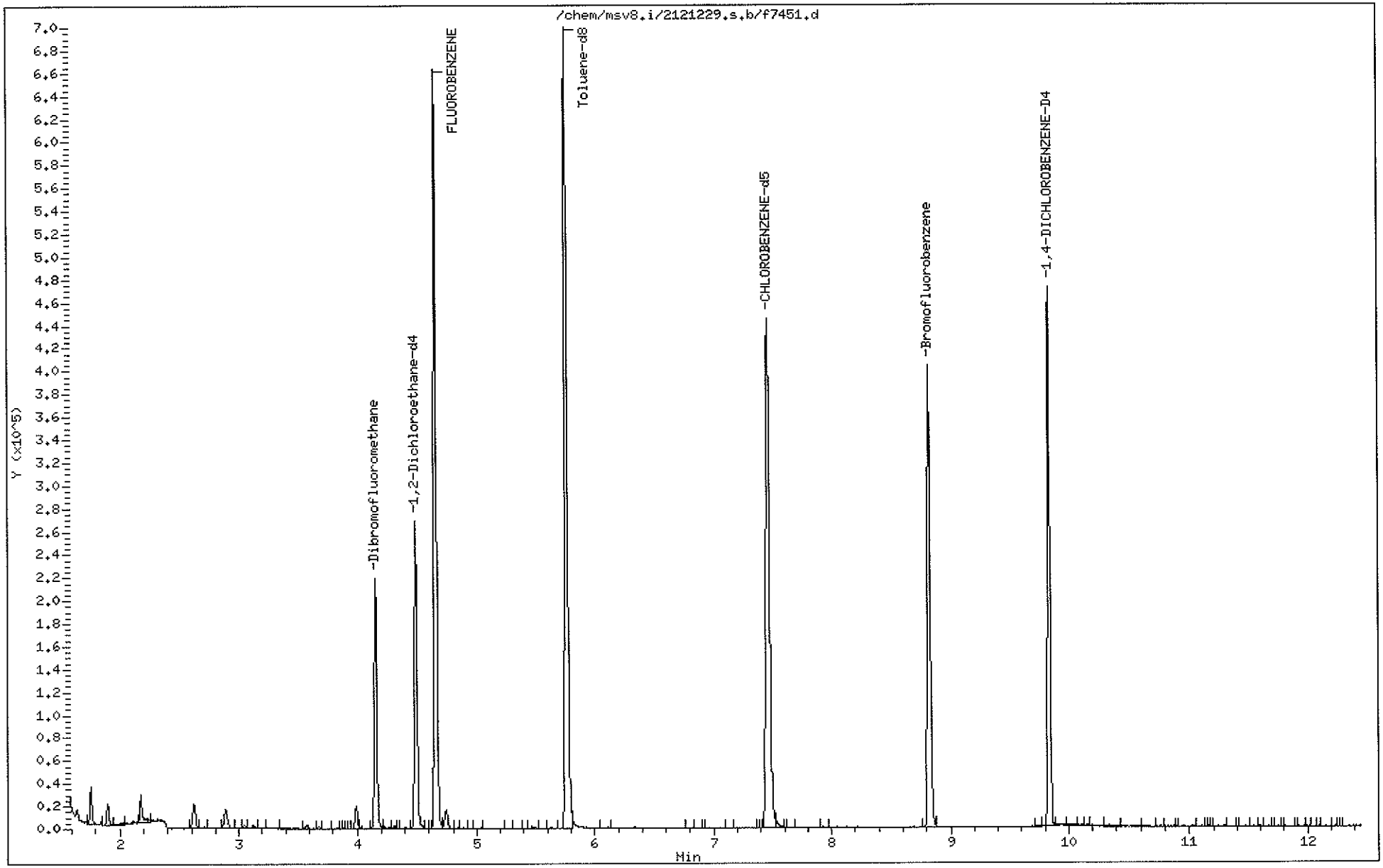
Operator: smh
Column diameter: 0.25



Data File: /chem/msv8.i/2121229.s.b/f7451.d
Date : 29-DEC-2012 16:29
Client ID:
Sample Info: 21212283009*
Purge Volume: 5.0
Column phase: RTX-VMS-30M

Instrument: msv8.i

Operator: CGC
Column diameter: 0.25



Data File: /chem/gcsv20a.i/2130107.b/sv20a006.d

Date : 07-JAN-2013 12:13

Client ID:

Instrument: gcsv20a.i

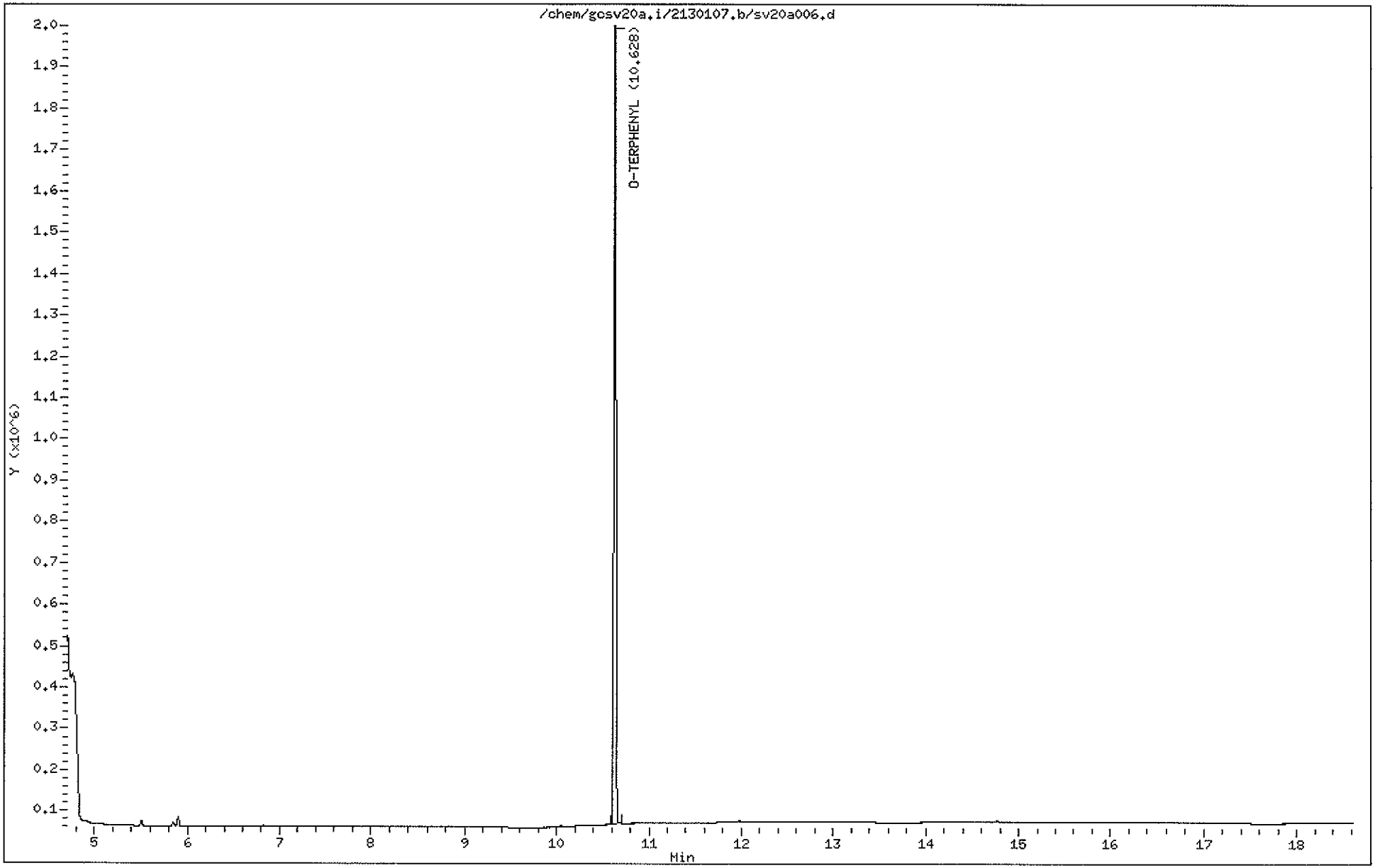
Sample Info: 21212283009*1

Volume Injected (uL): 1.0

Operator: smh

Column phase: DB-5MS-30M

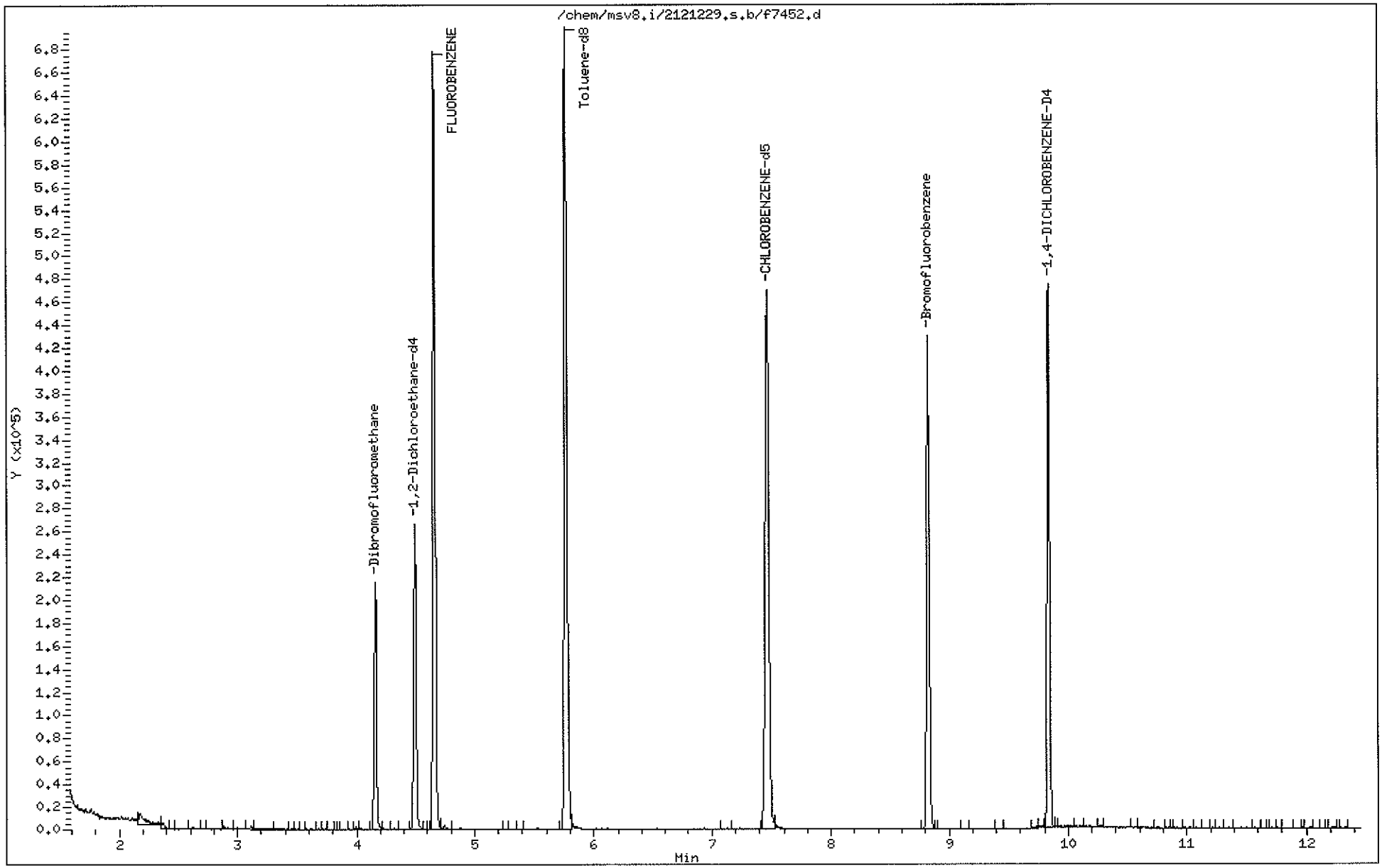
Column diameter: 0.25



Data File: /chem/msv8.i/2121229.s.b/f7452.d
Date : 29-DEC-2012 16:49
Client ID:
Sample Info: 21212283010*
Purge Volume: 5.0
Column phase: RTX-VMS-30M

Instrument: msv8.i

Operator: CGC
Column diameter: 0.25



Data File: /chem/gcsv20a.i/2130107.b/sv20a008.d

Date : 07-JAN-2013 13:19

Client ID:

Instrument: gcsv20a.i

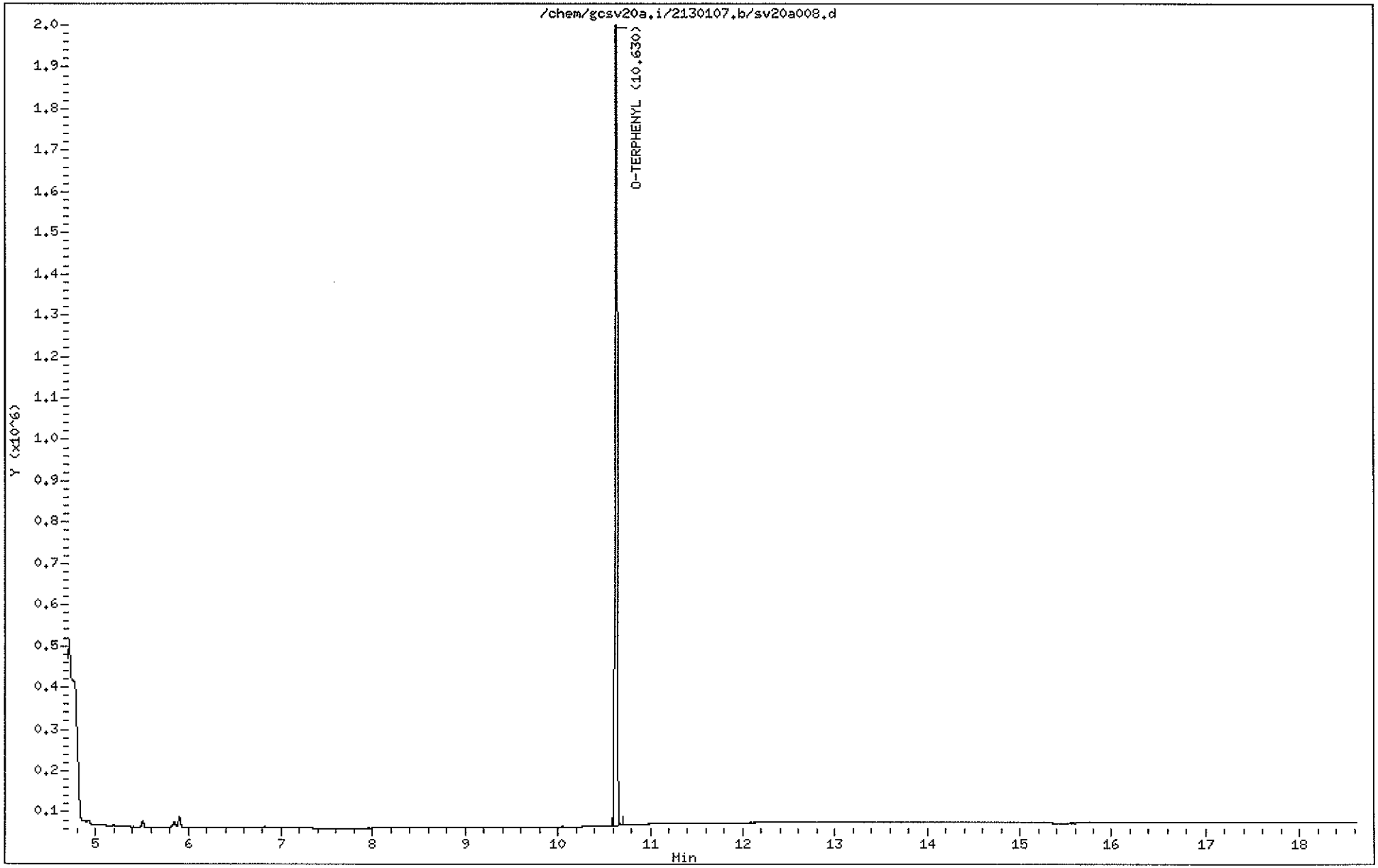
Sample Info: 21212283010*1

Volume Injected (uL): 1.0

Operator: smh

Column phase: DB-5MS-30M

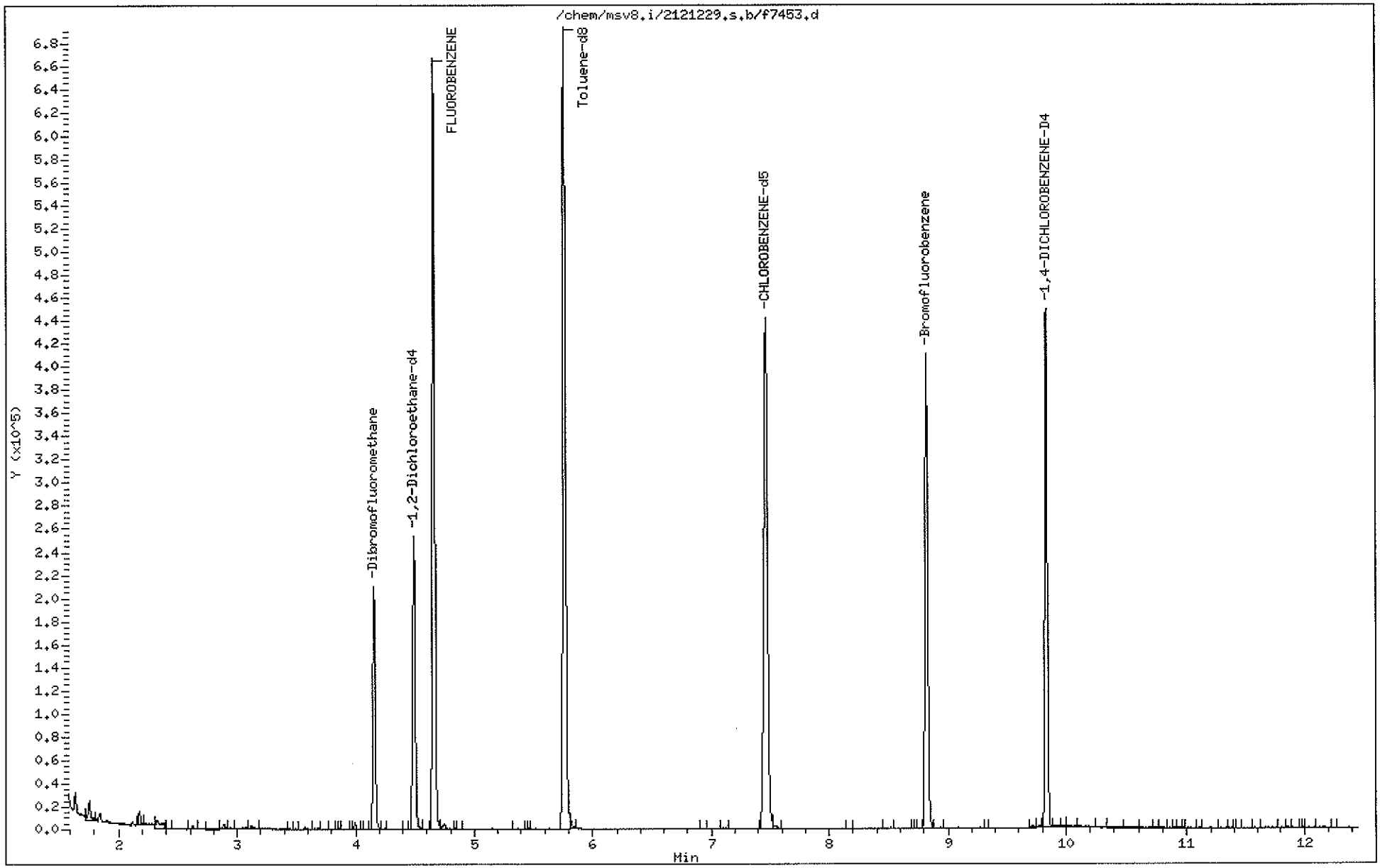
Column diameter: 0.25



Data File: /chem/msv8.i/2121229.s.b/f7453.d
Date : 29-DEC-2012 17:09
Client ID:
Sample Info: 21212283011*
Purge Volume: 5.0
Column phase: RTX-VMS-30M

