Texas Brine Company, LLC
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Belle Rose, LA 70341
Phone: 985-369-6657
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February 8, 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** | | **Date Collected** | **Delivered to Lab** | **Results from Lab** | **Laboratory** | **Method** | **Date to Agencies** | Laboratory |
| **Sage** | Stationary Air Monitoring | Eric Rucinski - 07:45 - 09:30 | | 2/7/2013 | No | No | No | AreaRAE Monitors | 2/8/2013 | Lab Contact |
| | Residential Air Monitoring | No work performed | | 2/7/2013 | NA | NA | NA | NA | NA | |
| | Gas Seep Sampling | No work performed | | 2/7/2013 | NA | NA | NA | NA | NA | |
| | Well Gas Sampling | No work performed | | 2/7/2013 | NA | NA | NA | NA | NA | |
| | Indoor Air Monitoring | No work performed | | 2/7/2013 | NA | NA | NA | NA | NA | |
| **Respec** | Inclinometers/Tilt Meters | W. Goodman | | 2/8/2013 | | Read from Atlas | NA | | NA | |
| | InSAR Reflector Installations | W. Goodman | | 2/8/2013 | | Read from Atlas | NA | | NA | |
| | Subsidence Survey-Fenstermaker | 2/7/2013 | No work conducted | No work | **2/7/2013** | **NA** | NA | | NA | |
| | Shallow Geophone Installation | 2/7/2013 | No work conducted | No work | **2/7/2013** | **NA** | NA | | NA | |
| | Deep Geophone Installation | 2/7/2013 | Logged & photgraphed core#4, no other recovery | P.Smith; E. Krantz | **2/7/2013** | **NA** | NA | | NA | |
| | Amendment #3, Directive #2 | 2/7/2013 | **Work Completed**, no work conducted | **Work Completed**, no | **2/7/2013** | **NA** | NA | | NA | |
| **Miller** | Weekly Stability Survey | No Work Performed | | 7-Feb-13 | NA | NA | NA | NA | NA | |
| | Misc. Survey Work | Kevin Pichoff | | 7-Feb-13 | NA | NA | NA | NA | NA | Laboratory |
| | Sinkhole Hydro/Perimeter Survey | No Work Performed | | 7-Feb-13 | NA | NA | NA | NA | NA | Lab Contact |
| **Pisani** | Surface Water | ABF | | 2/8/2013 | 2/8/2013 | NA | GCAL | TPH 1006, BTEX, Chloride, TDS, Conductivity, H2S | NA | |
| | Well Water | NA | | NA | NA | NA | NA | NA | NA | Laboratory |
| | Geoprobe Wells | NA | | NA | NA | NA | NA | NA | NA | Lab Contact |

| Grand Bayou Well 3A | |
|---|---|
| **Daily Operations at 3A** | **Summary of Today's events** |
| | **Oxy 3A** |
| **2/8/2013** | 7am<br>643.13 2/8/2013 |
| | **Relief Well #1** |
| **2/8/2013** | See ORW-01 Flare Spreadsheet |

# Attachments

# Daily Action Summary

## February 7, 2013

### Stationary Air Monitoring

- Eric Rucinski onsite from 07:45 to 09:30. Changed out the monitors between 08:17 and 09:11. Collected data from the monitoring database and forwarded to Jill Martin in the Baton Rouge office for processing.

- Pete Hyatt IV 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

- Not Scheduled

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 (%) |
| 02/07/2013 01:00:00 AM | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | 0.0 | 0.0 | 20.9 |
| 02/07/2013 02:00:00 AM | 0.0 | <1.0 | <1.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 |
| 02/07/2013 03:00:00 AM | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 |
| 02/07/2013 04:00:00 AM | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | 0.0 | 0.0 | 20.9 |
| 02/07/2013 05:00:00 AM | 0.0 | <1.0 | <1.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 |
| 02/07/2013 06:00:00 AM | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 |
| 02/07/2013 07:00:00 AM | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | 0.0 | 0.0 | 20.9 |
| 02/07/2013 08:00:00 AM | <1.0 | <1.0 | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | 0.0 | 0.0 | 20.9 |
| 02/07/2013 09:00:00 AM | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | 0.0 | 0.0 | 0.0 | 20.9 |
| 02/07/2013 10:00:00 AM | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | 0.0 | <1.0 | 0.0 | 20.9 |
| 02/07/2013 11:00:00 AM | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | 0.0 | <1.0 | 0.0 | 20.9 |
| 02/07/2013 12:00:00 PM | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | 0.0 | <1.0 | 0.0 | 20.9 |
| 02/07/2013 01:00:00 PM | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | 0.0 | <1.0 | 0.0 | 20.9 |
| 02/07/2013 02:00:00 PM | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | 0.0 | <1.0 | 0.0 | 20.9 |
| 02/07/2013 03:00:00 PM | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | 0.0 | <1.0 | 0.0 | 20.9 |
| 02/07/2013 04:00:00 PM | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | 0.0 | <1.0 | 0.0 | 21.3 |
| 02/07/2013 05:00:00 PM | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | 0.0 | <1.0 | 0.0 | 21.3 |
| 02/07/2013 06:00:00 PM | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | 0.0 | <1.0 | 0.0 | 21.1 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | <1.0 | <1.0 | 21.0 |
| 02/07/2013 07:00:00 PM | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | 0.0 | <1.0 | 0.0 | 21.1 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | 0.0 | 0.0 | 20.9 |
| 02/07/2013 08:00:00 PM | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | <1.0 | <1.0 | 20.9 |
| 02/07/2013 09:00:00 PM | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | 0.0 | <1.0 | 20.9 |
| 02/07/2013 10:00:00 PM | 0.0 | <1.0 | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | 0.0 | <1.0 | 20.9 |
| 02/07/2013 11:00:00 PM | 0.0 | <1.0 | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | <1.0 | <1.0 | 20.9 |
| 02/08/2013 12:00:00 AM | 0.0 | <1.0 | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | 0.0 | <1.0 | 20.9 |

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 (%) |
| 02/07/2013 05:00:00 AM | 0.0 | <1.0 | <1.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 |
| 02/07/2013 06:00:00 AM | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 |
| 02/07/2013 07:00:00 AM | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | 0.0 | 0.0 | 20.9 |
| 02/07/2013 08:00:00 AM | <1.0 | <1.0 | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | 0.0 | 0.0 | 20.9 |
| 02/07/2013 09:00:00 AM | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | 0.0 | 0.0 | 0.0 | 20.9 |
| 02/07/2013 10:00:00 AM | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | 0.0 | <1.0 | 0.0 | 20.9 |
| 02/07/2013 11:00:00 AM | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | 0.0 | <1.0 | 0.0 | 20.9 |
| 02/07/2013 12:00:00 PM | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | 0.0 | <1.0 | 0.0 | 20.9 |
| 02/07/2013 01:00:00 PM | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | 0.0 | <1.0 | 0.0 | 20.9 |
| 02/07/2013 02:00:00 PM | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | 0.0 | <1.0 | 0.0 | 20.9 |
| 02/07/2013 03:00:00 PM | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | 0.0 | <1.0 | 0.0 | 20.9 |
| 02/07/2013 04:00:00 PM | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | 0.0 | <1.0 | 0.0 | 21.3 |
| 02/07/2013 05:00:00 PM | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | 0.0 | <1.0 | 0.0 | 21.3 |
| 02/07/2013 06:00:00 PM | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | 0.0 | <1.0 | 0.0 | 21.1 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | <1.0 | <1.0 | 21.0 |
| 02/07/2013 07:00:00 PM | 0.0 | <1.0 | 0.0 | 0.0 | 20.9 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | 0.0 | <1.0 | 0.0 | 21.1 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | 0.0 | 0.0 | 20.9 |
| 02/07/2013 08:00:00 PM | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | <1.0 | <1.0 | 20.9 |
| 02/07/2013 09:00:00 PM | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | 0.0 | <1.0 | 20.9 |
| 02/07/2013 10:00:00 PM | 0.0 | <1.0 | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | 0.0 | <1.0 | 20.9 |
| 02/07/2013 11:00:00 PM | 0.0 | <1.0 | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | <1.0 | <1.0 | 20.9 |
| 02/08/2013 12:00:00 AM | 0.0 | <1.0 | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | 0.0 | <1.0 | 20.9 |
| 02/08/2013 01:00:00 AM | 0.0 | <1.0 | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | <1.0 | <1.0 | 20.9 |
| 02/08/2013 02:00:00 AM | 0.0 | <1.0 | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | <1.0 | <1.0 | 20.9 |
| 02/08/2013 03:00:00 AM | 0.0 | <1.0 | <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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | <1.0 | <1.0 | 20.9 |
| 02/08/2013 04:00:00 AM | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | 0.0 | <1.0 | 20.9 |
| 02/08/2013 05:00:00 AM | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 20.9 | <1.0 | <1.0 | 0.0 | <1.0 | 20.9 |

# RESPEC Consulting & Services

Texas Brine, L.L.C.

Assumption Parish, Louisiana

Daily Field Report

Report By: Peter Smith

Company: RESPEC

Date: 2/7/13

Work Order #: ()

| Personnel | Company | Job Title |
|---|---|---|
| Peter Smith, CPG | RESPEC | Staff Geologist |
| Eric Krantz, PE | RESPEC | Staff Engineer |
| | | |
| | | |
| | | |

**Time Onsite:** Start Time: 00:00 End Time: 24:00

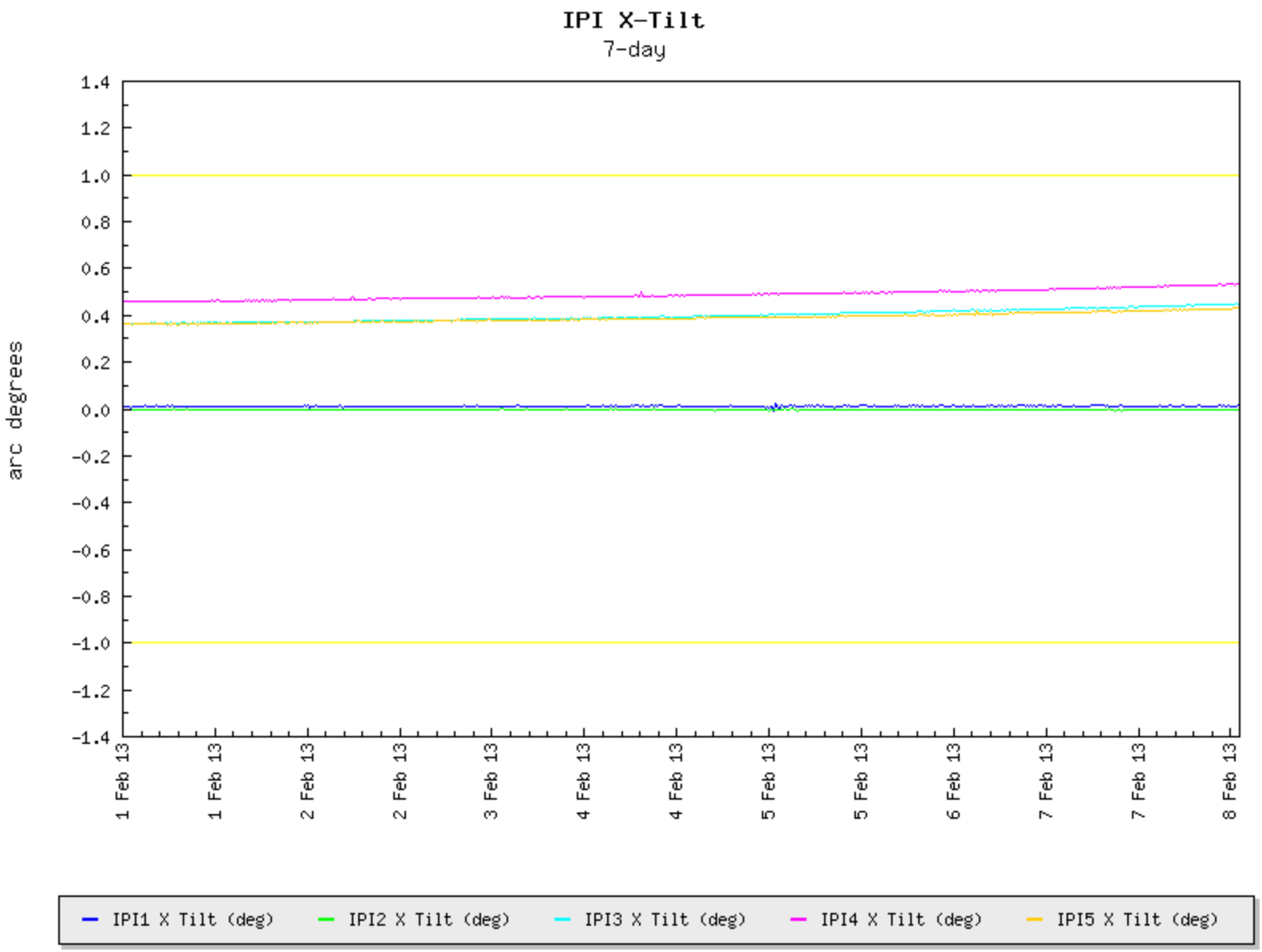
**Equipment Onsite**:

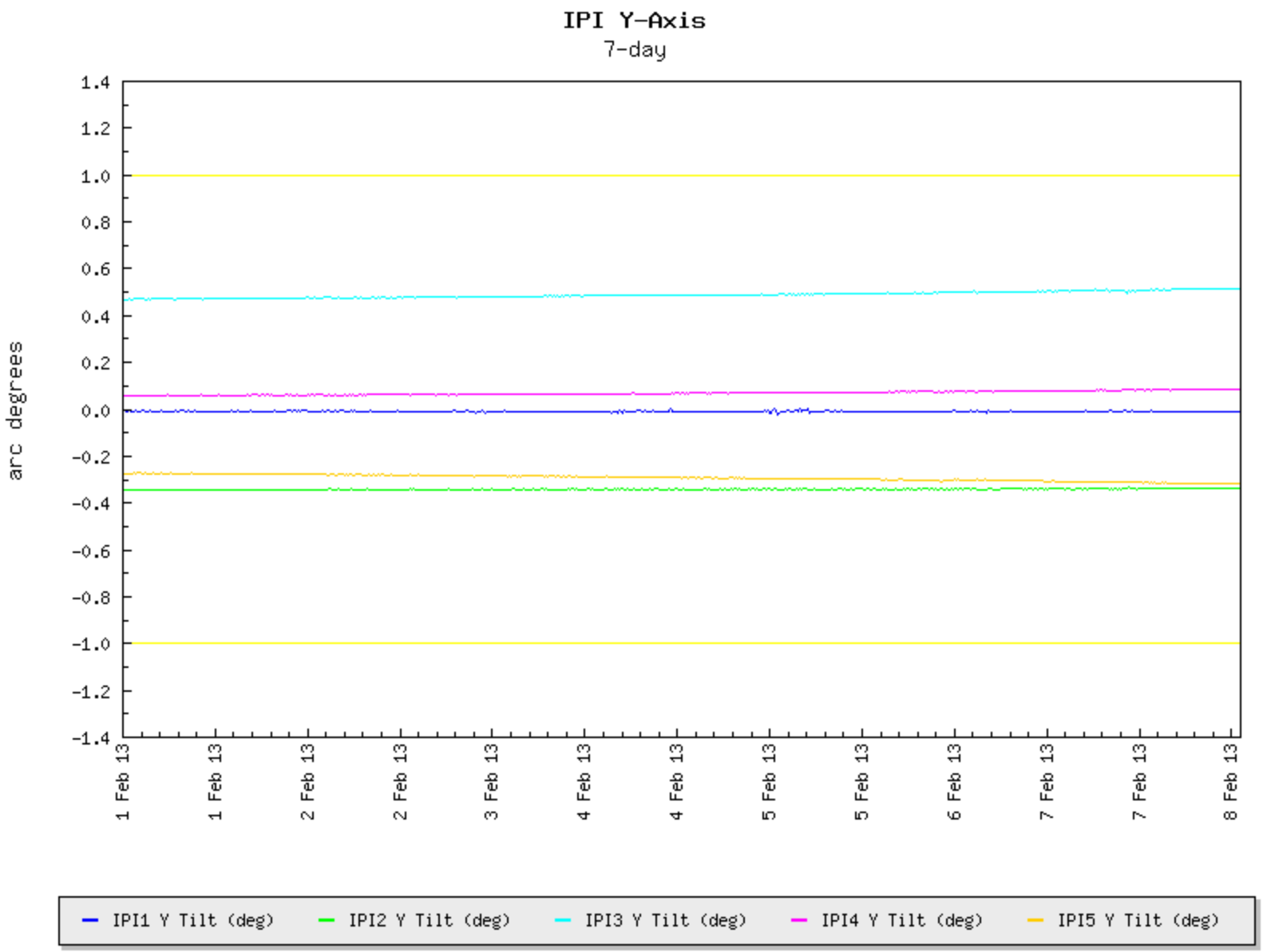
**Daily Activity:** Log and photograph core from core run #4. No recovery for core runs # 5-8.

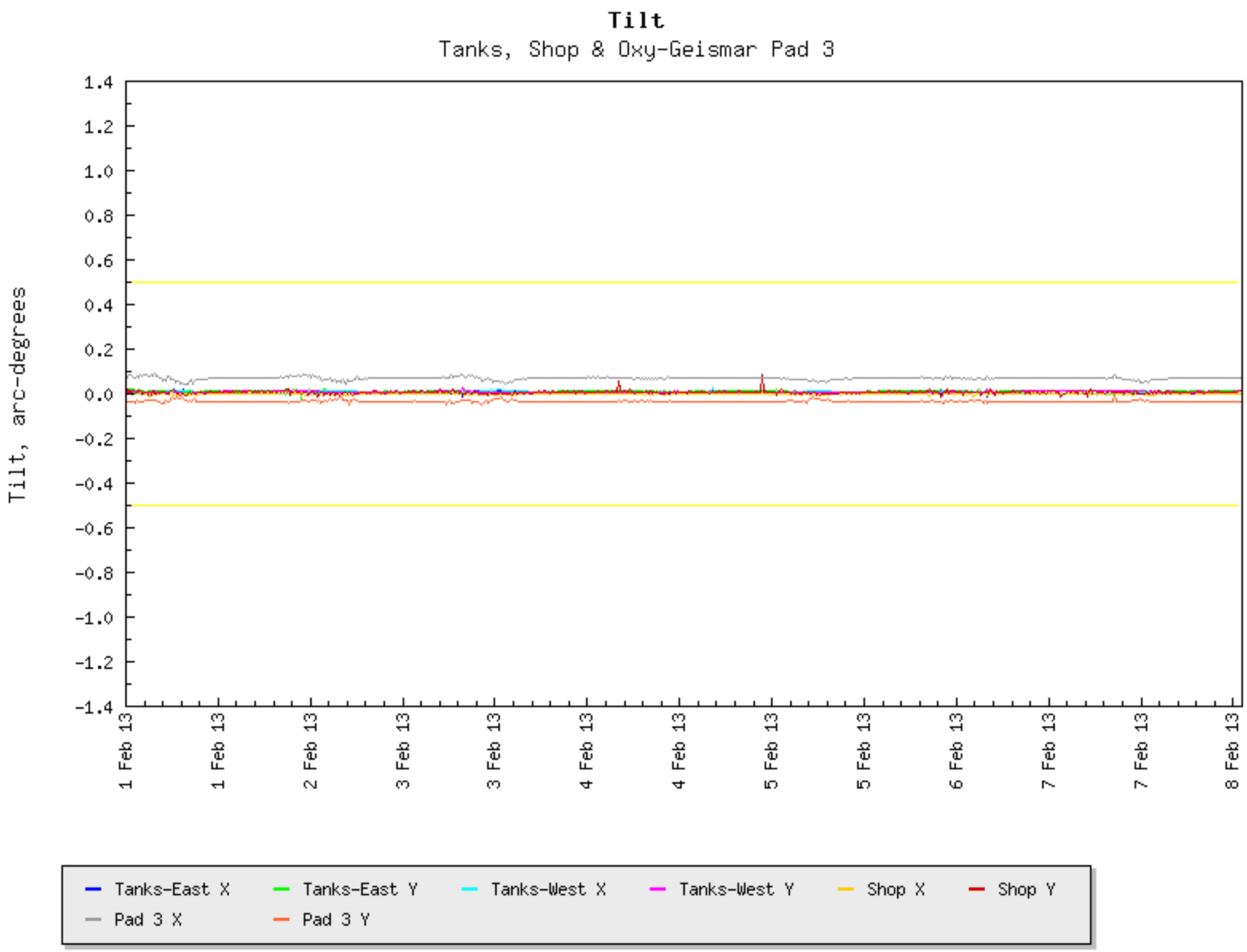
**Proposed Schedule:** Continue coring.

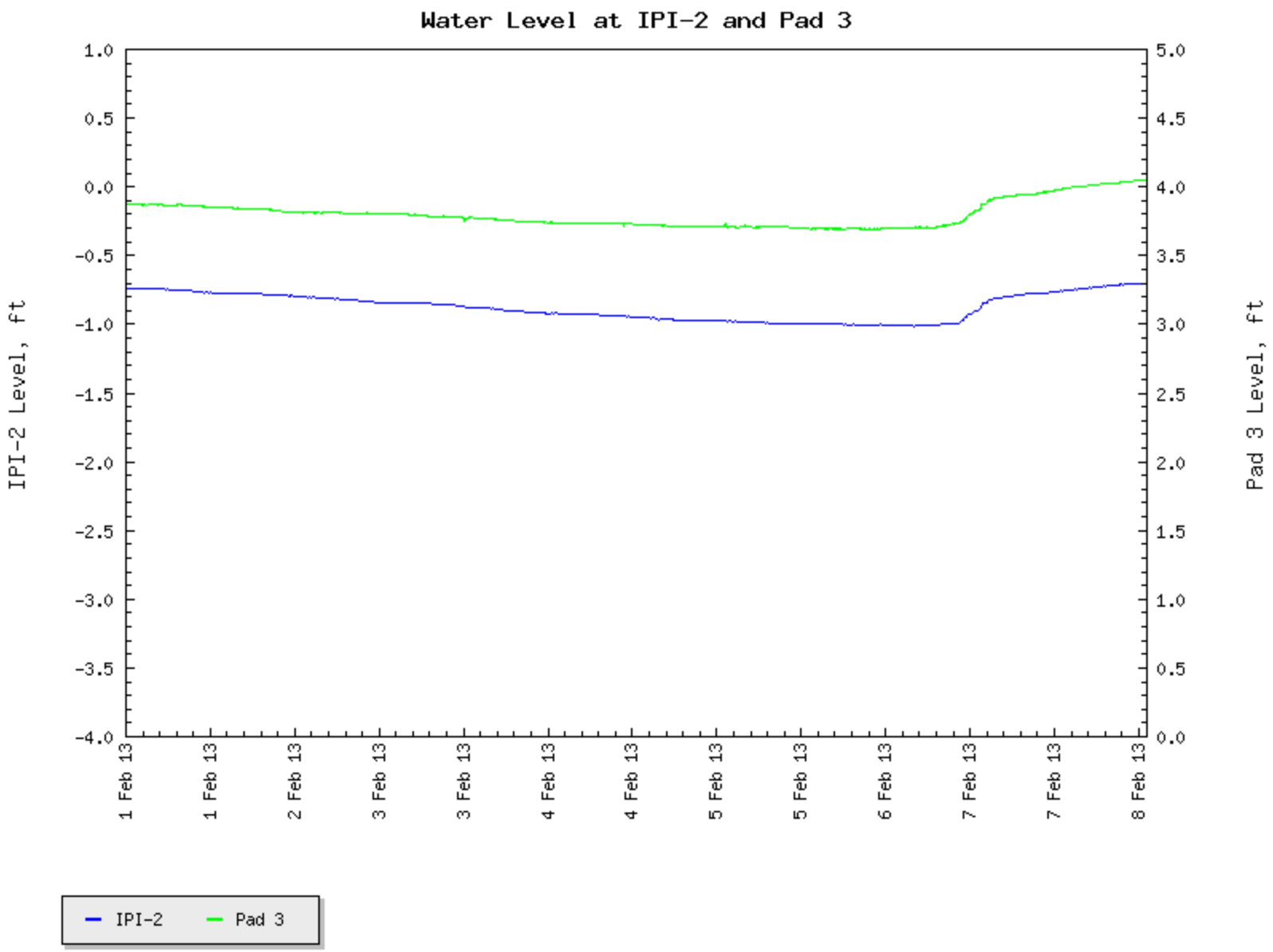
Initials: PHS

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


IPI X-Tilt
7-day
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
1 Feb 13
1 Feb 13
2 Feb 13
2 Feb 13
3 Feb 13
4 Feb 13
4 Feb 13
5 Feb 13
5 Feb 13
6 Feb 13
7 Feb 13
7 Feb 13
8 Feb 13
IPI1 X Tilt (deg)
IPI2 X Tilt (deg)
IPI3 X Tilt (deg)
IPI4 X Tilt (deg)
IPI5 X Tilt (deg)


IPI Y-Axis
7-day
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
1 Feb 13
1 Feb 13
2 Feb 13
2 Feb 13
3 Feb 13
4 Feb 13
4 Feb 13
5 Feb 13
5 Feb 13
6 Feb 13
7 Feb 13
7 Feb 13
8 Feb 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
1 Feb 13
1 Feb 13
2 Feb 13
3 Feb 13
3 Feb 13
4 Feb 13
4 Feb 13
5 Feb 13
5 Feb 13
6 Feb 13
7 Feb 13
7 Feb 13
8 Feb 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
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-4.0
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1 Feb 13
1 Feb 13
2 Feb 13
3 Feb 13
3 Feb 13
4 Feb 13
4 Feb 13
5 Feb 13
5 Feb 13
6 Feb 13
7 Feb 13
7 Feb 13
8 Feb 13
IPI-2
Pad 3

BAKER HUGHES

# DIGITAL SPECTRALOG ® TTRM SUB SM

| | | | |
|---|---|---|---|
| FILE NO: 0H067692 | COMPANY | TEXAS BRINE COMPANY | |
| API NO: N/A | WELL | GEO PHONE #3 | |
| | FIELD | NAPOLEANVILLE | |
| | PARISH | ASSUMPTION | STATE LOUISIANA |

Ver. 3.87

LOCATION:
N 30* 00' 53"
W 91* 08' 37"
SEC 40 TWP 12S RGE 13E

OTHER SERVICES
HSLAM
XMAC
STAR
BHP

| | | | |
|---|---|---|---|
| PERMANENT DATUM | GL | ELEVATION | N/A |
| LOG MEASURED FROM | KB | 17 FT | ABOVE P.D. |
| DRILL. MEAS. FROM | KB | | |

ELEVATIONS:
KB N/A
DF N/A
GL N/A

| | | | | | |
|---|---|---|---|---|---|
| DATE | | 05-FEB-2013 | | | |
| RUN | TRIP | 1 | 2 | | |
| SERVICE ORDER | | US637702 | | | |
| DEPTH DRILLER | | 420 FT | | | |
| DEPTH LOGGER | | 415 FT | | | |
| BOTTOM LOGGED INTERVAL | | 413 FT | | | |
| TOP LOGGED INTERVAL | | 0 FT | | | |
| CASING DRILLER | | 20 IN | @175 FT | @ | |
| CASING LOGGER | | 170 FT | | | |
| BIT SIZE | | 17.5 IN | | | |
| TYPE OF FLUID IN HOLE | | WBM | | | |
| DENSITY | VISCOSITY | 8.9 LB/G | 38 S | | |
| PH | FLUID LOSS | 10.4 | 4.4 C3 | | |
| SOURCE OF SAMPLE | | FLOWLINE | | | |
| RM AT MEAS. TEMP. | | 1.95 OHMM | @75 DEGF | @ | |
| RMF AT MEAS. TEMP. | | 1.46 OHMM | @75 DEGF | @ | |
| RMC AT MEAS. TEMP. | | 2.44 OHMM | @75 DEGF | @ | |
| SOURCE OF RMF | RMC | CALCULATED | CALCULATED | | |
| RM AT BHT | | 1.96 OHMM | @74 DEGF | @ | |
| TIME SINCE CIRCULATION | | 7.65 HRS | | | |
| MAX. RECORDED TEMP. | | 74 DEGF | | | |
| EQUIP. NO. | LOCATION | HL-6756 | TYLER, TX | | |
| RECORDED BY | | A ZUMWALT | | | |
| WITNESSED BY | | L ARABIE | | | |

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.

## REMARKS

RUN 1 TRIP 2 :

BVOL = TOTAL BOREHOLE VOLUME (CU FT)
CVOL = CEMENT VOLUME FOR 13.375" CASING (CU FT)

PORZC & CNC LOGGED ON A SANDSTONE MATRIX (2.65 G/CC)

CREW: V. TUCKER & P. BREFFITT

## EQUIPMENT DATA

| RUN | TRIP | TOOL | SERIES NO. | SERIAL NO. | POSITION |
|---|---|---|---|---|---|
| 1 | 2 | TTRM | 3981XB | 368438 | FREE |
| 1 | 2 | WTS | 3514XB | 364367 | FREE |
| 1 | 2 | DSL | 1329XB | 10218881 | DECENTRALIZED |
| 1 | 2 | CN | 2446XA | 10223589 | FREE |
| 1 | 2 | ZDL | 2234XA | 10236400 | PAD DEVICE |

# MAIN LOG 5"/100FT SCALE

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

Tue Feb 5 14:22:53 2013

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

## PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/637702/m87cb03.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: -2.500 ft BOTTOM DEPTH: 420.750 ft

### SYMMETRIC FILTER

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) TOP | BOTTOM |
|---|---|---|---|---|---|
| SPEED | FILTER () | medium (1) | | TOP | BOTTOM |
| | FILTER (.h) | medium (1) | | '' | '' |
| | FILTER (.l) | medium (1) | | '' | '' |
| TENSION | FILTER () | medium (1) | | '' | '' |
| GR | FILTER () | medium (1) | | '' | '' |
| SL | FILTER | medium (1) | | '' | '' |

### BOREHOLE & CEMENT

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) TOP | BOTTOM |
|---|---|---|---|---|---|
| CASING - BOREHOLE & CEMENT VOLUME | CASING O.D. | 13.375 | in | TOP | BOTTOM |
| BIT SIZE | BIT SIZE | 17.500 | in | '' | '' |
| MUD DENSITY | MUD DENSITY | 8.90 | lbm/gal | '' | '' |
| BOREHOLE CORR DIAMETER SOURCE | CALIPER/FIXED DIA. (slbh*) | USE FIXED SIZE | | '' | '' |
| BOREHOLE CORR DIAMETER | FIXED DIAMETER (slbh*) | 17.500 | in | '' | '' |

### SL PROCESSING

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) TOP | BOTTOM |
|---|---|---|---|---|---|
| SL BOREHOLE | OPEN/CASED HOLE | OPEN HOLE | | TOP | BOTTOM |
| | K MUD CONTENT | 0.00 | pct | '' | '' |
| | K MUD TYPE | KCL | | '' | '' |
| SL AUTOGAIN | AUTO GAIN (1329XA 1) | ON | | '' | '' |
| SL SPECTRUM CALIBRATION | MODE | AUTOMATIC | | '' | '' |

## PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/637702/m87cb05.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 9.000 ft BOTTOM DEPTH: 419.566 ft

### SYMMETRIC FILTER

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) TOP | BOTTOM |
|---|---|---|---|---|---|
| Y AXIS CALIPER | FILTER () | medium (1) | | TOP | BOTTOM |
| SPEED | FILTER () | medium (1) | | '' | '' |
| | FILTER (.h) | medium (1) | | '' | '' |
| | FILTER (.l) | medium (1) | | '' | '' |
| TENSION | FILTER () | medium (1) | | '' | '' |
| CALIPER | FILTER () | medium (1) | | '' | '' |
| | FILTER (.h) | medium (1) | | '' | '' |
| | FILTER (.l) | medium (1) | | '' | '' |
| GR | FILTER () | medium (1) | | '' | '' |
| SL | FILTER | medium (1) | | '' | '' |

### BOREHOLE & CEMENT

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) TOP | BOTTOM |
|---|---|---|---|---|---|
| CASING - BOREHOLE & CEMENT VOLUME | CASING O.D. | 13.375 | in | TOP | BOTTOM |
| BIT SIZE | BIT SIZE | 17.500 | in | '' | '' |

| | | | | | |
|---|---|---|---|---|---|
| BIT SIZE | BIT SIZE | 17.500 | in | | |
| BOREHOLE CORR DIAMETER SOURCE | CALIPER/FIXED DIA. (slbh*) | USE FIXED SIZE<br>USE CALIPER | | TOP<br>149.250 | 149.250<br>BOTTOM |
| BOREHOLE CORR DIAMETER | FIXED DIAMETER (slbh*) | 17.500 | in | TOP | BOTTOM |
| MUD DENSITY | MUD DENSITY | 8.90 | lbm/gal | '' | '' |

## SL PROCESSING

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) | |
|---|---|---|---|---|---|
| SL BOREHOLE | OPEN/CASED HOLE | OPEN HOLE | | TOP | BOTTOM |
| | K MUD CONTENT | 0.00 | pct | '' | '' |
| | K MUD TYPE | KCL | | '' | '' |
| SL AUTOGAIN | AUTO GAIN (1329XA 1) | ON | | '' | '' |
| SL SPECTRUM CALIBRATION | MODE | AUTOMATIC | | '' | '' |