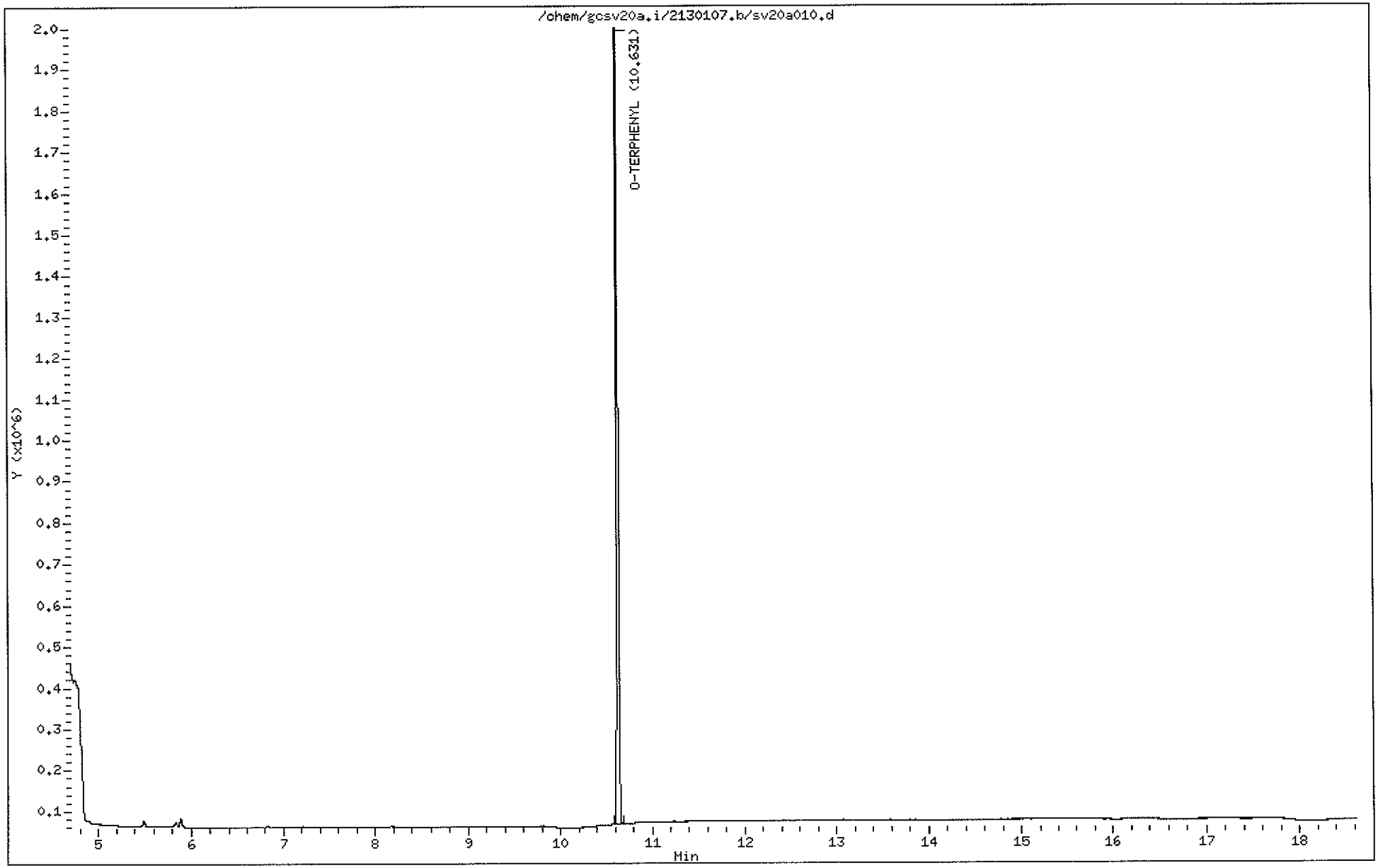
Instrument: msv8.i

Operator: CGC
Column diameter: 0.25



Data File: /chem/gcsv20a.i/2130107.b/sv20a010.d
Date : 07-JAN-2013 14:20
Client ID:
Sample Info: 21212283011x1
Volume Injected (uL): 1.0
Column phase: DB-5MS-30M

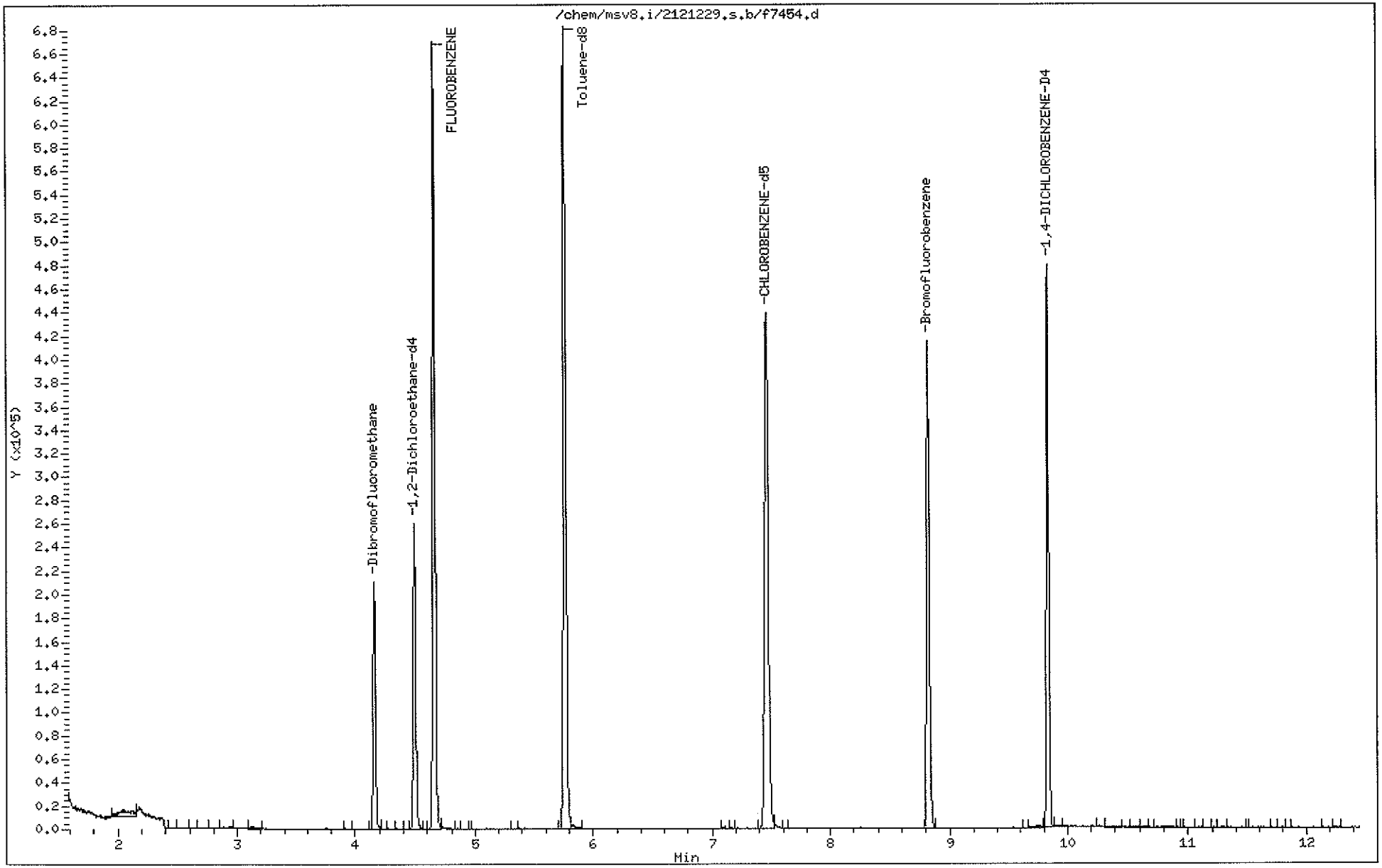
Instrument: gcsv20a.i
Operator: smh
Column diameter: 0.25



Data File: /chem/msv8.i/2121229.s.b/f7454.d
Date : 29-DEC-2012 17:29
Client ID:
Sample Info: 21212283012*
Purge Volume: 5.0
Column phase: RTX-VMS-30M