## CURVE DESCRIPTION REPORT

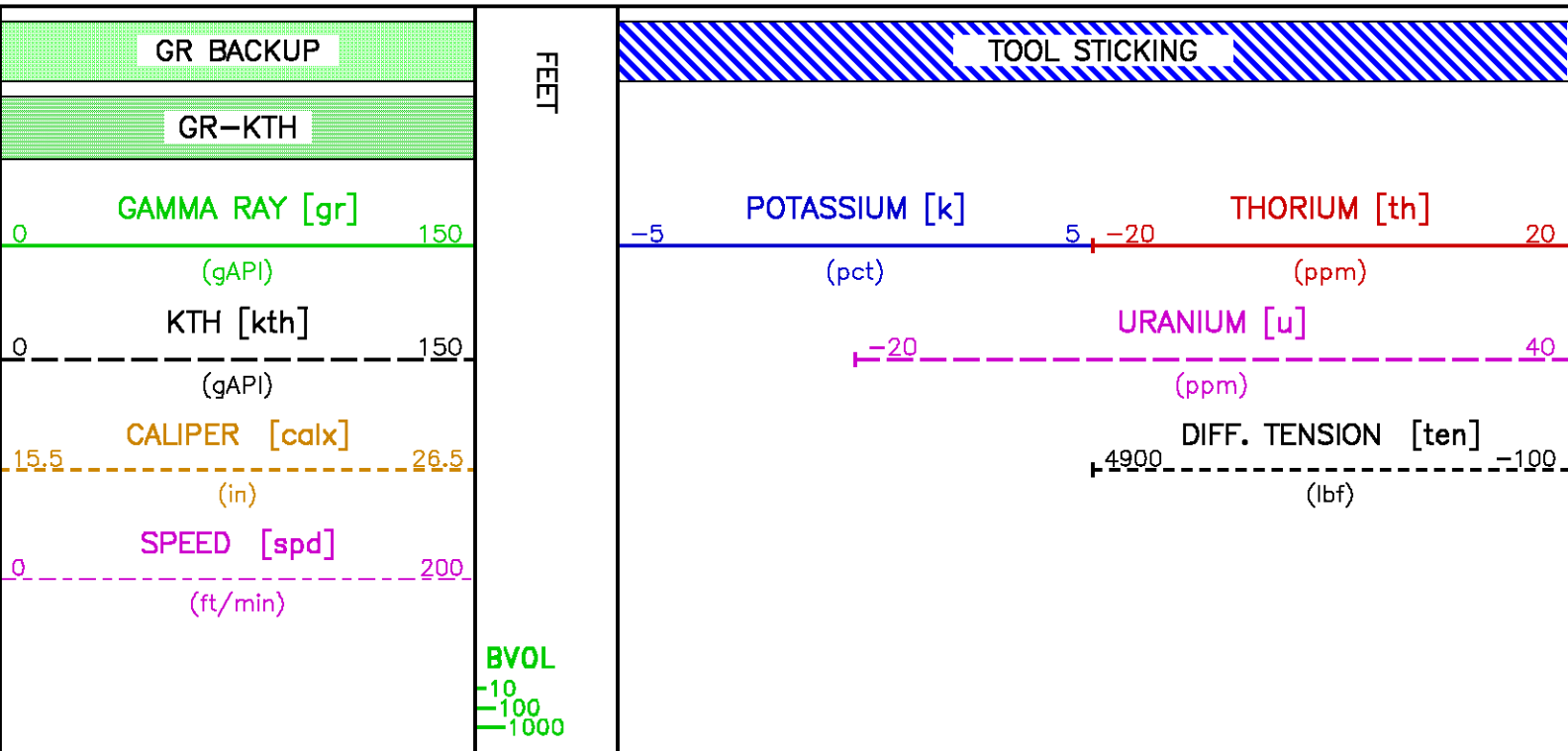
| CURVE NAME | CREATION DATE | CURVE DESCRIPTION |
|---|---|---|
| F1:BVOL | Feb 5 12:39:00 2013 | BOREHOLE VOLUME |
| F1:CALX | Feb 5 12:39:00 2013 | CALIPER FROM X-AXIS OF XY CALIPER(S) |
| F1:CVOL | Feb 5 12:39:00 2013 | CEMENT VOLUME |
| F1:GR | Feb 5 11:24:16 2013 | GAMMA RAY |
| F1:K | Feb 5 12:39:00 2013 | POTASSIUM CONTENT |
| F1:KTH | Feb 5 12:39:00 2013 | STRIPPED POTASSIUM-THORIUM |
| F1:SPD | Feb 5 11:24:16 2013 | SPEED |
| F1:TEN | Feb 5 11:24:16 2013 | DIFFERENTIAL TENSION |
| F1:TH | Feb 5 12:39:00 2013 | THORIUM CONCENTRATION |
| F1:U | Feb 5 12:39:00 2013 | URANIUM CONTENT |

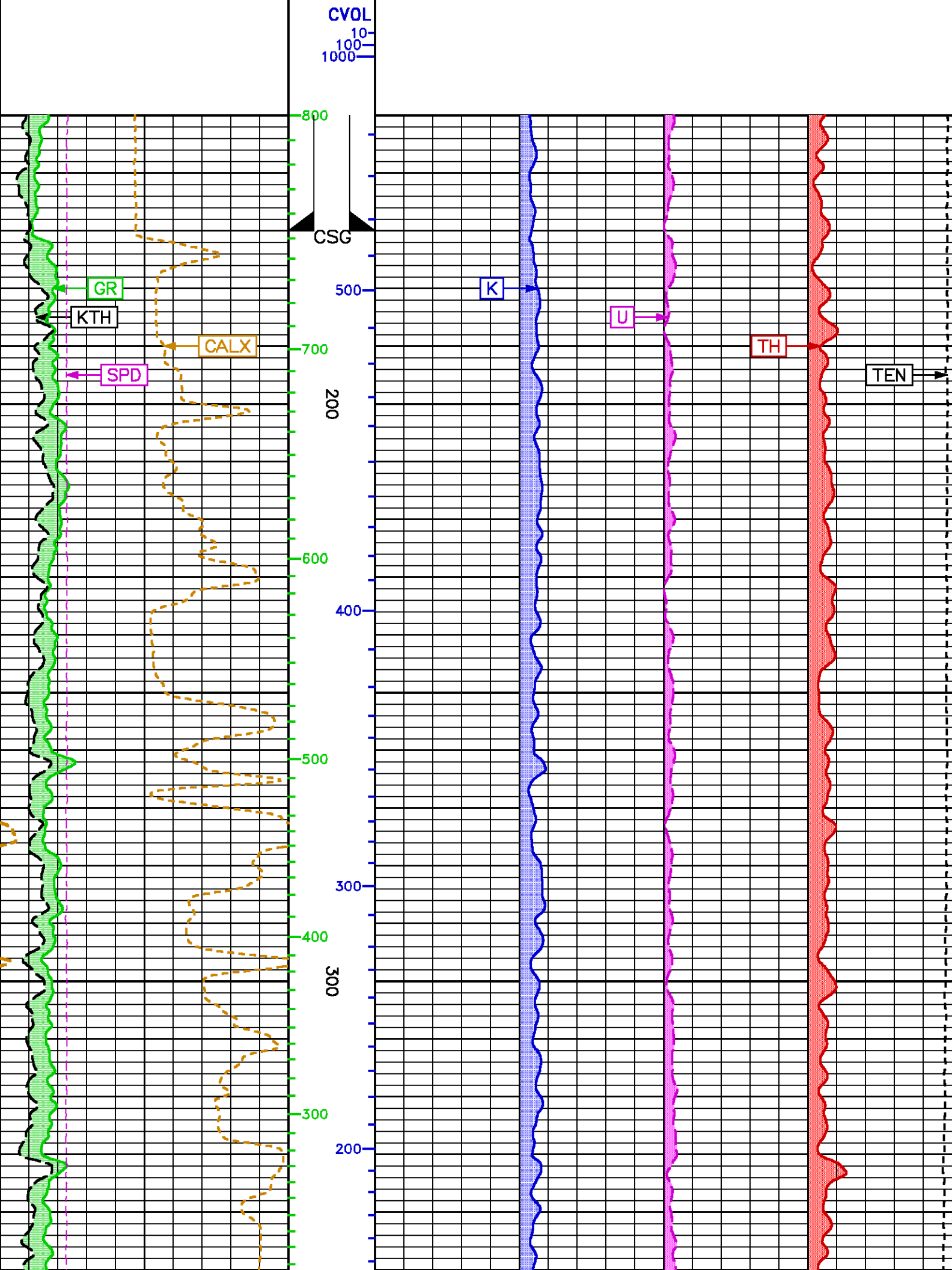
## CURVE MEASURE POINT OFFSET

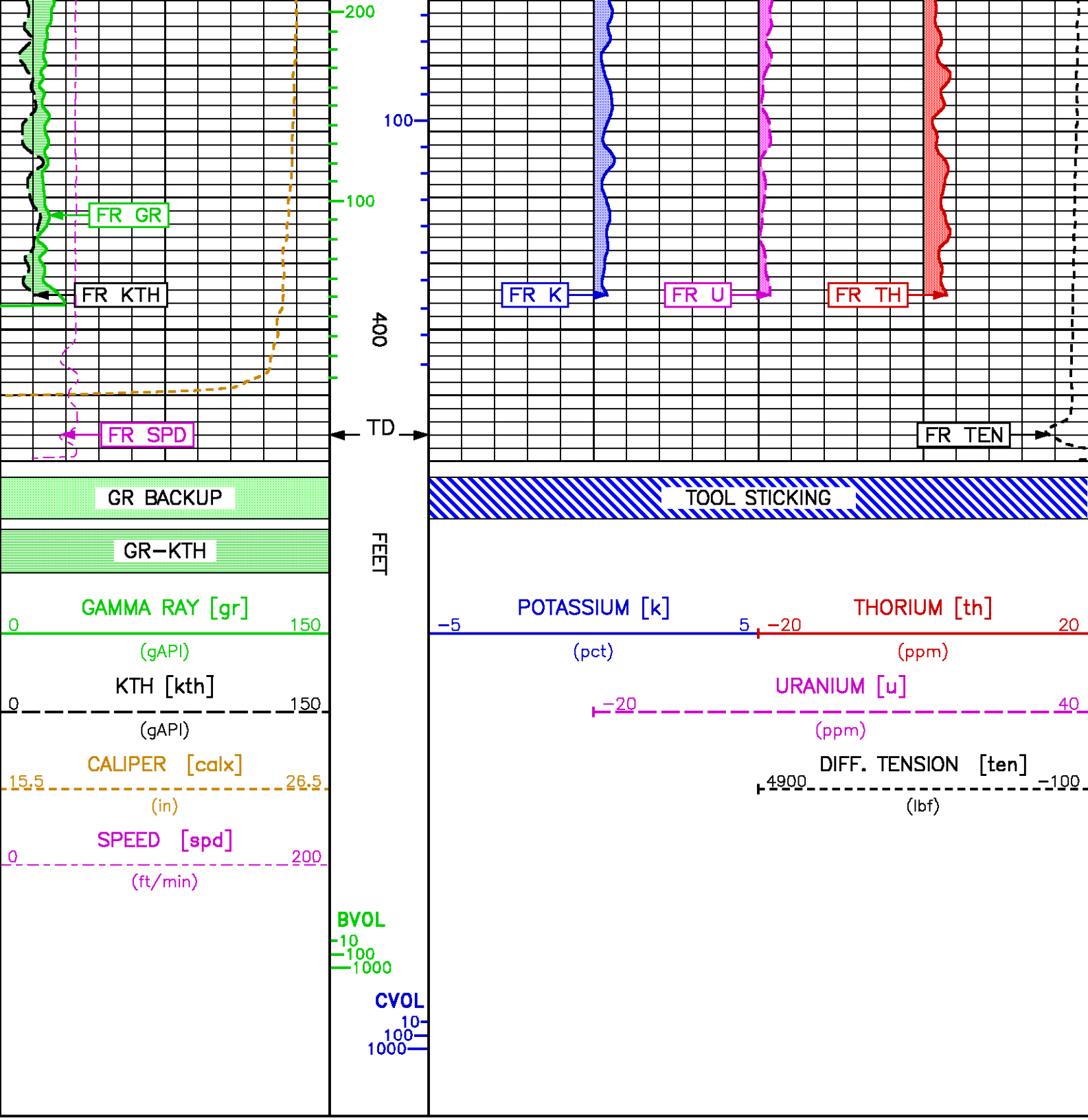
| CURVE | OFFSET (ft) | CURVE | OFFSET (ft) | CURVE | OFFSET (ft) | CURVE | OFFSET (ft) |
|---|---|---|---|---|---|---|---|
| CALX | 3.25 | K | 20.38 | SPD | 0.00 | TH | 20.38 |
| GR | 33.38 | KTH | 20.38 | TEN | 0.00 | U | 20.38 |

Presentation : tyl6756:/dat1a/637702/A_DSL_MP.pdf [5"/100' Scale]
Plot Interval : 150 - 419.75 Feet

Data File 1 : F1 : tyl6756:/dat1a/637702/Main.xtf
Created On : Feb 5 11:24:16 2013
Company : Texas Brine Company
Well : Geo Phone #3
Field : Napoleanville
File Interval : -10.5 - 421 Feet
Oct : m87cb




CVOL
10
100
1000
800
CSG
500
700
600
500
400
300
200
GR
KTH
CALX
SPD
K
U
TH
TEN
200
300




# CALIBRATION / VERIFICATION SUMMARY

Source File: /data/637702/calibration.tp1

## GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 10218881 DATE/TIME PERFORMED: Mon Jan 21 11:08:11 2013

UNIT #: 3882TD HL6756 CALB JIG #: 4702NK da491--

| | BACKGROUND (cts/s) | CALBRTR ON (cts/s) | CR DIFF (cts/s) | MULT | BACKGROUND (gAPI) | CALBRTR ON (gAPI) | CALBRTR (gAPI) |
|---|---|---|---|---|---|---|---|
| GR | 163.36 | 1057.38 | 894.0 (830.0 960.0) | 0.168 | 27.41 | 177.41 | 150 |

## GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 10218881 DATE/TIME PERFORMED: Mon Jan 21 11:13:42 2013

UNIT #: 3882TD HL6756 VERI JIG #: 4702NK da491--

| | BACKGROUND (cts/s) | CALBRTR ON (cts/s) | MULT | BACKGROUND (gAPI) | CALBRTR ON (gAPI) | DIFF. (gAPI) |
|---|---|---|---|---|---|---|
| GR | 159.49 | 1035.38 | 0.168 | 26.76 | 173.72 | 146.96 (140.00 160.00) |

## GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1329XA 10218881 DATE/TIME PERFORMED: Tue Feb 5 10:00:46 2013 DAYS SINCE CAL: 14

UNIT #: 3882TD HL6756 VERI JIG #: 4702NK da491--

| | BACKGROUND (cts/s) | CALBRTR ON (cts/s) | MULT | BACKGROUND (gAPI) | CALBRTR ON (gAPI) | DIFF. (gAPI) |
|---|---|---|---|---|---|---|
| GR | 158.93 | 1026.73 | 0.168 | 26.67 | 172.27 | 145.60 (136.96 156.96) |

## GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 1329XA 10218881 DATE/TIME PERFORMED: Tue Feb 5 11:30:39 2013 DAYS SINCE CAL: 15

UNIT #: 3882TD HL6756 VERI JIG #: 4702NK da491--

| | BACKGROUND (cts/s) | CALBRTR ON (cts/s) | MULT | BACKGROUND (gAPI) | CALBRTR ON (gAPI) | DIFF. (gAPI) |
|---|---|---|---|---|---|---|
| GR | 152.38 | 1043.91 | 0.168 | 25.57 | 175.15 | 149.58 (135.60 155.60) |

## SL PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 10218881 DATE/TIME PERFORMED: Mon Jan 21 11:10:45 2013

UNIT #: 3882TD HL6756 CALIBRATOR ID: 4702NA da491--

| | Bkgnd (cts/s) | Cal ON (cts/s) | Mult (gAPI/(cts/s)) | Bkgnd (gAPI) | Cal ON (gAPI) | Cal Value (gAPI) |
|---|---|---|---|---|---|---|
| GR-SL (.06-3.5) | 152.05 | 1075.75 | 0.165 | 24.57 | 174.57 | 150 |

| | Std Rate (cts/s) | Meas Rate (cts/s) | Tool Norm | Std Mult | Log Mult | App Con (pct ppm) |
|---|---|---|---|---|---|---|
| E (.25-3.0) | 554 | 546.8 | 1.013 (0.900 – 1.100) | | | |
| K | | | | 0.01602 | 0.01623 | 8.900 |
| U | | | | 0.03851 | 0.03902 | 21.300 |
| TH | | | | 0.10135 | 0.10269 | 56.100 |

| | Mult chnl/MeV | Add chnls | QSA | QCAL | GAIN | U Pk Res % |
|---|---|---|---|---|---|---|
| SPECTRUM | 70.948 | 2.247 | 1.136 | 1.002 (0.980 – 1.020) | 2994 | 11.65 |

| | 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 | 26.35 (22.80 – 28.80) | 45.66 (40.20 – 48.20) | 82.66 (76.00 – 86.00) | 128.05 (121.40 – 133.40) | 157.75 (152.00 – 166.00) |
| Fit Pk | 27.22 | 45.45 | 81.71 | 127.47 | 158.62 |

## SL PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 10218881 DATE/TIME PERFORMED: Mon Jan 21 11:13:54 2013

UNIT #: 3882TD HL6756 CALIBRATOR ID: 4702NA da491--

| | Bkgnd (cts/s) | Cal ON (cts/s) | Mult (gAPI/(cts/s)) | Bkgnd (gAPI) | Cal ON (gAPI) | Cal Value (gAPI) |
|---|---|---|---|---|---|---|
| GR-SL (.06-3.5) | 153.95 | 1027.72 | 0.165 | 25.16 | 168.18 | 143 (135 – 165) |

| | Std rate | Meas rate | Tool norm | Std Mult | Log Mult | App Con (pct ppm) |
|---|---|---|---|---|---|---|
| E (.25-3.0) | 554 | 541.8 | 1.013 | | | |
| K | | | | 0.01602 | 0.01623 | 8.794 (8.010 – 9.790) |
| U | | | | 0.03851 | 0.03902 | 21.140 (19.170 – 23.430) |
| TH | | | | 0.01602 | 0.10269 | 55.636 (50.490 – 61.710) |

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

| | chnl/MeV | chnls | | | | % |
|---|---|---|---|---|---|---|
| SPECTRUM | 71.579 | 1.605 | 0.401 | 1.005 (0.980 1.020) | 2994 | 12.40 |

| | 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 | 26.15 (22.80 28.80) | 45.68 (40.20 48.20) | 82.27 (76.00 86.00) | 127.69 (121.40 133.40) | 159.29 (152.00 166.00) |
| Fit Pk | 26.80 | 45.20 | 81.77 | 127.94 | 159.37 |

## SL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1329XA 10218881 DATE/TIME PERFORMED: Tue Feb 5 10:00:59 2013 DAYS SINCE CAL: 14

UNIT #: 3882TD HL6756 CALIBRATOR ID: 4702NA da491--

| | Bkgnd (cts/s) | Cal ON (cts/s) | Mult (gAPI/(cts/s)) | Bkgnd (gAPI) | Cal ON (gAPI) | Cal Value (gAPI) |
|---|---|---|---|---|---|---|
| GR-SL (.06-3.5) | 152.35 | 1021.88 | 0.165 | 24.66 | 166.24 | 142 (135 165) |

| | Std rate | Meas rate | Tool norm | Std Mult | Log Mult | App Con (pct ppm) |
|---|---|---|---|---|---|---|
| E (.25-3.0) | 554 | 530.7 | 1.013 | | | |
| K | | | | 0.01602 | 0.01623 | 8.615 (8.010 9.790) |
| U | | | | 0.03851 | 0.03902 | 20.708 (19.170 23.430) |
| TH | | | | 0.01602 | 0.10269 | 54.500 (50.490 61.710) |

| | Mult chnl/MeV | Add chnls | QSA | QCAL | GAIN | U Pk Res % |
|---|---|---|---|---|---|---|
| SPECTRUM | 70.693 | 2.146 | 0.775 | 0.997 (0.980 1.020) | 2994 | 11.27 |

| | 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 | 26.22 (22.80 28.80) | 45.50 (40.20 48.20) | 82.14 (76.00 86.00) | 127.24 (121.40 133.40) | 157.33 (152.00 166.00) |
| Fit Pk | 27.03 | 45.20 | 81.32 | 126.92 | 157.95 |

## SL AFTER LOG VERIFICATION SUMMARY

TOOL #: 1329XA 10218881 DATE/TIME PERFORMED: Tue Feb 5 11:30:59 2013 DAYS SINCE CAL: 15

UNIT #: 3882TD HL6756 CALIBRATOR ID: 4702NA da491--

| | Bkgnd (cts/s) | Cal ON (cts/s) | Mult (gAPI/(cts/s)) | Bkgnd (gAPI) | Cal ON (gAPI) | Cal Value (gAPI) |
|---|---|---|---|---|---|---|
| GR-SL (.06-3.5) | 145.45 | 1035.48 | 0.165 | 23.70 | 168.83 | 145 (135 – 165) |

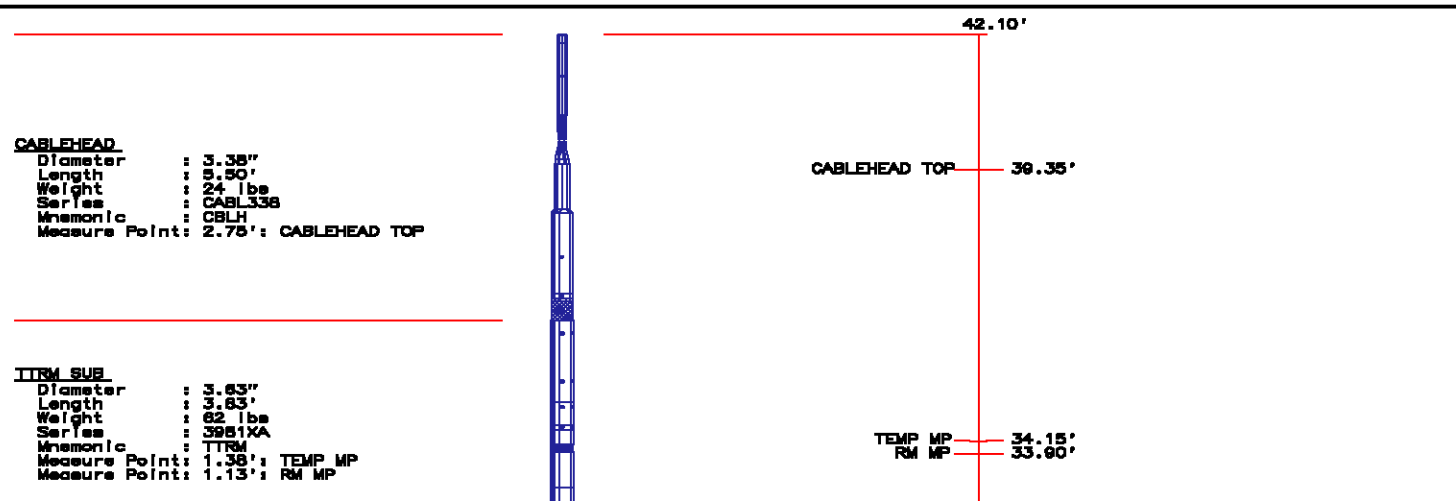
| | Std rate | Meas rate | Tool norm | Std Mult | Log Mult | App Con (pct ppm) |
|---|---|---|---|---|---|---|
| E (.25-3.0) | 554 | 544.9 | 1.013 | | | |
| K | | | | 0.01602 | 0.01623 | 8.844 (8.010 – 9.790) |
| U | | | | 0.03851 | 0.03902 | 21.261 (19.170 – 23.430) |
| TH | | | | 0.01602 | 0.10269 | 55.954 (50.490 – 61.710) |

| | Mult chnl/MeV | Add chnls | QSA | QCAL | GAIN | U Pk Res % |
|---|---|---|---|---|---|---|
| SPECTRUM | 71.160 | 1.880 | 1.014 | 1.001 (0.980 – 1.020) | 2994 | 11.25 |

| | 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 | 26.15 (22.80 – 28.80) | 45.36 (40.20 – 48.20) | 82.46 (76.00 – 86.00) | 128.08 (121.40 – 133.40) | 157.87 (152.00 – 166.00) |
| Fit Pk | 26.93 | 45.22 | 81.58 | 127.48 | 158.72 |

# INSTRUMENT CONFIGURATION

Source File: /data/637702/mRun2-tdg



**WTS COMMON REMOTE**
Diameter : 3.63"
Length : 6.38'
Weight : 128 lbs
Series : 3514XB
Mnemonic : WTS

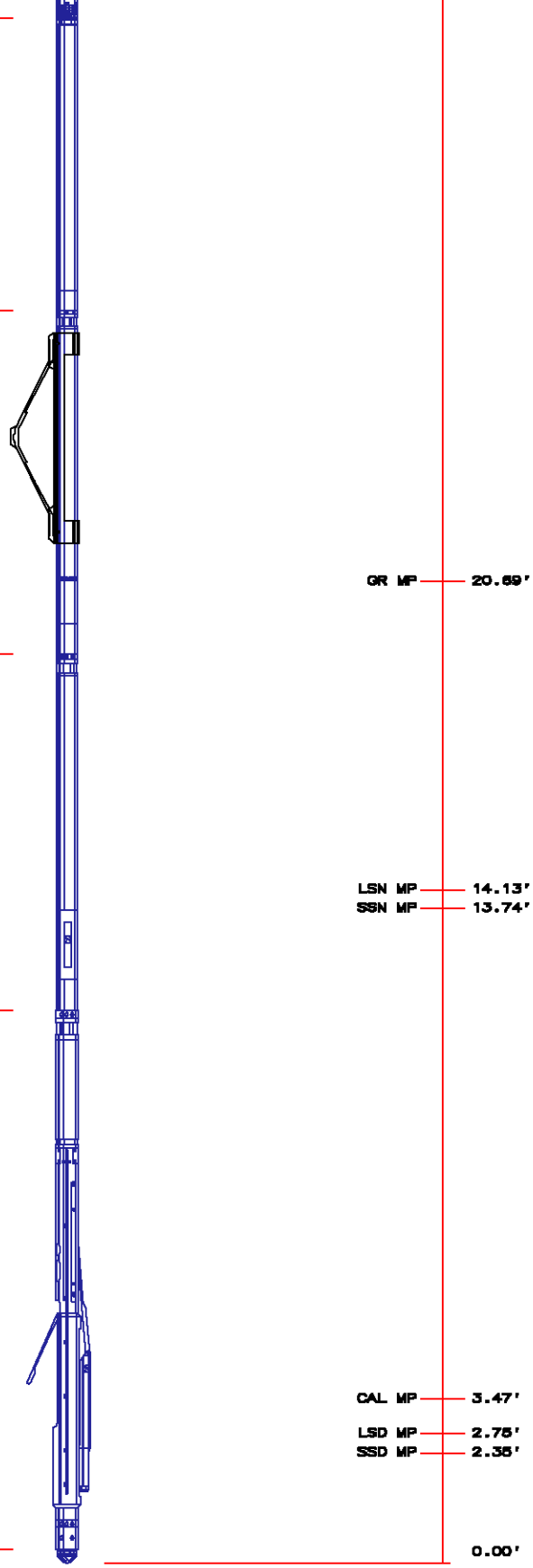
**DIGITAL SPECTRALOG**
Diameter : 3.63"
Length : 7.31'
Weight : 130 lbs
Series : 1329XA
Mnemonic : DSL
Measure Point: 1.60': GR MP

**COMPENSATED NEUTRON**
Diameter : 3.63"
Length : 7.69'
Weight : 150 lbs
Series : 2448XA
Mnemonic : CN
Source Type : AM241BE
Measure Point: 2.63': LSN MP
Measure Point: 2.24': SSN MP

**Z-DENSILOG**
Diameter : 4.88"
Length : 11.22'
Weight : 380 lbs
Series : 2234XA
Mnemonic : ZDL
Source Type : CS137
Measure Point: 3.19': CAL MP
Measure Point: 2.47': LSD MP
Measure Point: 2.07': SSD MP

**BULL PLUG 3 3/8**

TOTAL LENGTH: 42.10'
TOTAL WEIGHT: 869 lbs
MAX DIAMETER: 0'4.88"




BAKER HUGHES

| | | | |
|---|---|---|---|
| COMPANY | TEXAS BRINE COMPANY | | FILE NO: |
| WELL | GEO PHONE #3 | | 0H067692 |
| FIELD | NAPOLEANVILLE | | API NO: |
| PARISH | ASSUMPTION | STATE LOUISIANA | N/A |
| LOCATION: | | ELEVATIONS: | |

LOCATION:

N 30° 00' 53"
W 91° 08' 37"

SEC 40 TWP 12S RGE 13E

ELEVATIONS:

KB N/A
DF N/A
GL N/A

DATE 05-FEB-2013

BAKER HUGHES

# HIGH DEFINITION INDUCTION LOG SM
# COMPENSATED Z-DENSILOG SM
# COMPENSATED NEUTRON LOG
# GAMMA RAY LOG
# TTRM SUB SM

| | | | |
|---|---|---|---|
| FILE NO: 0H067692 | COMPANY | TEXAS BRINE COMPANY | |
| API NO: N/A | WELL | GEO PHONE #3 | |
| | FIELD | NAPOLEANVILLE | |
| | PARISH | ASSUMPTION | STATE LOUISIANA |
| Ver. 3.87 | LOCATION: N 30* 00' 53" W 91* 08' 37" SEC 40 TWP 12S RGE 13E | | OTHER SERVICES: DSL, XMAC, STAR |

| | | | |
|---|---|---|---|
| PERMANENT DATUM | GL | ELEVATION | N/A |
| LOG MEASURED FROM | KB | 17 FT | ABOVE P.D. |
| DRILL. MEAS. FROM | KB | | |

ELEVATIONS:
KB N/A
DF N/A
GL N/A

| | | | | | |
|---|---|---|---|---|---|
| DATE | | 05-FEB-2013 | | 05-FEB-2013 | |
| RUN | TRIP | 1 | 1 | 1 | 2 |
| SERVICE ORDER | | US637702 | | US637702 | |
| DEPTH DRILLER | | 420 FT | | 420 FT | |
| DEPTH LOGGER | | 416 FT | | 415 FT | |
| BOTTOM LOGGED INTERVAL | | 404 FT | | 413 FT | |
| TOP LOGGED INTERVAL | | 0 FT | | 0 FT | |
| CASING DRILLER | | 20 IN @175 FT | | 20 IN @175 FT | |
| CASING LOGGER | | 170 FT | | 170 FT | |
| BIT SIZE | | 17.5 IN | | 17.5 IN | |
| TYPE OF FLUID IN HOLE | | WBM | | WBM | |
| DENSITY | VISCOSITY | 8.9 LB/G | 38 S | 8.9 LB/G | 38 S |
| PH | FLUID LOSS | 10.4 | 4.4 C3 | 10.4 | 4.4 C3 |
| SOURCE OF SAMPLE | | FLOWLINE | | FLOWLINE | |
| RM AT MEAS. TEMP. | | 1.95 OHMM @75 DEGF | | 1.95 OHMM @75 DEGF | |
| RMF AT MEAS. TEMP. | | 1.46 OHMM @75 DEGF | | 1.46 OHMM @75 DEGF | |
| RMC AT MEAS. TEMP. | | 2.44 OHMM @75 DEGF | | 2.44 OHMM @75 DEGF | |
| SOURCE OF RMF | RMC | CALCULATED | CALCULATED | CALCULATED | CALCULATED |
| RM AT BHT | | 1.96 OHMM @74 DEGF | | 1.96 OHMM @74 DEGF | |
| TIME SINCE CIRCULATION | | 6.5 HRS | | 7.65 HRS | |
| MAX. RECORDED TEMP. | | 74 DEGF | | 74 DEGF | |
| EQUIP. NO. | LOCATION | HL-6756 | TYLER, TX | HL-6756 | TYLER, TX |
| RECORDED BY | | A ZUMWALT | | A ZUMWALT | |
| WITNESSED BY | | L ARABIE | | L ARABIE | |

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 |
|---|---|---|
| 17.5 IN | 175 FT | 420 FT |

CASING RECORD

| SIZE | WEIGHT | GRADE | FROM | TO |
|---|---|---|---|---|
| 20 IN | | | 0 FT | 175 FT |

REMARKS

RUN 1 TRIP 1 : 2.75" STANDOFFS RAN ON HDIL
CREW: V. TUCKER & P. BREFFITT

RUN 1 TRIP 2 : BVOL = TOTAL BOREHOLE VOLUME (CU FT)
CVOL = CEMENT VOLUME FOR 13.375" CASING (CU FT)
PORZC & CNC LOGGED ON A SANDSTONE MATRIX (2.65 G/CC)
CREW: V. TUCKER & P. BREFFITT

EQUIPMENT DATA

| RUN | TRIP | TOOL | SERIES NO. | SERIAL NO. | POSITION |
|---|---|---|---|---|---|
| 1 | 1 | TTRM | 3981XB | 368438 | FREE |
| 1 | 1 | WTS | 3514XB | 364367 | FREE |
| 1 | 1 | DSL | 1329XB | 10218881 | DECENTRALIZED |
| 1 | 1 | DBL KNUCKLE | 3939XA | 10217755 | FREE |
| 1 | 1 | HDIL | 1515EA/1515MA | 10214480/185586 | 2.75" STANDOFF |
| 1 | 2 | TTRM | 3981XB | 368438 | FREE |
| 1 | 2 | WTS | 3514XB | 364367 | FREE |
| 1 | 2 | DSL | 1329XB | 10218881 | DECENTRALIZED |
| 1 | 2 | CN | 2446XA | 10223589 | FREE |
| 1 | 2 | ZDL | 2234XA | 10236400 | PAD DEVICE |

# MAIN LOG 1"/100FT SCALE

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

Tue Feb 5 14:45:24 2013

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

## PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/637702/m87cb03.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: -2.500 ft BOTTOM DEPTH: 420.750 ft

### SYMMETRIC FILTER

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) TOP | BOTTOM |
|---|---|---|---|---|---|
| TENSION | FILTER () | medium (1) | | | |
| GR | FILTER () | medium (1) | | '' | '' |
| SP-SPDH | FILTER () | medium (1) | | '' | '' |

### BOREHOLE & CEMENT

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) TOP | BOTTOM |
|---|---|---|---|---|---|
| MUD SAMPLE RESISTIVITY | MUD SAMPLE TEMP | 75.0 | degF | | |
| | MUD SAMPLE RES | 1.950 | ohm.m | '' | '' |
| BOREHOLE TEMP from GRADIENT | Known BH REF TEMP | 75.0 | 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*) | 17.500 | in | '' | '' |
| BH MUD RESISTIVITY SOURCE | RMUD SOURCE (HDIL) | BH TEMP DERIVED | | '' | '' |

### 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 | 2.75 | in | '' | '' |
| | TOOL POSITION | ECCENTERED | | '' | '' |
| | Rmud MULTIPLIER | 1.000 | | '' | '' |