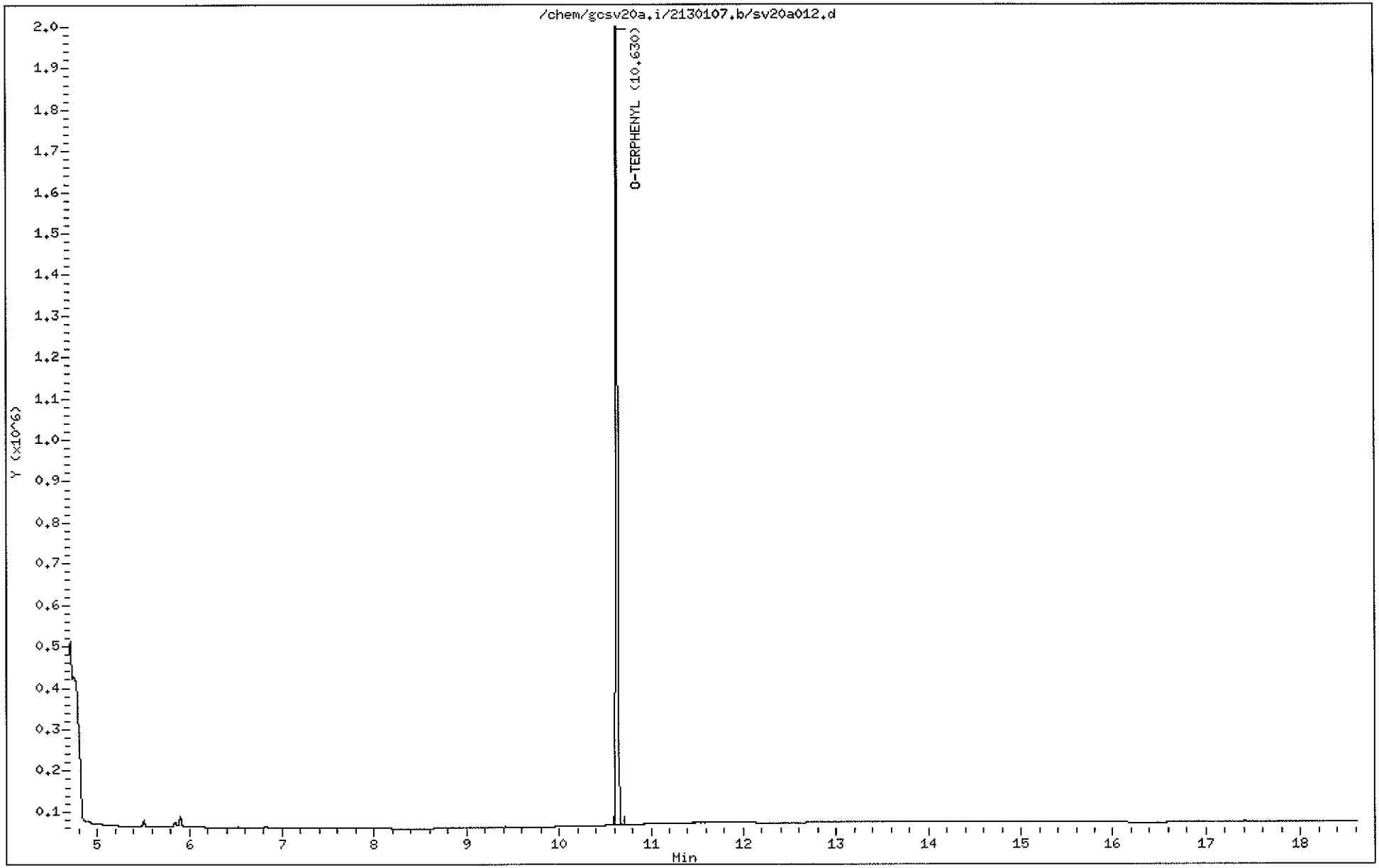
Instrument: msv8.i

Operator: CGC
Column diameter: 0.25



Data File: /chem/gcsv20a.i/2130107.b/sv20a012.d
Date : 07-JAN-2013 15:22
Client ID:
Sample Info: 21212283012*1
Volume Injected (uL): 1.0
Column phase: DB-5MS-30M

Instrument: gcsv20a.i
Operator: smh
Column diameter: 0.25



Data File: /chem/msv8.i/2121229.s.b/f7455.d

Date : 29-DEC-2012 17:49

Client ID:

Sample Info: 21212283013*

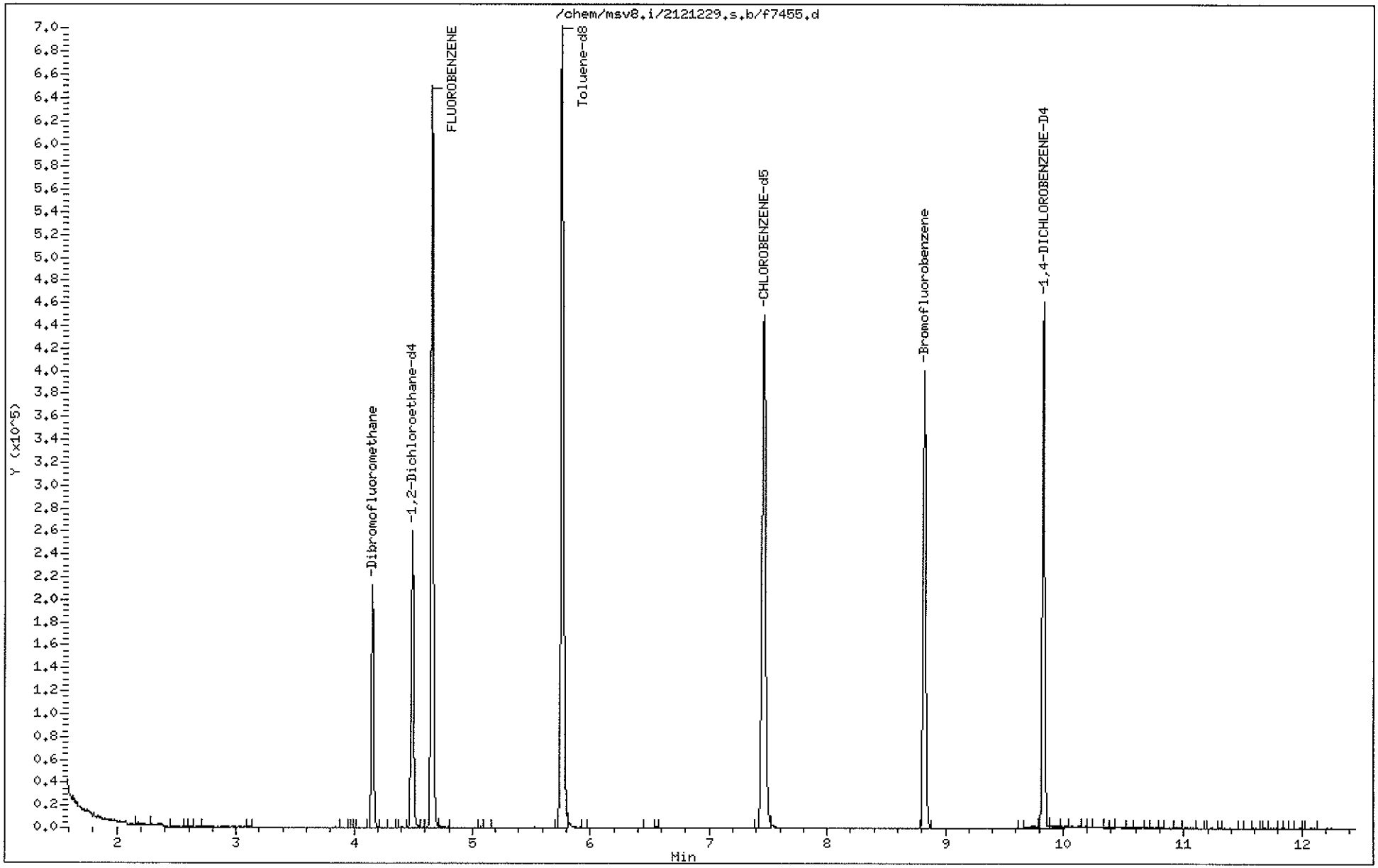
Purge Volume: 5.0

Column phase: RTX-VMS-30M

Instrument: msv8.i

Operator: CGC

Column diameter: 0.25



Data File: /chem/gcsv20a.i/2130107.b/sv20a016.d

Date : 07-JAN-2013 17:29

Client ID:

Instrument: gcsv20a.i

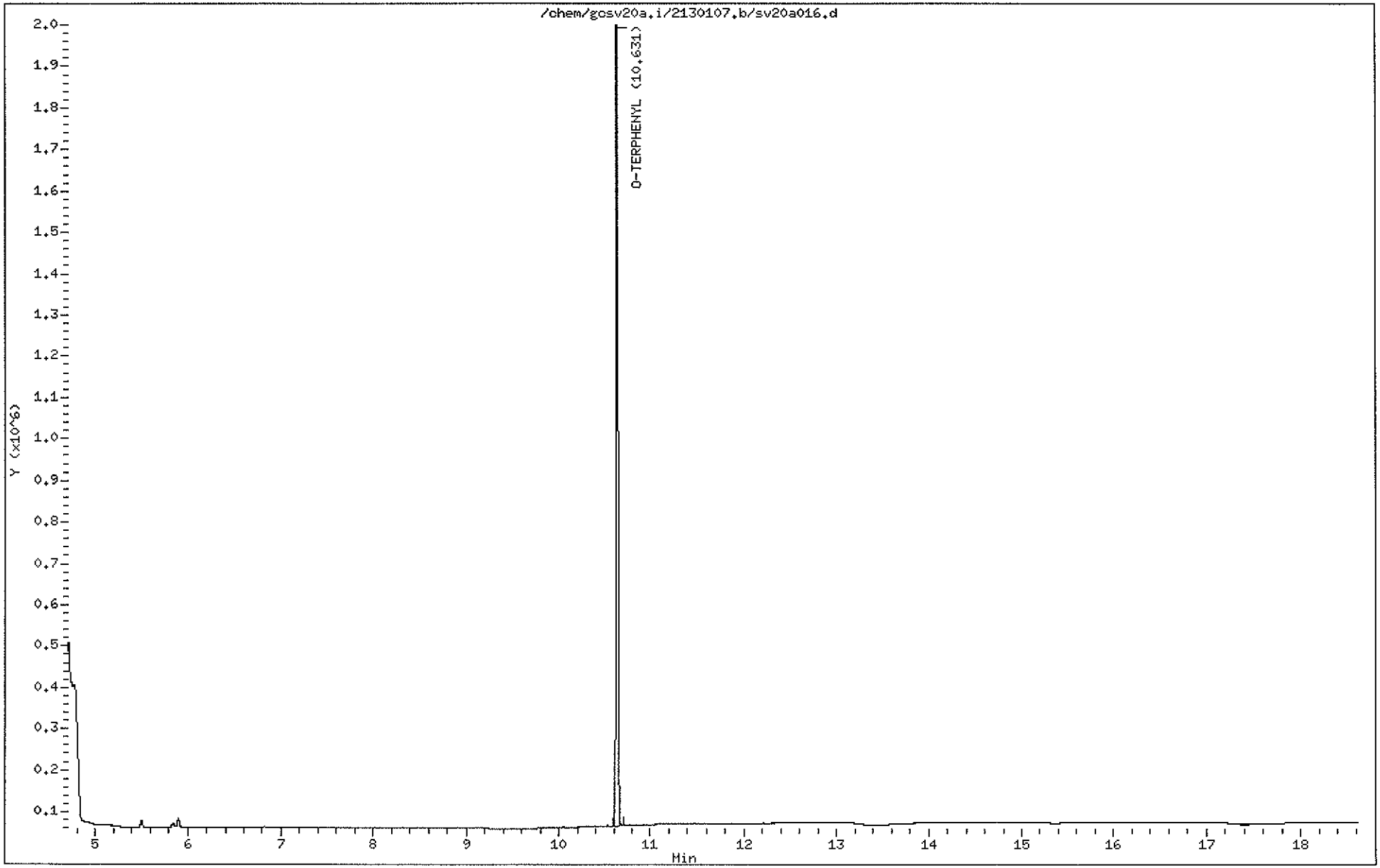
Sample Info: 21212283013*1

Volume Injected (uL): 1.0

Operator: smh

Column phase: DB-5MS-30M

Column diameter: 0.25



Michael Pisani / 4271 / 212122830 / 1/9/13

GCAL ANALYTICAL LABORATORIES, LLC

CHAIN OF CUSTODY RECORD

GCAL USE ONLY

7979 GSRI Ave., Baton Rouge, LA 70820-7402
Phone: 225.769.4900 • Fax: 225.767.5717 • www.gcal.com

Report to:
Client: Michael Pisani + Assoc.
Address: 1100 Poydras St. Suite 1430
New Orleans, LA 70163
Contact: Dave Angle
Phone: 281-242-5700
E-mail:

Bill to:
Client: TBC
Address:
Contact:
Phone:
E-mail:

GCAL use only:
Custody Seal used ☐ yes ☑ no
intact ☐ yes ☐ no
Temperature °C 4.7, 3.6

☐ Dissolved Analysis Requested
☐ Field filtered
☐ Lab filtered

P.O. Number: 80-05
Project Name/Number: Assumption Parish Sinkhole
Sampled By: ANNA FIX

Analytical Requests & Method: Cl, TDS, Cond; H_2S; BTEX; TPH fractions (Wood)

Preservative: HCl, [redacted]

Matrix[1]	Date	Time (2400)	Comp	Grab	Sample Description	No Containers	None	[redacted]	HCl	HCl								Preservative
W	12/28/12	0930		X	E-3 (TR)	7	X	X	X	X								1
		0939			N-3 (TR)		X	X	X	X								2
		0946			NW-2 (TR)		X	X	X	X								3
		0953			NW-3 (TR)		X	X	X	X								4
		1001			NW-4 (TR)		X	X	X	X								5
		1009			W-2 (TR)		X	X	X	X								6
		1015			W-3 (TR)		X	X	X	X								7
		1023			W-4 (TR)		X	X	X	X								8
		1037			SW-3 (TR)		X	X	X	X								9
		1045			SW-4 (TR)		X	X	X	X								10
		1056			S-4 (TR)		X	X	X	X								11
		1107			BG-1 (TR)		X	X	X	X								12
		1115			BG-2 (TR)		X	X	X	X								13

Air Bill No:

Turn Around Time (Business Days): ☐ 24h* ☐ 48h* ☐ 3 days* ☐ 1 week* ☑ Standard (Per Contract/Quote)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
[signature]	12/28/12	1315	[signature]	12/28/12	1314
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Note:

By submitting these samples, you agree to GCAL's terms and conditions contained in our most recent schedule of services.

WHITE: CLIENT FINAL REPORT - CANARY: CLIENT

Matrix[1]: W = water, S = solid, L = liquid, T = tissue

*Requires prior approval, rush charges may apply.

We cannot accept verbal changes. Please email written changes to your PM.

GCAL ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIVING CHECKLIST

SAMPLE DELIVERY GROUP	212122830
Client 4271 - Michael Pisani & Associates	**Transport Method** CUST
Profile 233926 - 80-05 Assumption Parish Sinkhole	**Received By** Saucier, Charlotte
Line Item(s) 2 - Waters - BTEX	**Receive Date(s)** 12/28/12

CHECKLIST			
Were all samples received using proper thermal preservation?	☑ Yes	☐ No	☐ NA
When used, were all custody seals intact?	☐ Yes	☐ No	☑ NA
Were all samples received in proper containers?	☑ Yes	☐ No	☐ NA
Were all samples received using proper chemical preservation?	☑ Yes	☐ No	☐ NA
Was preservative added to any container at the lab?	☐ Yes	☑ No	☐ NA
Were all containers received in good condition?	☑ Yes	☐ No	☐ NA
Were all VOA vials received with no head space?	☑ Yes	☐ No	☐ NA
Do all sample labels match the Chain of Custody?	☑ Yes	☐ No	☐ NA
Did the Chain of Custody list the sampling technician?	☑ Yes	☐ No	☐ NA
Was the COC maintained i.e. all signatures, dates and time of receipt included?	☑ Yes	☐ No	☐ NA

COOLERS

Airbill	Temp(oC)
	4.7
	3.6

DISCREPANCIES

None

LABORATORY PRESERVATIONS

None

NOTES

Revision 1.3

ME&A Daily Action Summary

January 17, 2013

Subsidence Survey:

- No Work Done

Sinkhole Perimeter/Hydrographic Survey:

- Arrived @ 8:30 am
- Survey swamp area outside of sinkhole to determine extent of subsidence area.
- Departed @ 5:00 pm

Support Sinkhole Cleanup

- No Work Done

Misc. Survey Work

- Arrived @ 10:00 am
- Stake soil borings for containment system and acquiring ground elevations on existing roads and pads that will be incorporated into containment system.
- Departed @ 3:00 pm

Michael Pisani & Associates

Texas Brine, L.L.C.
Assumption Parish, Louisiana
Daily Field Report

Report By: Patrick Ritchie
Company: MP&A

Date: 1/17/2013
Work Order # 80-05

Health and Safety Meeting ☐ YES ☐ NO

Weather: 40 F Cold, fog, sunny, N wind

Personnel	Company	Job Title
Charles Trahan	MP&A	Geologist
Walker Hill Drill Crew		

Site Activities: Start Time 7:30 End Time 17:00

Equipment On-site: GardnerDenver Mud-rotary drill rig

Daily Activity:
Drilled from 240 to 344' bgs at MRAA-03 location.
Geophysical logging of MRAA-03 location

Estimated time of completion:
On-going

Proposed schedule:
Conduct in-situ monitoring surface water transect and industrial water well locations 1/18/2013
Measure water level for the industrial water wells 1/18/2013
Collect groundwater laboratory samples from TBC Geoprobe location #3 when accessible
Measure pressure and water level at TBC Geoprobe locations 1/21/2013
Secure borehole and cuttings at MRAA-03 location

Estimated time of completion:
On-going

Initials: PMR

SONIC SURVEYS INC.

INTERFACE SURVEY

DUAL COLLAR LOCATOR

Akten Nr.

COMPANY: TEXAS BRINE COMPANY
WELL: OXY GEISMER #3A
FIELD: NAPOLEONVILLE
COUNTY: ASSUMPTION LOUISIANA

Location

Other Services

Permanent Datum:	B.H.F	Elevation:	Depth Scale
Log meas. from:	0'	above Perm. Datum	1:240
Drill. meas. from:	UNKNOWN		

Date	1-17-13				
Run No.	1				
Depth Driller					
Depth Logger					
First Reading	4224'				
Last Reading	2550'				
Type Fluid in Hole	OIL				
Opr. Rig Time	MAST				
Equip. No / Location	124				
Recorded by	CHAPMAN				
Witnessed by	MR.ARABIE				

Csg. / Tbg. - Dimensions				Borehole - Dimensions			
Size	Weight	from	to	Run.No.	Bit Size	from	to
7"		0'	2660'				

Fold Here

In making interpretations of logs, Contractors employees will give the Customer the benefit of their best judgement, but since all interpretations are opinions, based on inferences from electrical or other measurements, Contractor cannot, and does not guarantee the accuracy or the correctness of any interpretation.