## CURVE DESCRIPTION REPORT

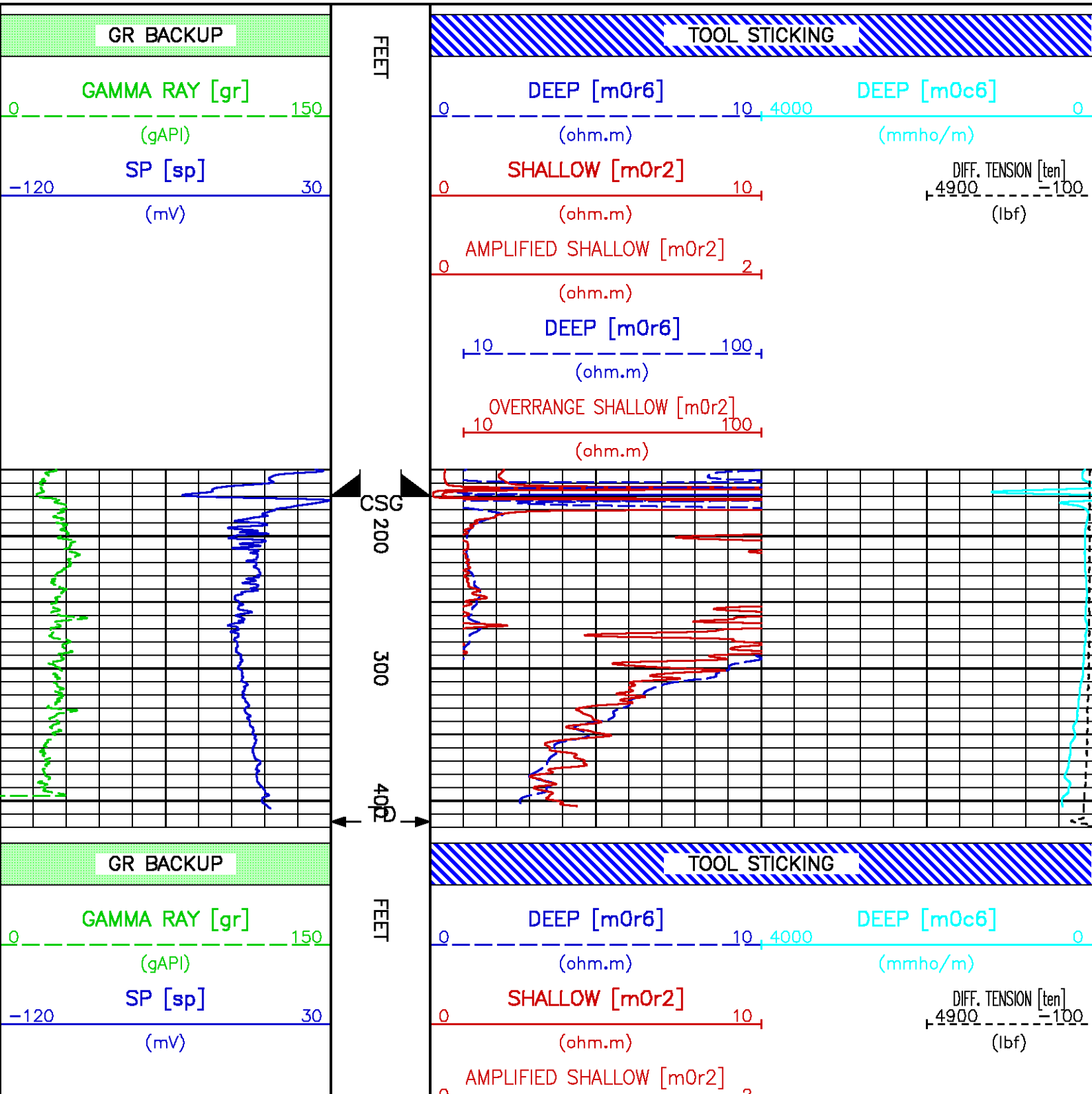
| CURVE NAME | CREATION DATE | CURVE DESCRIPTION |
|---|---|---|
| F1:GR | Feb 5 11:24:16 2013 | GAMMA RAY |
| F1:MOC6 | Feb 5 11:24:16 2013 | FOCUSED CONDUCTIVITY, 60-INCH DOI |
| F1:MOR2 | Feb 5 11:24:16 2013 | TRUE FOCUSED RESISTIVITY FOR HDIL, 20-INCH DOI |
| F1:MOR6 | Feb 5 11:24:16 2013 | TRUE FOCUSED RESISTIVITY FOR HDIL, 60-INCH DOI |
| F1:SP | Feb 5 11:24:16 2013 | SPONTANEOUS POTENTIAL |
| F1:TEN | Feb 5 11:24:16 2013 | DIFFERENTIAL TENSION |

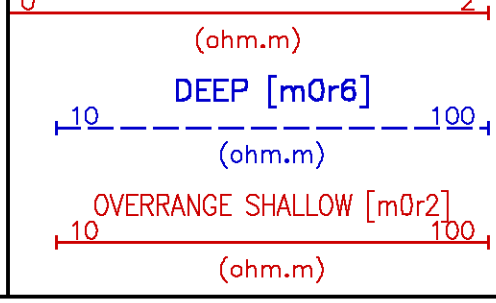
## CURVE MEASURE POINT OFFSET

| CURVE | OFFSET (ft) | CURVE | OFFSET (ft) | CURVE | OFFSET (ft) | CURVE | OFFSET (ft) |
|---|---|---|---|---|---|---|---|
| GR | 33.38 | MOR2 | 8.00 | SP | 14.00 | | |
| MOC6 | 8.00 | MOR6 | 8.00 | TEN | 0.00 | | |

Presentation : tyl6756:/dat1a/637702/A_1in_M0_hdlllln_MP.pdf [1"/100' Scale]
Plot Interval : 150 - 419.75 Feet

Data File 1 : F1 : tyl6756:/dat1a/637702/Main.xtf
Created On : Feb 5 11:24:16 2013
Company : Texas Brine Company
Well : Geo Phone #3
Field : Napoleanville
File Interval : -10.5 - 421 Feet
Oct : m87cb






# MAIN LOG 5"/100FT SCALE

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

Tue Feb 5 13:58:42 2013

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

## PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/637702/m87cb03.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: -2.500 ft BOTTOM DEPTH: 420.750 ft

### SYMMETRIC FILTER

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) TOP | BOTTOM |
|---|---|---|---|---|---|
| TENSION | FILTER () | medium (1) | | TOP | BOTTOM |
| GR | FILTER () | medium (1) | | '' | '' |
| SP-SPDH | FILTER () | medium (1) | | '' | '' |

### BOREHOLE & CEMENT

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) TOP | BOTTOM |
|---|---|---|---|---|---|
| CASING - BOREHOLE & CEMENT VOLUME | CASING O.D. | 13.375 | in | TOP | BOTTOM |
| BIT SIZE | BIT SIZE | 17.500 | in | '' | '' |
| MUD SAMPLE RESISTIVITY | MUD SAMPLE TEMP | 75.0 | degF | '' | '' |
| | MUD SAMPLE RES | 1.950 | ohm.m | '' | '' |
| BOREHOLE TEMP from GRADIENT | Known BH REF TEMP | 75.0 | 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*) | 17.500 | in | '' | '' |
| BH MUD RESISTIVITY SOURCE | RMUD SOURCE (HDIL) | BH TEMP DERIVED | | '' | '' |

### HDIL PROCESSING

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) TOP | BOTTOM |
|---|---|---|---|---|---|
| HDIL TEMPERATURE CORRECTION | TEMP CORR SOURCE | USE RXTEMP | | TOP | BOTTOM |
| ADAPTIVE BOREHOLE CORRECTION | ABC PROCESSING | ON | | '' | '' |
| | ABC to CALCULATE | STANDOFF | | '' | '' |
| | STANDOFF | 2.75 | in | '' | '' |
| | TOOL POSITION | ECCENTERED | | '' | '' |
| | Rmud MULTIPLIER | 1.000 | | '' | '' |

## PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/637702/m87cb05.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 9.000 ft BOTTOM DEPTH: 419.566 ft

### SYMMETRIC FILTER

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) |
|---|---|---|---|---|

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) | |
|---|---|---|---|---|---|
| Y AXIS CALIPER | FILTER () | medium (1) | | TOP | BOTTOM |
| TENSION | FILTER () | medium (1) | | '' | '' |
| CN | FILTER () | medium (1) | | '' | '' |
| CALIPER | FILTER () | medium (1) | | '' | '' |
| | FILTER (.h) | medium (1) | | '' | '' |
| | FILTER (.l) | medium (1) | | '' | '' |
| ZDL MED RES | FILTER (hrd1*) | medium | | '' | '' |
| | FILTER (hrd1s*) | medium | | '' | '' |
| | FILTER (hrd2*) | medium | | '' | '' |
| | FILTER (hrd2s*) | medium | | '' | '' |
| GR | FILTER () | medium (1) | | '' | '' |

## BOREHOLE & CEMENT

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) | |
|---|---|---|---|---|---|
| CASING - BOREHOLE & CEMENT VOLUME | CASING O.D. | 13.375 | in | TOP | BOTTOM |
| | CASING THICKNESS | 0.000 | in | '' | '' |
| BIT SIZE | BIT SIZE | 17.500 | in | '' | '' |
| BOREHOLE CORR DIAMETER SOURCE | CALIPER/FIXED DIA. (cnbh*) | USE FIXED SIZE | | TOP | 149.000 |
| | | USE CALIPER | | 149.000 | BOTTOM |
| | CALIPER/FIXED DIA. (zdbh*) | USE FIXED SIZE | | TOP | 147.750 |
| | | USE CALIPER | | 147.750 | BOTTOM |
| BOREHOLE CORR DIAMETER | FIXED DIAMETER (cnbh*) | 17.500 | in | TOP | BOTTOM |
| | FIXED DIAMETER (zdbh*) | 17.500 | in | '' | '' |

## CN PROCESSING

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) | |
|---|---|---|---|---|---|
| 2446 CN MATRIX | 2446 MATRIX | SANDSTONE | | TOP | BOTTOM |
| CN SALINITY CORRECTION | SALINITY | 1485 | ppm | '' | '' |
| CN CASING & CEMENT CORRECTION | CORRECTION | ON | | TOP | 153.500 |
| | | OFF | | 153.500 | BOTTOM |
| | BIT SIZE BEHIND CSNG | 24.000 | in | TOP | 242.250 |
| | | 20.000 | in | 242.250 | BOTTOM |

## ZDL PROCESSING

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) | |
|---|---|---|---|---|---|
| MUD DENSITY | MUD DENSITY | 8.90 | lbm/gal | TOP | BOTTOM |
| DENSITY POROSITY | RHOmatrix | 2.650 | g/cm3 | '' | '' |
| | RHOfluid | 1.000 | g/cm3 | '' | '' |
| ZDL | DENX TRACKING | ON | | '' | '' |

## CURVE DESCRIPTION REPORT

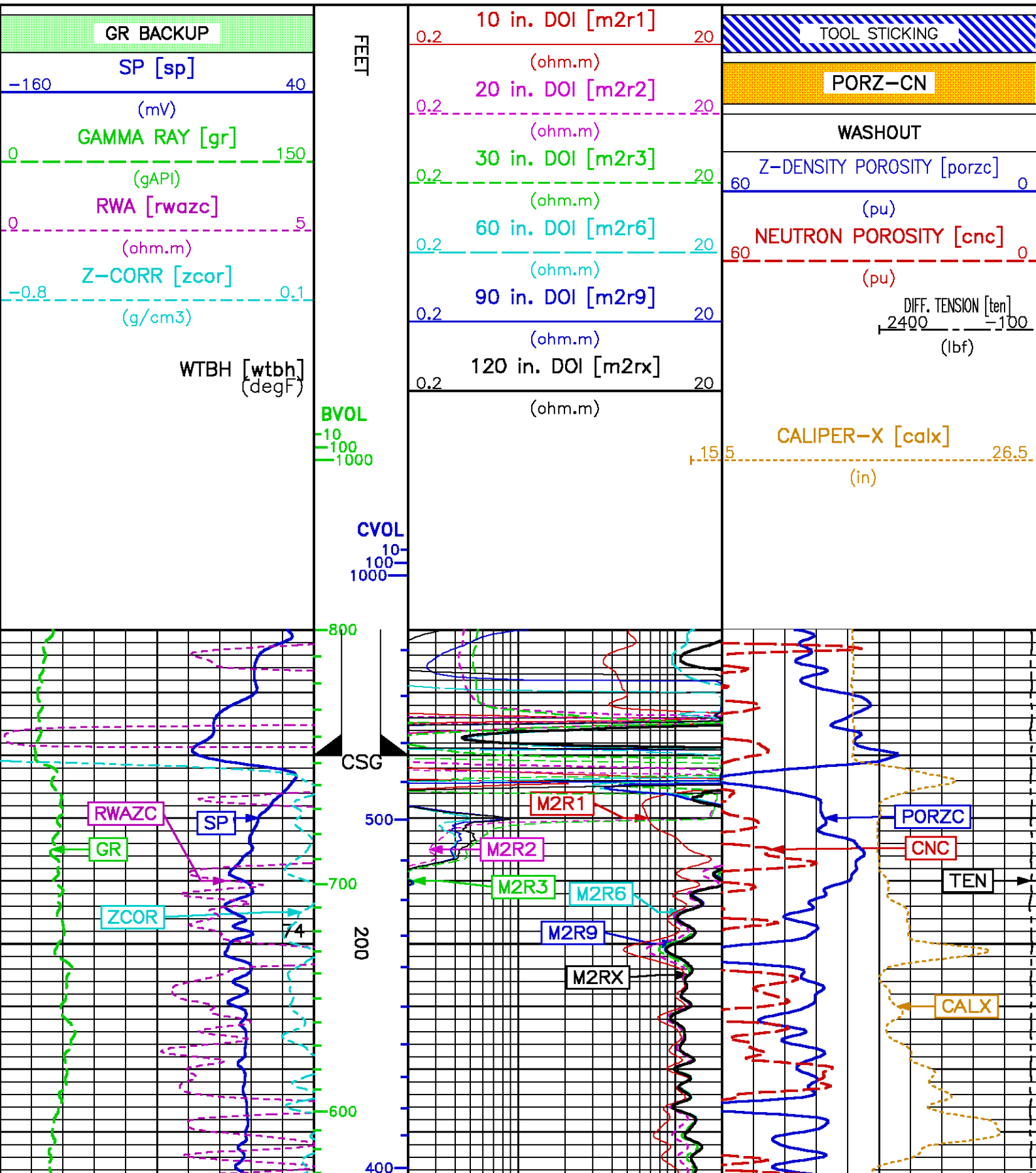
| CURVE NAME | CREATION DATE | CURVE DESCRIPTION |
|---|---|---|
| F1:BVOL | Feb 5 12:39:00 2013 | BOREHOLE VOLUME |
| F1:CALX | Feb 5 12:39:00 2013 | CALIPER FROM X-AXIS OF XY CALIPER(S) |
| F1:CNC | Feb 5 12:39:00 2013 | BOREHOLE SIZE CORRECTED COMPENSATED NEUTRON POROSITY |
| F1:CVOL | Feb 5 12:39:00 2013 | CEMENT VOLUME |
| F1:GR | Feb 5 11:24:16 2013 | GAMMA RAY |
| F1:M2R1 | Feb 5 11:24:16 2013 | VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI |
| F1:M2R2 | Feb 5 11:24:16 2013 | VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 20-INCH DOI |
| F1:M2R3 | Feb 5 11:24:16 2013 | VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 30-INCH DOI |
| F1:M2R6 | Feb 5 11:24:16 2013 | VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI |
| F1:M2R9 | Feb 5 11:24:16 2013 | VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI |
| F1:M2RX | Feb 5 11:24:16 2013 | VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 120-INCH DOI |
| F1:PORZC | Feb 5 12:39:00 2013 | CORRECTED POROSITY |
| F1:RWAZC | Feb 5 13:49:50 2013 | APPARENT FORMATION WATER RESISTIVITY (CORRECTED) |
| F1:SP | Feb 5 11:24:16 2013 | SPONTANEOUS POTENTIAL |
| F1:TEN | Feb 5 11:24:16 2013 | DIFFERENTIAL TENSION |
| F1:WTBH | Feb 5 11:24:16 2013 | TEMPERATURE OF BOREHOLE |
| F1:ZCOR | Feb 5 12:39:00 2013 | DENSITY CORRECTION |

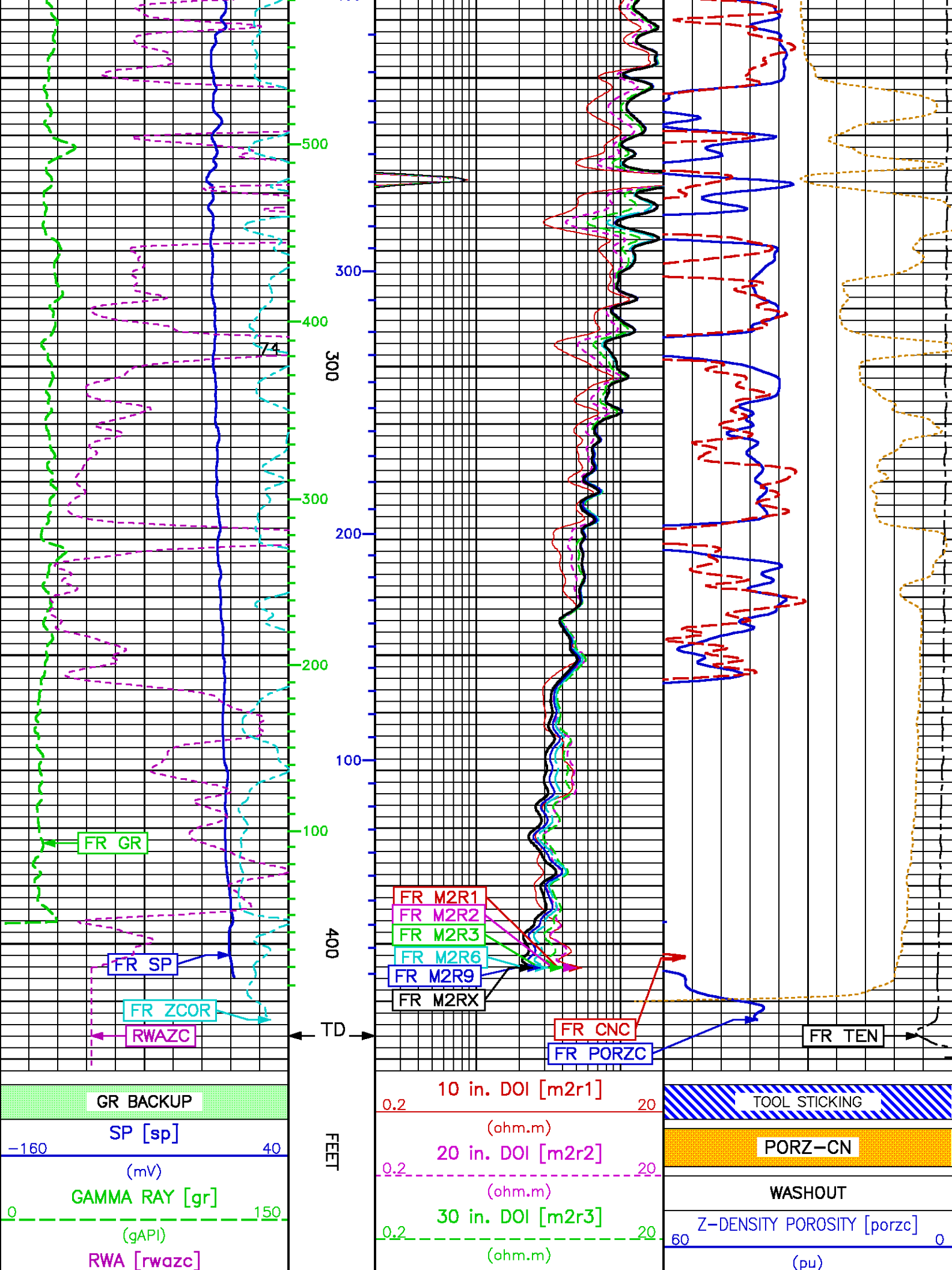
## CURVE MEASURE POINT OFFSET

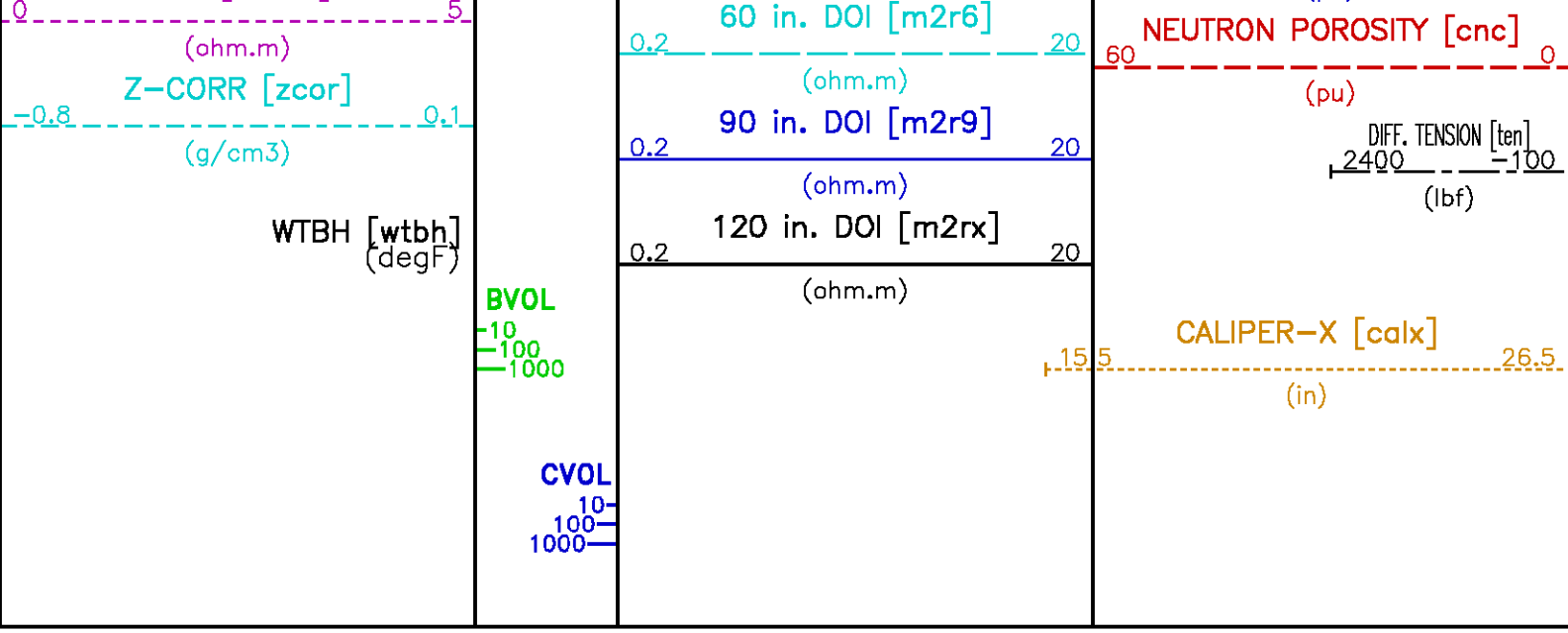
| CURVE | OFFSET (ft) | CURVE | OFFSET (ft) | CURVE | OFFSET (ft) | CURVE | OFFSET (ft) |
|---|---|---|---|---|---|---|---|
| CALX | 3.25 | M2R2 | 8.00 | M2RX | 8.00 | TEN | 0.00 |
| CNC | 13.50 | M2R3 | 8.00 | PORZC | 2.50 | ZCOR | 2.50 |
| GR | 33.38 | M2R6 | 8.00 | RWAZC | 0.00 | | |
| M2R1 | 8.00 | M2R9 | 8.00 | SP | 14.00 | | |

Presentation : tyl6756:/dat1a/637702/A_5in_STx_HDILz2slam_ml_MP.pdf [5"/100' Scale]
Plot Interval : 150 - 421 Feet

Data File 1 : F1 : tyl6756:/dat1a/637702/Main.xtf
Created On : Feb 5 11:24:16 2013
Company : Texas Brine Company
Well : Geo Phone #3
Field : Napoleanville
File Interval : -10.5 - 421 Feet
Oct : m87cb




500
400
300
200
100
300
200
100
400
FEET
TD
FR GR
FR SP
FR ZCOR
RWAZC
FR M2R1
FR M2R2
FR M2R3
FR M2R6
FR M2R9
FR M2RX
FR CNC
FR PORZC
FR TEN
GR BACKUP
SP [sp]
−160
40
(mV)
GAMMA RAY [gr]
0
150
(gAPI)
RWA [rwazc]
10 in. DOI [m2r1]
0.2
20
(ohm.m)
20 in. DOI [m2r2]
0.2
20
(ohm.m)
30 in. DOI [m2r3]
0.2
20
(ohm.m)
TOOL STICKING
PORZ−CN
WASHOUT
Z−DENSITY POROSITY [porzc]
60
0
(pu)




# REPEAT LOG 5"/100FT SCALE

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

Tue Feb 5 14:03:35 2013

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

## PARAMETER AND FILTER SUMMARY REPORT

FILE: /dat1a/637702/m87cb02.prm
LOGGING MODE: DEPTH DIRECTION: UP
TOP DEPTH: 107.750 ft BOTTOM DEPTH: 420.074 ft

### SYMMETRIC FILTER

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

### BOREHOLE & CEMENT

| MEASUREMENT TYPE | PARAMETER | VALUE | UNITS | INTERVAL (ft) | |
|---|---|---|---|---|---|
| CASING - BOREHOLE & CEMENT VOLUME | CASING O.D. | 13.375 | in | TOP | BOTTOM |
| BIT SIZE | BIT SIZE | 17.500 | in | " | " |
| MUD SAMPLE RESISTIVITY | MUD SAMPLE TEMP | 75.0 | degF | " | " |
| | MUD SAMPLE RES | 1.950 | ohm.m | " | " |
| BOREHOLE TEMP from GRADIENT | Known BH REF TEMP | 75.0 | 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*) | 17.500 | in | " | " |
| BH MUD RESISTIVITY SOURCE | RMUD SOURCE (HDIL) | BH TEMP DERIVED | | " | " |

### 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 | 0.75 | in | " | " |

| | | | | |
|---|---|---|---|---|
| STANDOFF | 2.75 | in | " | " |
| TOOL POSITION | ECCENTERED | | " | " |
| Rmud MULTIPLIER | 1.000 | | " | " |

## CURVE DESCRIPTION REPORT

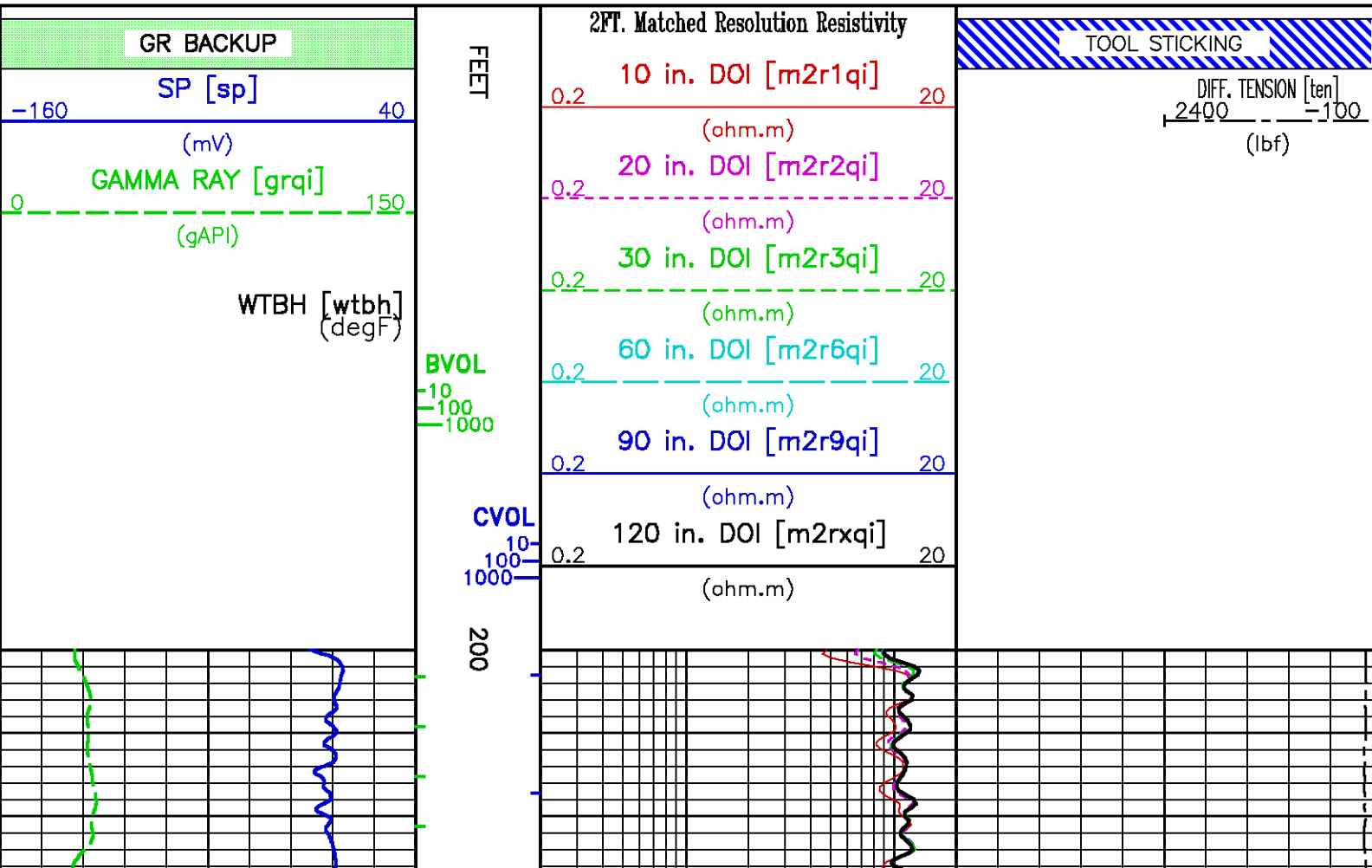
| CURVE NAME | CREATION DATE | CURVE DESCRIPTION |
|---|---|---|
| F1:BVOL | Feb 5 11:15:16 2013 | BOREHOLE VOLUME |
| F1:CVOL | Feb 5 11:15:16 2013 | CEMENT VOLUME |
| F1:GRQI | Feb 5 11:15:16 2013 | GAMMA RAY |
| F1:M2R1QI | Feb 5 11:15:16 2013 | VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 10-INCH DOI |
| F1:M2R2QI | Feb 5 11:15:16 2013 | VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 20-INCH DOI |
| F1:M2R3QI | Feb 5 11:15:16 2013 | VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 30-INCH DOI |
| F1:M2R6QI | Feb 5 11:15:16 2013 | VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 60-INCH DOI |
| F1:M2R9QI | Feb 5 11:15:16 2013 | VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 90-INCH DOI |
| F1:M2RXQI | Feb 5 11:15:16 2013 | VERTICAL 2-FOOT RESOLUTION MATCHED RESISTIVITY, 120-INCH DOI |
| F1:SP | Feb 5 11:15:16 2013 | SPONTANEOUS POTENTIAL |
| F1:TEN | Feb 5 11:15:16 2013 | DIFFERENTIAL TENSION |
| F1:WTBH | Feb 5 11:15:16 2013 | TEMPERATURE OF BOREHOLE |