ANTARES WinAPlot Software - Copyright (c) 1997 - 2000 ANTARES Datensysteme GmbH

REMARKS

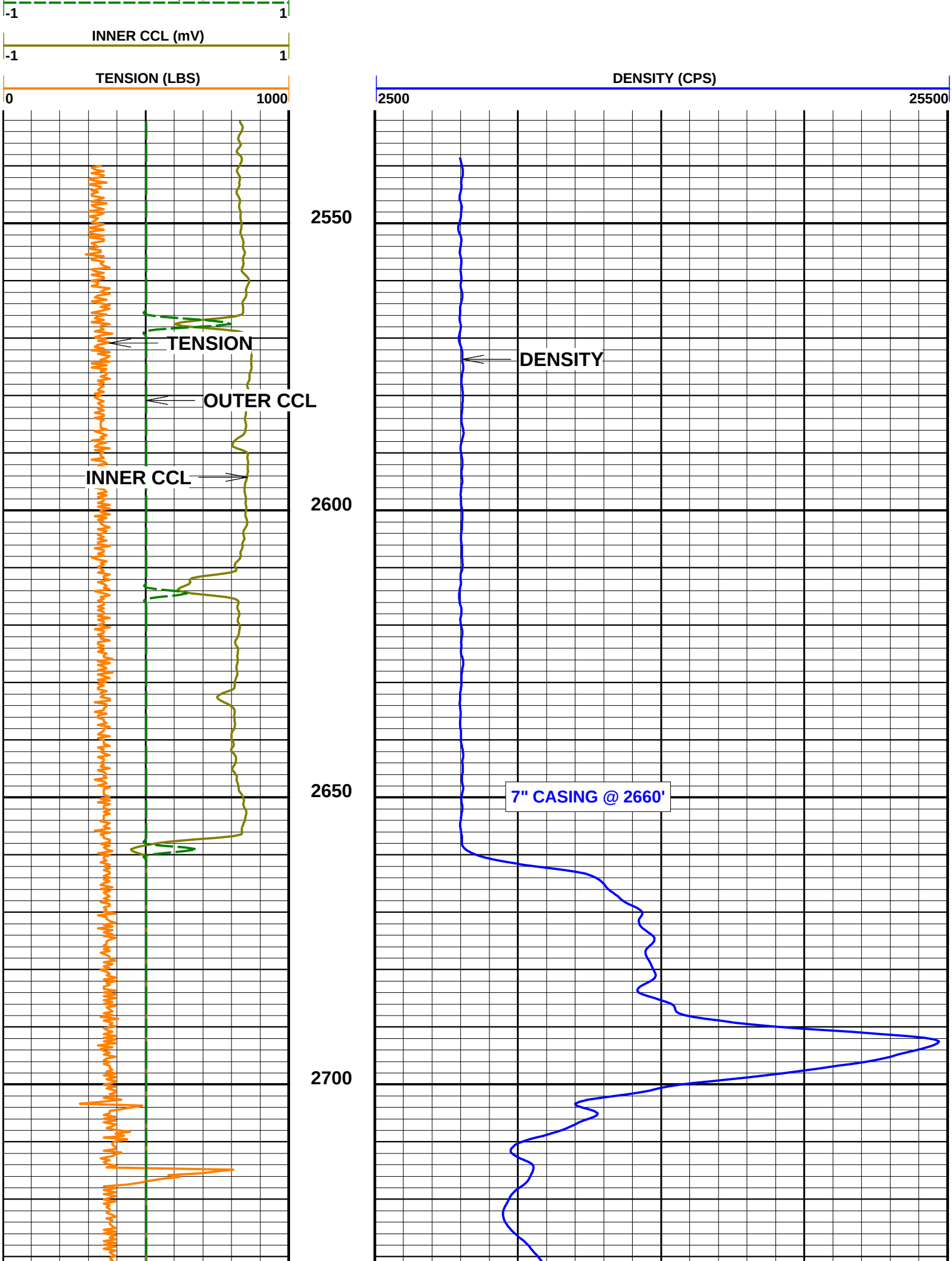
FOUND 7" CASING @ 2658' CORRECTED TO 2660'
INTERFACE @ 3627'
4 1/16" 5M
HUNG UP IN THE BORE HOLE AROUND 2716'

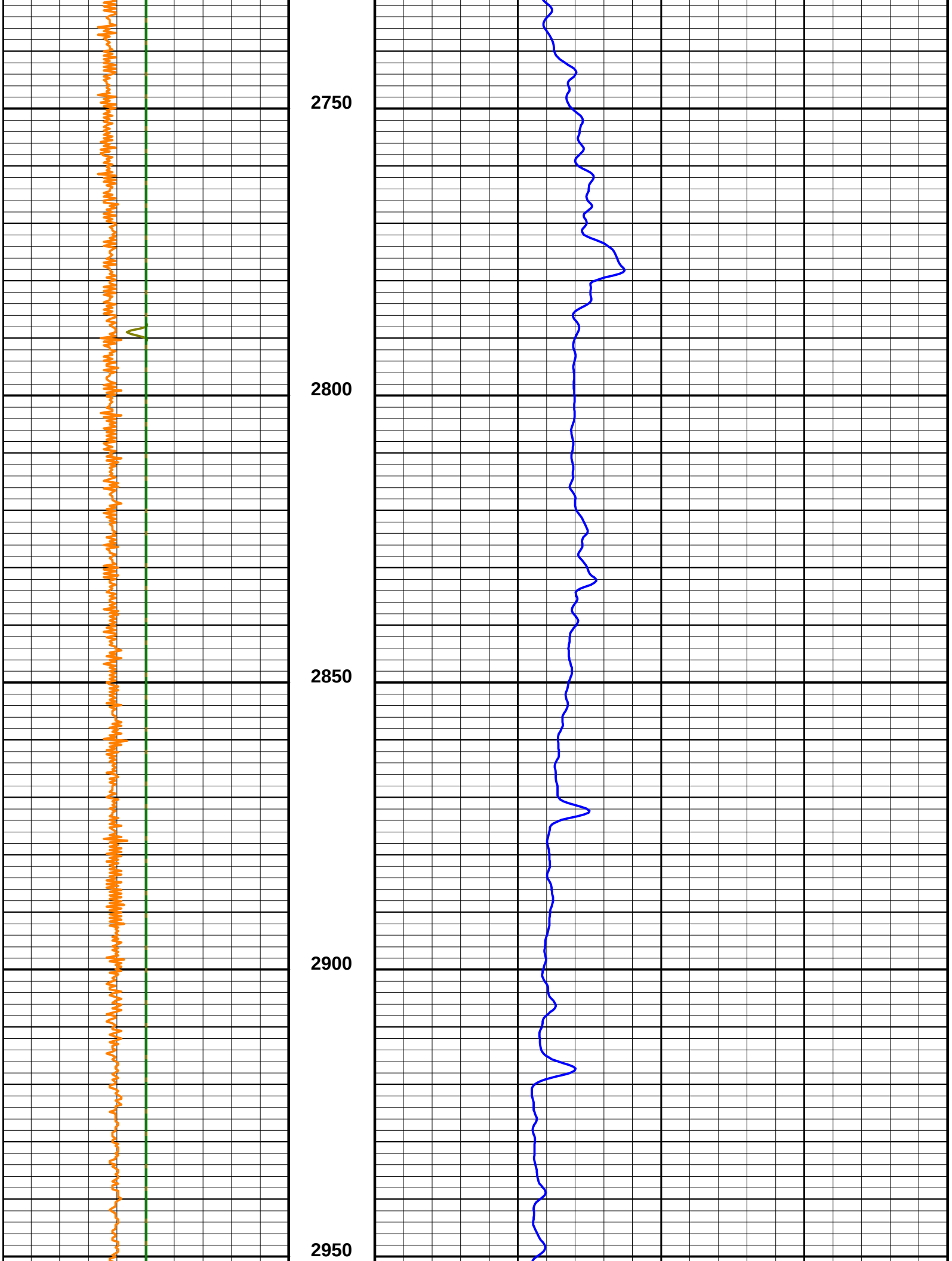
EQUIPMENT DATA

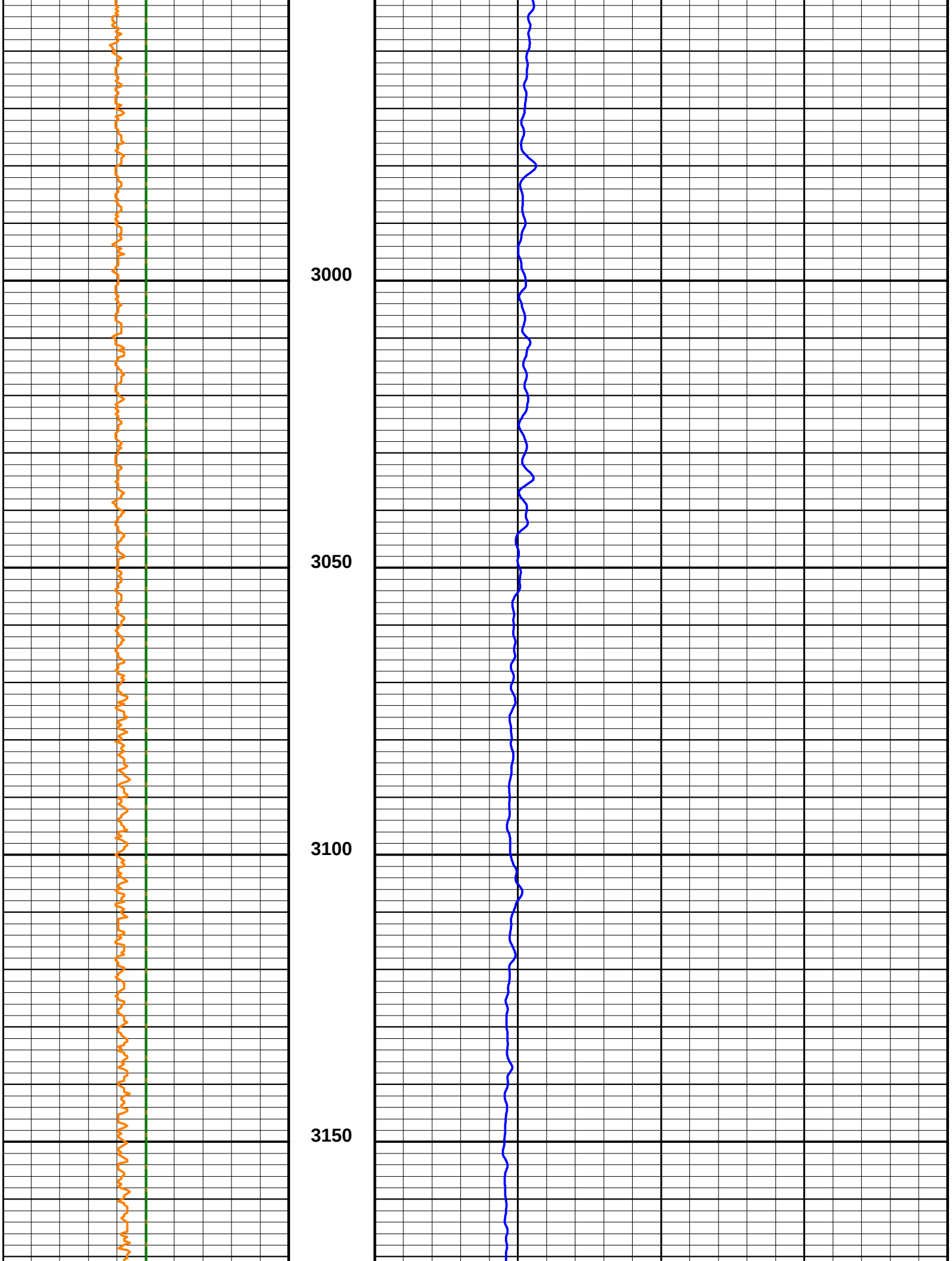
Run	Trip	Instrument	Serial No.	Series No.	Distance to Reference
1	1	ANTARES	009A	1466	0.0