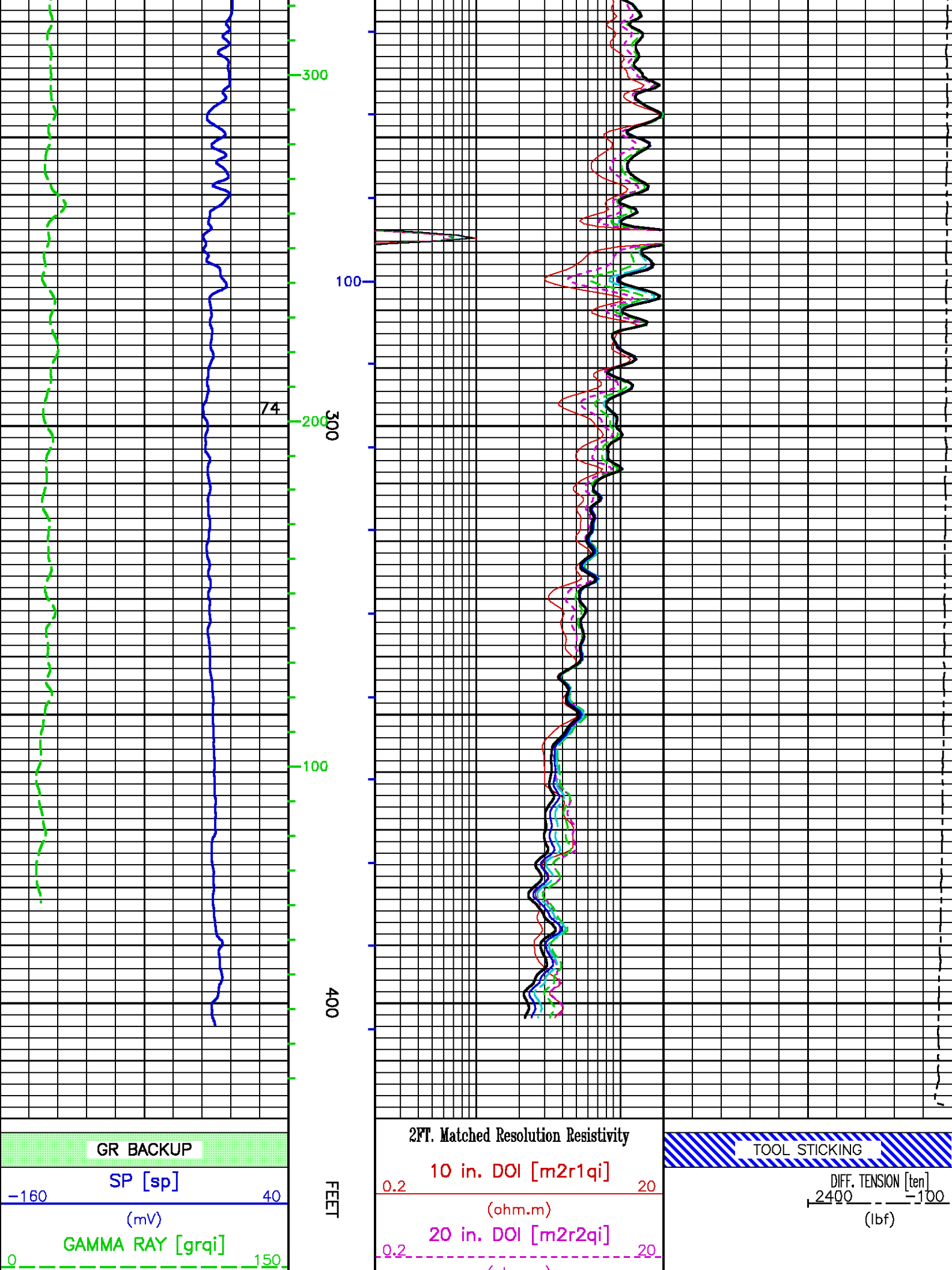
## CURVE MEASURE POINT OFFSET

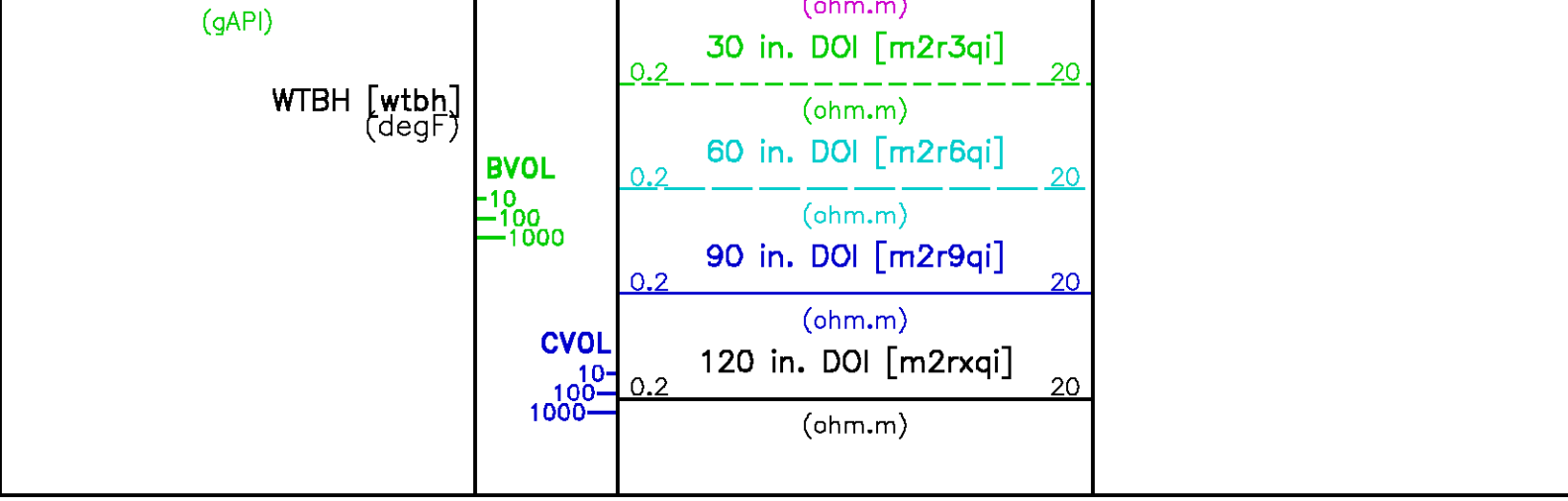
| CURVE | OFFSET (ft) | CURVE | OFFSET (ft) | CURVE | OFFSET (ft) | CURVE | OFFSET (ft) |
|---|---|---|---|---|---|---|---|
| GRQI | 33.50 | M2R3QI | 8.00 | M2RXQI | 8.00 | | |
| M2R1QI | 8.00 | M2R6QI | 8.00 | SP | 14.00 | | |
| M2R2QI | 8.00 | M2R9QI | 8.00 | TEN | 0.00 | | |

Presentation : tyl6756:/dat1a/637702/A_5in_STx_HDILz2slam_mL_RP.pdf [5"/100' Scale]
Plot Interval : 200 – 419 Feet

Data File 1 : F1 : tyl6756:/dat1a/637702/m87cb02.aff
Created On : Feb 5 11:15:16 2013
Company : Texas Brine Company
Well : Geo Phone #3
Field : Napoleanville
File Interval : 60.5 – 419 Feet
Oct : m87cb




300
100
74
200
300
100
400
FEET
GR BACKUP
SP [sp]
-160
40
(mV)
GAMMA RAY [grqi]
0
150
2FT. Matched Resolution Resistivity
10 in. DOI [m2r1qi]
0.2
20
(ohm.m)
20 in. DOI [m2r2qi]
0.2
20
TOOL STICKING
DIFF. TENSION [ten]
2400
-100
(lbf)




# CALIBRATION / VERIFICATION SUMMARY

Source File: /dat1a/637702/calibration.tp1

## GR PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 10218881 DATE/TIME PERFORMED: Mon Jan 21 11:08:11 2013

UNIT #: 3882TD HL6756 CALB JIG #: 4702NK da491--

| | BACKGROUND (cts/s) | CALBRTR ON (cts/s) | CR DIFF (cts/s) | MULT | BACKGROUND (gAPI) | CALBRTR ON (gAPI) | CALBRTR (gAPI) |
|---|---|---|---|---|---|---|---|
| GR | 163.36 | 1057.38 | 894.0 (830.0 960.0) | 0.168 | 27.41 | 177.41 | 150 |

## GR PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 10218881 DATE/TIME PERFORMED: Mon Jan 21 11:13:42 2013

UNIT #: 3882TD HL6756 VERI JIG #: 4702NK da491--

| | BACKGROUND (cts/s) | CALBRTR ON (cts/s) | MULT | BACKGROUND (gAPI) | CALBRTR ON (gAPI) | DIFF. (gAPI) |
|---|---|---|---|---|---|---|
| GR | 159.49 | 1035.38 | 0.168 | 26.76 | 173.72 | 146.96 (140.00 160.00) |

## GR BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1329XA 10218881 DATE/TIME PERFORMED: Tue Feb 5 10:00:46 2013 DAYS SINCE CAL: 14

UNIT #: 3882TD HL6756 VERI JIG #: 4702NK da491--

| | BACKGROUND (cts/s) | CALBRTR ON (cts/s) | MULT | BACKGROUND (gAPI) | CALBRTR ON (gAPI) | DIFF. (gAPI) |
|---|---|---|---|---|---|---|
| GR | 158.93 | 1026.73 | 0.168 | 26.67 | 172.27 | 145.60 (136.96 – 156.96) |

## GR AFTER LOG VERIFICATION SUMMARY

TOOL #: 1329XA 10218881 DATE/TIME PERFORMED: Tue Feb 5 11:30:39 2013 DAYS SINCE CAL: 15

UNIT #: 3882TD HL6756 VERI JIG #: 4702NK da491--

| | BACKGROUND (cts/s) | CALBRTR ON (cts/s) | MULT | BACKGROUND (gAPI) | CALBRTR ON (gAPI) | DIFF. (gAPI) |
|---|---|---|---|---|---|---|
| GR | 152.38 | 1043.91 | 0.168 | 25.57 | 175.15 | 149.58 (135.60 – 155.60) |

## SL PRIMARY CALIBRATION SUMMARY

TOOL #: 1329XA 10218881 DATE/TIME PERFORMED: Mon Jan 21 11:10:45 2013

UNIT #: 3882TD HL6756 CALIBRATOR ID: 4702NA da491--

| | Bkgnd (cts/s) | Cal ON (cts/s) | Mult (gAPI/(cts/s)) | Bkgnd (gAPI) | Cal ON (gAPI) | Cal Value (gAPI) |
|---|---|---|---|---|---|---|
| GR-SL (.06-3.5) | 152.05 | 1075.75 | 0.165 | 24.57 | 174.57 | 150 |

| | Std Rate (cts/s) | Meas Rate (cts/s) | Tool Norm | Std Mult | Log Mult | App Con (pct ppm) |
|---|---|---|---|---|---|---|
| E (.25-3.0) | 554 | 546.8 | 1.013 (0.900 – 1.100) | | | |
| K | | | | 0.01602 | 0.01623 | 8.900 |
| U | | | | 0.03851 | 0.03902 | 21.300 |
| TH | | | | 0.10135 | 0.10269 | 56.100 |

| | Mult chnl/MeV | Add chnls | QSA | QCAL | GAIN | U Pk Res % |
|---|---|---|---|---|---|---|
| SPECTRUM | 70.948 | 2.247 | 1.136 | 1.002 (0.980 – 1.020) | 2994 | 11.65 |

| | 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 | 26.35 (22.80 – 28.80) | 45.66 (40.20 – 48.20) | 82.66 (76.00 – 86.00) | 128.05 (121.40 – 133.40) | 157.75 (152.00 – 166.00) |
| Fit Pk | 27.22 | 45.45 | 81.71 | 127.47 | 158.62 |

## SL PRIMARY VERIFICATION SUMMARY

TOOL #: 1329XA 10218881 DATE/TIME PERFORMED: Mon Jan 21 11:13:54 2013

UNIT #: 3882TD HL6756 CALIBRATOR ID: 4702NA da491--

| | Bkgnd (cts/s) | Cal ON (cts/s) | Mult (gAPI/(cts/s)) | Bkgnd (gAPI) | Cal ON (gAPI) | Cal Value (gAPI) |
|---|---|---|---|---|---|---|
| GR-SL (.06-3.5) | 153.95 | 1027.72 | 0.165 | 25.16 | 168.18 | 143 (135 – 165) |

| | Std rate | Meas rate | Tool norm | Std Mult | Log Mult | App Con (pct ppm) |
|---|---|---|---|---|---|---|
| E (.25-3.0) | 554 | 541.8 | 1.013 | | | |
| K | | | | 0.01602 | 0.01623 | 8.794 (8.010 – 9.790) |
| U | | | | 0.03851 | 0.03902 | 21.140 (19.170 – 23.430) |
| TH | | | | 0.01602 | 0.10269 | 55.636 (50.490 – 61.710) |

| | Mult chnl/MeV | Add chnls | QSA | QCAL | GAIN | U Pk Res % |
|---|---|---|---|---|---|---|
| SPECTRUM | 71.579 | 1.605 | 0.401 | 1.005 (0.980 – 1.020) | 2994 | 12.40 |

| | 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 | 26.15 (22.80 – 28.80) | 45.68 (40.20 – 48.20) | 82.27 (76.00 – 86.00) | 127.69 (121.40 – 133.40) | 159.29 (152.00 – 166.00) |
| Fit Pk | 26.80 | 45.20 | 81.77 | 127.94 | 159.37 |

## SL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1329XA 10218881 DATE/TIME PERFORMED: Tue Feb 5 10:00:59 2013 DAYS SINCE CAL: 14

UNIT #: 3882TD HL6756 CALIBRATOR ID: 4702NA da491--

| | Bkgnd (cts/s) | Cal ON (cts/s) | Mult (gAPI/(cts/s)) | Bkgnd (gAPI) | Cal ON (gAPI) | Cal Value (gAPI) |
|---|---|---|---|---|---|---|
| GR-SL (.06-3.5) | 152.35 | 1021.88 | 0.165 | 24.66 | 166.24 | 142 (135 – 165) |

| | Std rate | Meas rate | Tool norm | Std Mult | Log Mult | App Con (pct ppm) |
|---|---|---|---|---|---|---|
| E (.25-3.0) | 554 | 530.7 | 1.013 | | | |
| K | | | | 0.01602 | 0.01623 | 8.615 |

| | | | | |
|---|---|---|---|---|
| | | | | 8.010 9.790 |
| U | 0.03851 | 0.03902 | 20.708 | 19.170 23.430 |
| TH | 0.01602 | 0.10269 | 54.500 | 50.490 61.710 |

| | Mult chnl/MeV | Add chnls | QSA | QCAL | GAIN | U Pk Res % |
|---|---|---|---|---|---|---|
| SPECTRUM | 70.693 | 2.146 | 0.775 | 0.997 (0.980 1.020) | 2994 | 11.27 |

| | 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 | 26.22 (22.80 28.80) | 45.50 (40.20 48.20) | 82.14 (76.00 86.00) | 127.24 (121.40 133.40) | 157.33 (152.00 166.00) |
| Fit Pk | 27.03 | 45.20 | 81.32 | 126.92 | 157.95 |

## SL AFTER LOG VERIFICATION SUMMARY

TOOL #: 1329XA 10218881 DATE/TIME PERFORMED: Tue Feb 5 11:30:59 2013 DAYS SINCE CAL: 15

UNIT #: 3882TD HL6756 CALIBRATOR ID: 4702NA da491--

| | Bkgnd (cts/s) | Cal ON (cts/s) | Mult (gAPI/(cts/s)) | Bkgnd (gAPI) | Cal ON (gAPI) | Cal Value (gAPI) |
|---|---|---|---|---|---|---|
| GR-SL (.06-3.5) | 145.45 | 1035.48 | 0.165 | 23.70 | 168.83 | 145 (135 165) |

| | Std rate | Meas rate | Tool norm | Std Mult | Log Mult | App Con (pct ppm) |
|---|---|---|---|---|---|---|
| E (.25-3.0) | 554 | 544.9 | 1.013 | | | |
| K | | | | 0.01602 | 0.01623 | 8.844 (8.010 9.790) |
| U | | | | 0.03851 | 0.03902 | 21.261 (19.170 23.430) |
| TH | | | | 0.01602 | 0.10269 | 55.954 (50.490 61.710) |

| | Mult chnl/MeV | Add chnls | QSA | QCAL | GAIN | U Pk Res % |
|---|---|---|---|---|---|---|
| SPECTRUM | 71.160 | 1.880 | 1.014 | 1.001 (0.980 1.020) | 2994 | 11.25 |

| | 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 | 26.15 (22.80 28.80) | 45.36 (40.20 48.20) | 82.46 (76.00 86.00) | 128.08 (121.40 133.40) | 157.87 (152.00 166.00) |
| Fit Pk | 26.93 | 45.22 | 81.58 | 127.48 | 158.72 |

## CN PRIMARY CALIBRATION SUMMARY

TOOL #: 2446XA 10223589 DATE/TIME PERFORMED: Mon Jan 21 10:46:12 2013

UNIT #: 3882TD HL6756 CALIBRATOR #: 2437XB 114693 SOURCE #: 4717XS n984--

| | MEASURED CPS | DEADTM CORR CPS | DTC SSN/LSN | NOMINAL SSN/LSN | CORRECTION FACTOR | POROSITY (pu) |
|---|---|---|---|---|---|---|
| LSN | 587.33 | 595.73 | | | | |
| SSN | 1520.60 | 1568.30 | | | | |
| RATIO | | | 2.63256 | 2.75100 | 1.04499<br>0.97000 1.07000 | |
| CN | | | | | | 21.358 |

## CN PRIMARY VERIFICATION SUMMARY

TOOL #: 2446XA 10223589 DATE/TIME PERFORMED: Mon Jan 21 10:50:25 2013

UNIT #: 3882TD HL6756 ICE BLOCK #: 4717ND d453--

| | MEASURED CPS | DEADTM CORR CPS | DTC SSN/LSN | CORRECTION FACTOR | DTC CORR SSN/LSN | POROSITY (pu) |
|---|---|---|---|---|---|---|
| LSN | 1596.41 | 1660.03 | | | | |
| SSN | 4276.11 | 4676.09 | | | | |
| RATIO | | | 2.81687 | 1.04499 | 2.94449 | |
| CN | | | | | | 24.270 |

## CN BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2446XA 10223589 DATE/TIME PERFORMED: Tue Feb 5 10:05:03 2013 DAYS SINCE CAL: 14

UNIT #: 3882TD HL6756 ICE BLOCK #: 4717ND d453--

| | MEASURED CPS | DEADTM CORR CPS | DTC SSN/LSN | CORRECTION FACTOR | DTC CORR SSN/LSN | POROSITY (pu) |
|---|---|---|---|---|---|---|
| LSN | 1606.68 | 1671.15 | | | | |
| SSN | 4272.78 | 4672.12 | | | | |
| RATIO | | | 2.79575 | 1.04499 | 2.92326 | |
| CN | | | | | | 23.952 |

CN

22.270 26.270

## CN AFTER LOG VERIFICATION SUMMARY

TOOL #: 2446XA 10223589 DATE/TIME PERFORMED: Tue Feb 5 11:35:43 2013 DAYS SINCE CAL: 15

UNIT #: 3882TD HL6756 ICE BLOCK #: 4717ND d453--

| | MEASURED CPS | DEADTM CORR CPS | DTC SSN/LSN | CORRECTION FACTOR | DTC CORR SSN/LSN | POROSITY (pu) |
|---|---|---|---|---|---|---|
| LSN | 1602.28 | 1666.40 | | | | |
| SSN | 4255.60 | 4651.58 | | | | |
| RATIO | | | 2.79140 | 1.04499 | 2.91872 | |
| CN | | | | | | 23.879 |
| | | | | | | 21.952 25.952 |