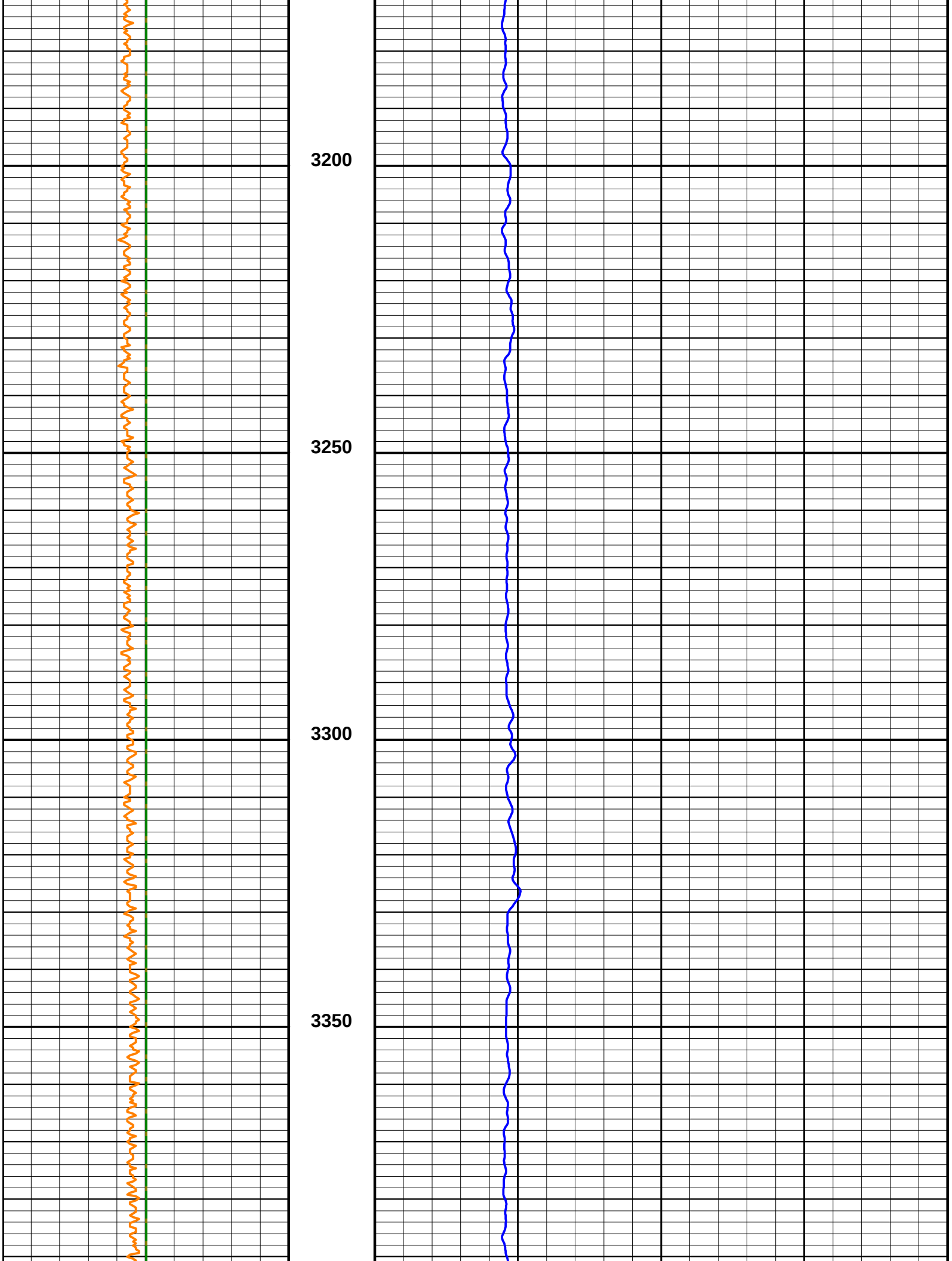
Company	**: T.B.C**	**Date**	**: 17.01.2013**
Well	**: WELL_3A**	**Time**	**: 10:23:35**
Scale	**: 1 : 240**	**Remarks**	**:**
Depth in	**: ft**		
Software	**: WinAPlot Ver. 5, 68, 0, 0**	**File Name**	**: INT 1-17**

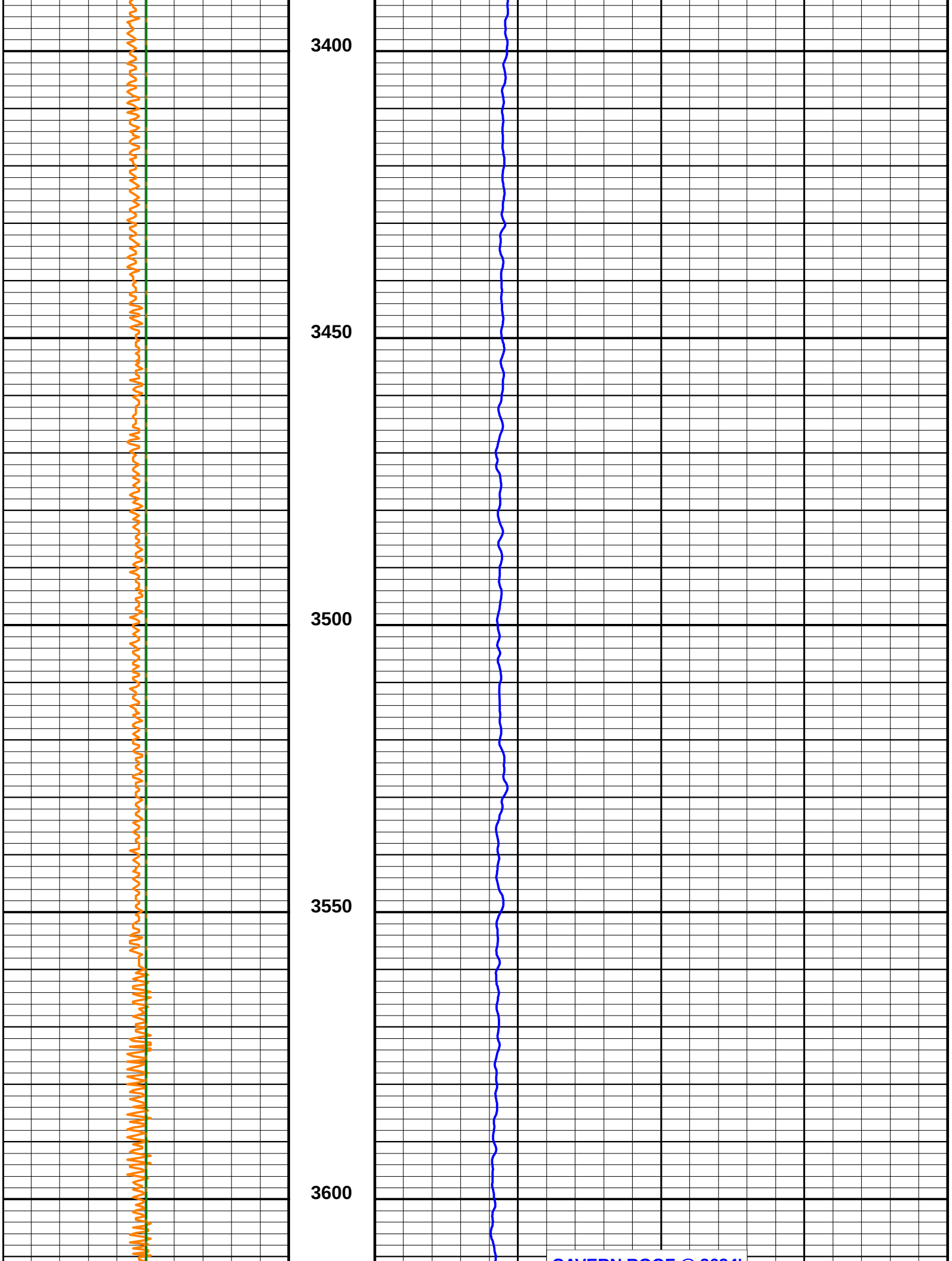
OUTER CCL (mV

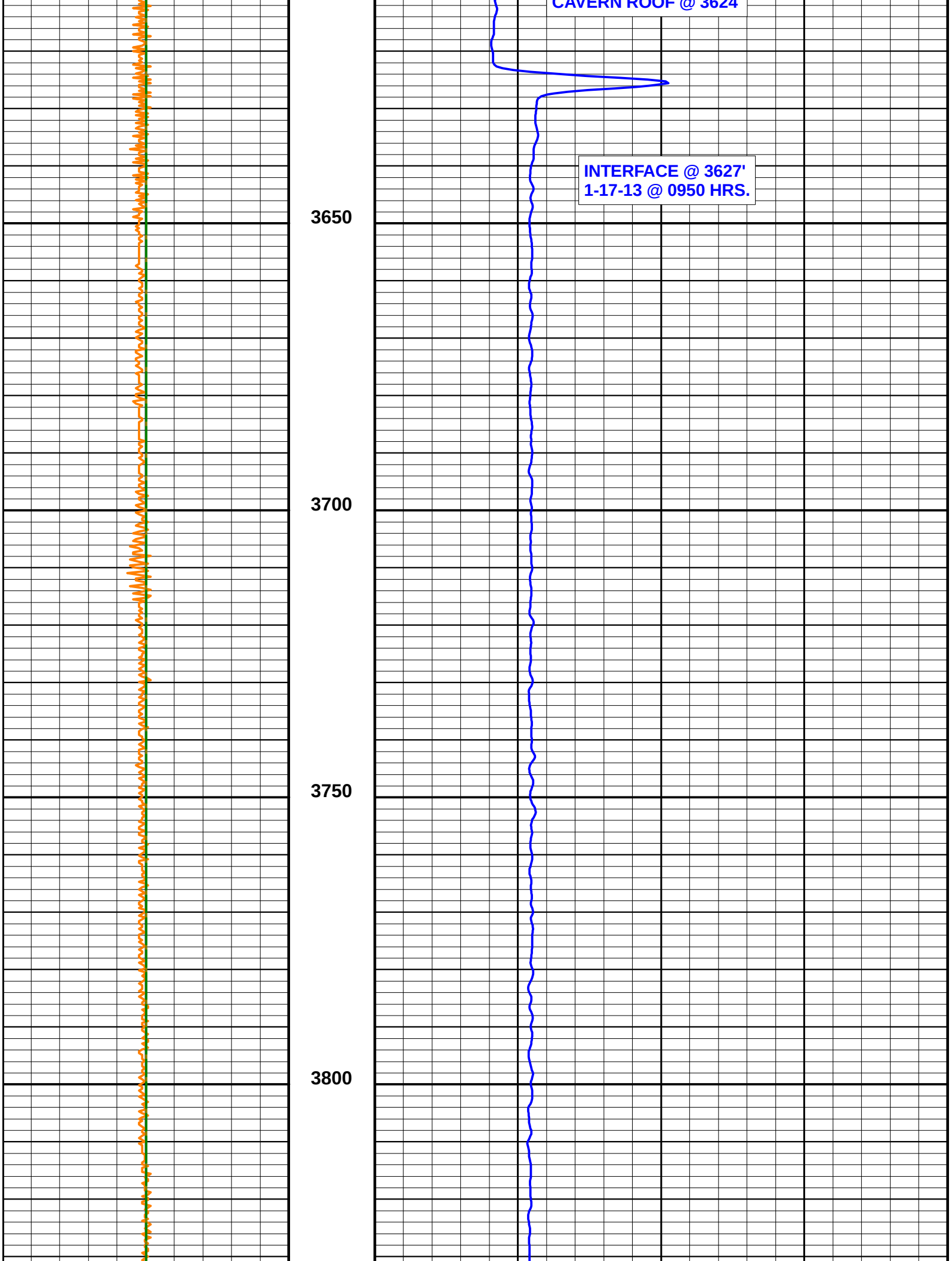

-1
1
INNER CCL (mV)
-1
1
TENSION (LBS)
0
1000
DENSITY (CPS)
2500
25500
2550
2600
2650
2700
TENSION
OUTER CCL
INNER CCL
DENSITY
7" CASING @ 2660'

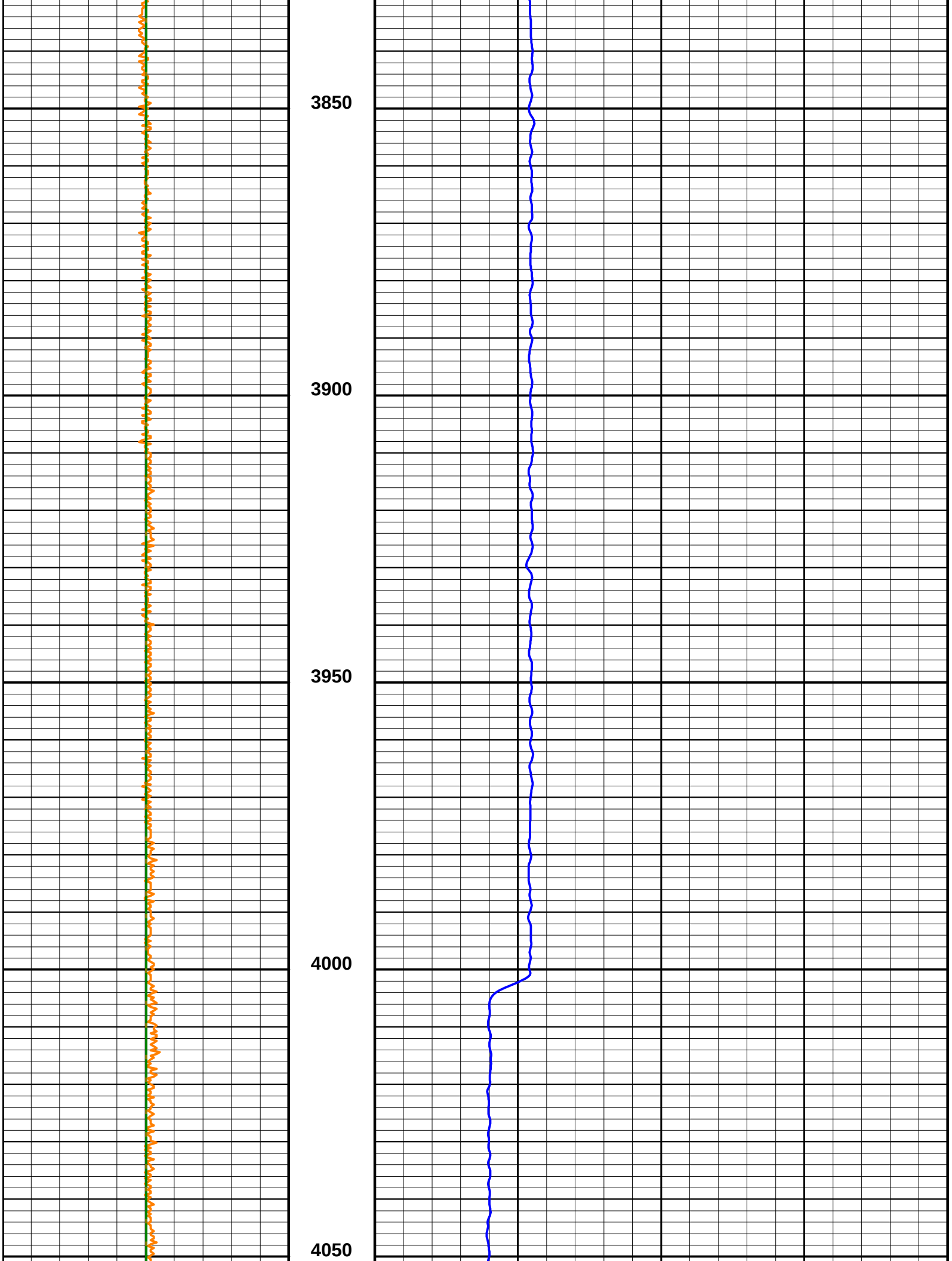

2750
2800
2850
2900
2950

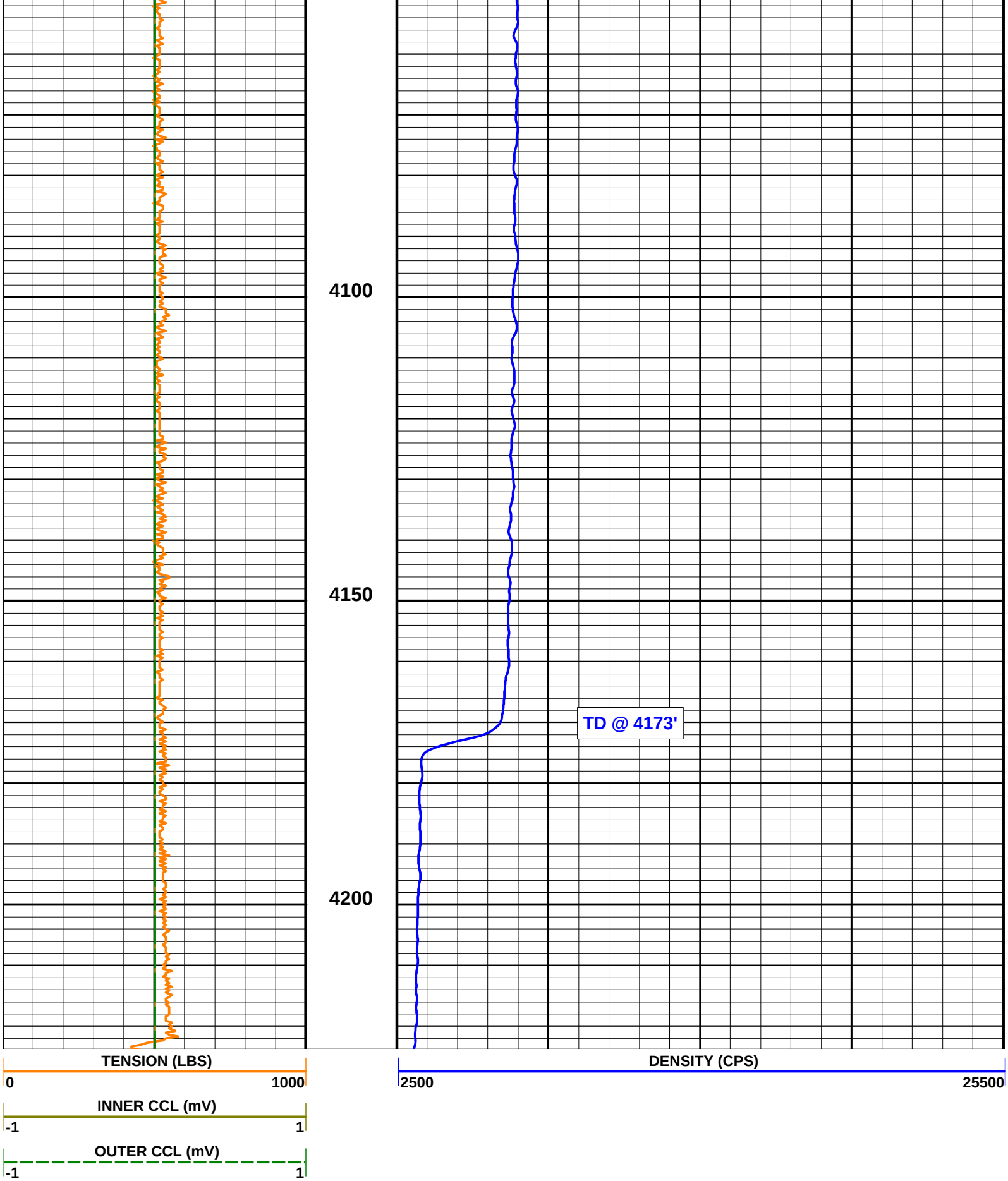

3000
3050
3100
3150


3200
3250
3300
3350


3400
3450
3500
3550
3600


CAVERN ROOF @ 3624
INTERFACE @ 3627'
1-17-13 @ 0950 HRS.
3650
3700
3750
3800


3850
3900
3950
4000
4050


4100
4150
4200
TD @ 4173'
TENSION (LBS)
0
1000
INNER CCL (mV)
-1
1
OUTER CCL (mV)
-1
1
DENSITY (CPS)
2500
25500