## CAL PRIMARY CALIBRATION SUMMARY

TOOL #: 2234XA 10236400 DATE/TIME PERFORMED: Tue Feb 5 12:04:26 2013

UNIT #: 3882TD HL6756

| | SMALL RING | LARGE RING | MULT | ADD | SMALL RING (in) | LARGE RING (in) |
|---|---|---|---|---|---|---|
| CALIPER | 1859.2 | 2161.6 | 0.00992 | -6.44444 | 12.000 | 15.000 |

## CAL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2234XA 10236400 DATE/TIME PERFORMED: Tue Feb 5 12:19:34 2013 DAYS SINCE CAL: 0

UNIT #: 3882TD HL6756

| | I.D. | MULT | ADD | I.D. (in) |
|---|---|---|---|---|
| CALIPER | 2251.2 | 0.00992 | -4.33332 | 18.000 |

## CAL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2234XA 10236400 DATE/TIME PERFORMED: Tue Feb 5 12:55:54 2013 DAYS SINCE CAL: 0

UNIT #: 3882TD HL6756

| | I.D. | MULT | ADD | I.D. |
|---|---|---|---|---|

| | | | | (in) |
|---|---|---|---|---|
| CALIPER | 2282.0 | 0.00992 | -4.33332 | 18.306 (17.500 – 18.500) |

## ZDL PRIMARY CALIBRATION SUMMARY

TOOL: 2234XA 10236400 DATE/TIME PERFORMED: Mon Jan 21 10:32:28 2013

UNIT: 3882TD HL6756 CALB BLKS: 2225XA 094289 CS SRC: 4703NT 37647B

| SS CS PK (Channel) | LS CS PK (Channel) | SS_BKGD (cps) | LS BKGD (cps) |
|---|---|---|---|
| 225.4 (220.0 – 230.0) | 225.8 (220.0 – 230.0) | 1297.4 | 1595.6 |

| | SS (cps) | LS (cps) | SHR | DEN (g/cm3) | CORR (g/cm3) | PE (b/e) |
|---|---|---|---|---|---|---|
| MG (LO PE) | 23261.6 | 12971.8 | 0.596 (0.565 – 0.665) | 1.697 | 0.002 | 2.120 |
| AL | 13722.8 | 1327.2 | | 2.700 | -0.004 | |
| AL + SHIM | 18890.4 | 2327.7 | | 2.614 | 0.157 | |
| MG + SHIM (HI PE) | 11355.7 | 6166.3 | 0.237 (0.210 – 0.270) | | | 8.550 |
| RATIO AL + SHIM/AL | 1.38 (1.32 – 1.42) | 1.75 (1.64 – 1.84) | | | | |
| RATIO MG/AL | 1.70 (1.65 – 1.78) | 9.77 (9.40 – 10.20) | | | | |

## ZDL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 2234XA 10236400 DATE/TIME PERFORMED: Tue Feb 5 10:10:14 2013 DAYS SINCE CAL: 14

UNIT #: 3882TD HL6756

| | TOTAL (cps) | CSPK (Channel) | HV (V) |
|---|---|---|---|
| LS | 1598.2 (1495.6 – 1695.6) | 224.0 (220.0 – 230.0) | 1245.2 (1100.0 – 1550.0) |
| SS | 1294.6 (1197.4 – 1397.4) | 226.0 (220.0 – 230.0) | 1311.3 (1100.0 – 1550.0) |

| LV (V) | PAD CURRENT (mA) |
|---|---|
| 5.0 (4.8 – 5.2) | 82.0 (50.0 – 120.0) |

## ZDL AFTER LOG VERIFICATION SUMMARY

TOOL #: 2234XA 10236400 DATE/TIME PERFORMED: Tue Feb 5 11:40:44 2013 DAYS SINCE CAL: 15

UNIT #: 3882TD HL6756

| | TOTAL (cps) | CSPK (Channel) | HV (V) |
|---|---|---|---|
| LS | 1603.4 | 224.6 | 1245.3 |
| | 1495.6 1695.6 | 220.0 230.0 | 1100.0 1550.0 |
| SS | 1289.5 | 226.3 | 1311.3 |
| | 1197.4 1397.4 | 220.0 230.0 | 1100.0 1550.0 |

| LV (V) | PAD CURRENT (mA) |
|---|---|
| 5.0 | 81.9 |
| 4.8 5.2 | 50.0 120.0 |

## HDIL PRIMARY CALIBRATION SUMMARY

TOOL #: 1515MA 185586 DATE/TIME PERFORMED: Thu Jan 17 10:44:36 2013

UNIT #: 3882TD HL6756 GRCOND ID & DATE: tyler 1118108

| ZERO DATA(mv) | 10 KHz | 30 KHz | 50 KHz | 70 KHz | 90 KHz | 110 KHz | 130 KHz | 150 KHz |
|---|---|---|---|---|---|---|---|---|
| Coil 0 R | 0.014 | 0.003 | 0.001 | 0.009 | 0.019 | 0.027 | 0.024 | 0.017 |
| | -0.200 0.200 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 |
| Coil 0 Q | 0.009 | 0.014 | -0.006 | -0.016 | -0.011 | -0.005 | 0.003 | 0.008 |
| | -1.000 1.000 | -0.200 0.200 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 |
| Coil 1 R | 0.030 | 0.019 | 0.021 | 0.038 | 0.054 | 0.061 | 0.055 | 0.044 |
| | -0.200 0.200 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 |
| Coil 1 Q | 0.006 | 0.004 | -0.020 | -0.027 | -0.017 | -0.003 | 0.010 | 0.019 |
| | -1.000 1.000 | -0.200 0.200 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 |
| Coil 2 R | 0.001 | 0.002 | 0.007 | 0.020 | 0.032 | 0.033 | 0.035 | 0.032 |
| | -0.200 0.200 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 |
| Coil 2 Q | -0.006 | -0.014 | -0.021 | -0.023 | -0.018 | -0.011 | -0.004 | 0.003 |
| | -1.000 1.000 | -0.200 0.200 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 |
| Coil 3 R | 0.022 | 0.009 | -0.005 | -0.003 | 0.009 | 0.012 | 0.013 | 0.007 |
| | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 |
| Coil 3 Q | -0.001 | 0.014 | 0.006 | -0.005 | -0.007 | -0.005 | 0.003 | 0.004 |
| | -0.500 0.500 | -0.200 0.200 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 |
| Coil 4 R | 0.011 | 0.002 | -0.002 | 0.005 | 0.015 | 0.027 | 0.025 | 0.024 |
| | -0.200 0.200 | -0.200 0.200 | -0.200 0.200 | -0.200 0.200 | -0.200 0.200 | -0.200 0.200 | -0.200 0.200 | -0.200 0.200 |
| Coil 4 Q | -0.002 | 0.011 | -0.003 | -0.018 | -0.016 | -0.011 | -0.002 | 0.009 |
| | -1.000 1.000 | -0.400 0.400 | -0.200 0.200 | -0.200 0.200 | -0.200 0.200 | -0.200 0.200 | -0.200 0.200 | -0.200 0.200 |
| Coil 5 R | -0.015 | 0.008 | -0.010 | -0.004 | 0.006 | 0.006 | -0.005 | 0.003 |
| | -0.400 0.400 | -0.400 0.400 | -0.400 0.400 | -0.400 0.400 | -0.400 0.400 | -0.400 0.400 | -0.400 0.400 | -0.400 0.400 |
| Coil 5 Q | -0.010 | 0.010 | -0.007 | 0.004 | -0.000 | -0.002 | 0.000 | -0.003 |
| | -2.000 2.000 | -0.800 0.800 | -0.400 0.400 | -0.400 0.400 | -0.400 0.400 | -0.400 0.400 | -0.400 0.400 | -0.400 0.400 |
| Coil 6 R | 0.033 | 0.002 | -0.023 | -0.034 | -0.002 | 0.013 | 0.021 | 0.021 |
| | -1.000 1.000 | -1.000 1.000 | -1.000 1.000 | -1.000 1.000 | -1.000 1.000 | -1.000 1.000 | -1.000 1.000 | -1.000 1.000 |
| Coil 6 Q | -0.003 | 0.050 | 0.024 | -0.005 | -0.027 | -0.039 | -0.007 | 0.007 |
| | -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 | 124.10 | 122.81 | 120.33 | 116.67 | 111.94 | 106.12 | 99.21 | 91.44 |
| | 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 | 7.535 | 23.693 | 39.629 | 55.514 | 71.432 | 87.436 | 103.403 | 119.406 |
| | 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 | 220.39 | 218.17 | 213.93 | 207.59 | 199.39 | 189.17 | 177.07 | 163.28 |
| | 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 | 7.556 | 23.705 | 39.620 | 55.530 | 71.469 | 87.524 | 103.546 | 119.623 |
| | 6.000 9.000 | 19.000 28.000 | 32.000 48.000 | 45.000 67.000 | 57.000 86.000 | 70.000 110.000 | 83.000 120.000 | 96.000 140.000 |
| Coil 2 M | 442.26 | 438.09 | 429.99 | 418.00 | 402.31 | 382.48 | 358.52 | 331.24 |
| | 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 | 7.584 | 23.827 | 39.860 | 55.911 | 72.023 | 88.248 | 104.539 | 120.850 |
| | 6.000 9.000 | 19.000 29.000 | 32.000 48.000 | 45.000 67.000 | 58.000 87.000 | 71.000 110.000 | 84.000 130.000 | 96.000 140.000 |
| Coil 3 M | 712.59 | 704.43 | 688.95 | 666.60 | 637.81 | 602.81 | 561.71 | 516.48 |
| | 590.00 880.00 | 580.00 870.00 | 570.00 850.00 | 550.00 830.00 | 530.00 800.00 | 500.00 760.00 | 470.00 710.00 | 440.00 650.00 |
| Coil 3 P | 7.846 | 24.644 | 41.157 | 57.636 | 74.080 | 90.569 | 106.987 | 123.381 |
| | 6.000 10.000 | 20.000 29.000 | 33.000 49.000 | 46.000 69.000 | 59.000 89.000 | 72.000 110.000 | 85.000 130.000 | 98.000 150.000 |
| Coil 4 M | 1133.9 | 1123.6 | 1103.6 | 1073.7 | 1034.4 | 984.1 | 923.1 | 853.0 |
| | 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 | 7.693 | 24.257 | 40.607 | 56.993 | 73.466 | 90.087 | 106.766 | 123.509 |
| | 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 | 2327.3 | 2299.9 | 2247.4 | 2171.2 | 2073.9 | 1955.8 | 1818.6 | 1668.0 |
| | 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 | 8.198 | 25.614 | 42.767 | 59.857 | 76.890 | 93.938 | 110.884 | 127.755 |
| | 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 | 6107.1 | 6027.6 | 5876.2 | 5657.0 | 5381.7 | 5044.8 | 4665.1 | 4248.0 |
| | 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 | 8.311 | 26.221 | 43.804 | 61.271 | 78.667 | 96.020 | 113.240 | 130.311 |
| | 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 | 547 | -43 | -107 | -123 | -129 | -131 | -133 | -135 |
| | -200 800 | -500 200 | -600 100 | -600 50 | -500 20 | -500 20 | -500 20 | -500 20 |
| Coil 0 Q | 428 | 205 | 100 | 38 | -6 | -42 | -73 | -103 |
| | -3000 6000 | -1000 2000 | -1000 1200 | -500 900 | -400 700 | -400 600 | -400 500 | -400 400 |
| Coil 1 R | 564 | 81 | 21 | 3 | -6 | -10 | -13 | -17 |
| | 450 650 | 20 130 | -30 60 | -50 40 | -55 30 | -60 20 | -60 10 | -60 10 |
| Coil 1 Q | 1314 | 520 | 324 | 233 | 179 | 142 | 115 | 93 |
| | 0 2500 | 0 900 | 0 600 | 0 450 | 0 350 | 0 300 | 0 250 | 0 250 |
| Coil 2 R | 192.2 | 27.0 | 7.4 | 1.5 | -0.9 | -2.6 | -3.9 | -4.7 |
| | 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 | 387.6 | 158.9 | 102.4 | 77.5 | 63.9 | 55.3 | 49.1 | 44.8 |
| | -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 | 53.7 | 6.9 | 1.6 | 0.1 | -0.6 | -0.9 | -1.3 | -2.2 |
| | 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 | 20.8 | 17.2 | 14.7 | 14.5 | 15.3 | 16.6 | 18.2 | 19.4 |
| | -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 | 12.91 | 1.22 | -0.32 | -0.71 | -0.88 | -0.93 | -1.12 | -1.06 |
| | 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 | 4.69 | 6.89 | 8.26 | 10.10 | 12.01 | 14.11 | 16.24 | 18.38 |
| | -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 | 3.95 | -0.12 | -0.62 | -0.93 | -0.86 | -0.94 | -1.02 | -1.02 |
| | -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 | 7.70 | 6.42 | 7.60 | 9.43 | 11.36 | 13.53 | 15.75 | 17.89 |
| | -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 | -0.29 | -0.76 | -0.85 | -0.88 | -0.80 | -0.88 | -0.84 | -0.83 |
| | -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 | -4.98 | 1.38 | 4.15 | 6.63 | 8.94 | 11.21 | 13.44 | 15.66 |
| | -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 | 0.989 | 0.986 | 0.983 | 0.983 | 0.981 | 0.980 | 0.979 | 0.980 |
| | 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 | 0.051 | 0.202 | 0.293 | 0.302 | 0.260 | 0.260 | 0.176 | 0.170 |
| | -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 | 0.993 | 0.992 | 0.989 | 0.987 | 0.986 | 0.984 | 0.984 | 0.984 |
| | 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 | 0.055 | 0.200 | 0.281 | 0.262 | 0.230 | 0.201 | 0.088 | 0.036 |
| | -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 | 0.998 | 0.995 | 0.995 | 0.994 | 0.993 | 0.992 | 0.991 | 0.990 |
| | 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 | 0.016 | 0.045 | 0.068 | 0.103 | 0.127 | 0.102 | 0.100 | 0.067 |
| | -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 | 0.999 | 0.998 | 0.998 | 0.997 | 0.996 | 0.995 | 0.996 | 0.996 |
| | 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 | 0.040 | 0.053 | 0.085 | 0.118 | 0.119 | 0.087 | 0.028 | -0.006 |
| | -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 | 1.009 | 1.009 | 1.008 | 1.007 | 1.007 | 1.006 | 1.005 | 1.003 |
| | 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 | 0.040 | 0.093 | 0.122 | 0.185 | 0.192 | 0.202 | 0.161 | 0.109 |
| | -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 | 1.015 | 1.015 | 1.015 | 1.013 | 1.012 | 1.013 | 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 5 P | 0.061 | 0.063 | 0.140 | 0.181 | 0.152 | 0.128 | 0.157 | 0.119 |
| | -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 | 1.007 | 1.008 | 1.006 | 1.003 | 1.004 | 1.008 | 1.008 | 1.006 |
| | 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 | 0.080 | 0.237 | 0.202 | 0.298 | 0.188 | 0.120 | 0.115 | -0.023 |
| | -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 | 1.448 | 0.888 | 68.3 | 1.04 |

## HDIL BEFORE LOG VERIFICATION SUMMARY

TOOL #: 1515MA 185586 DATE/TIME PERFORMED: Tue Feb 5 11:10:35 2013 DAYS SINCE CAL: 19

UNIT #: 3882TD HL6756

| ZERO DATA(mv) | 10 KHz | 30 KHz | 50 KHz | 70 KHz | 90 KHz | 110 KHz | 130 KHz | 150 KHz |
|---|---|---|---|---|---|---|---|---|
| Coil 0 R | 0.002 | 0.003 | 0.006 | 0.005 | 0.002 | 0.002 | 0.002 | -0.000 |
| | -0.200 0.200 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 |
| Coil 0 Q | 0.004 | 0.004 | -0.000 | 0.002 | 0.004 | 0.002 | 0.000 | -0.001 |
| | -1.000 1.000 | -0.200 0.200 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 |
| Coil 1 R | -0.002 | 0.000 | 0.003 | 0.005 | 0.001 | 0.001 | -0.002 | -0.002 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | -0.200 0.200 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 |
| Coil 1 Q | 0.001 | -0.001 | -0.004 | -0.000 | 0.003 | 0.001 | -0.001 | -0.002 |
| | -1.000 1.000 | -0.200 0.200 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 |
| Coil 2 R | 0.007 | 0.003 | 0.000 | 0.001 | -0.002 | -0.002 | 0.003 | 0.007 |
| | -0.200 0.200 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 |
| Coil 2 Q | -0.003 | -0.005 | -0.000 | 0.002 | -0.002 | -0.007 | -0.005 | -0.004 |
| | -1.000 1.000 | -0.200 0.200 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 |
| Coil 3 R | 0.004 | 0.002 | 0.001 | 0.004 | 0.003 | -0.001 | -0.002 | -0.001 |
| | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 |
| Coil 3 Q | -0.009 | -0.004 | -0.002 | 0.001 | 0.003 | 0.002 | -0.000 | -0.001 |
| | -0.500 0.500 | -0.200 0.200 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 | -0.100 0.100 |
| Coil 4 R | -0.001 | -0.000 | 0.001 | 0.006 | 0.000 | 0.006 | 0.009 | 0.007 |
| | -0.200 0.200 | -0.200 0.200 | -0.200 0.200 | -0.200 0.200 | -0.200 0.200 | -0.200 0.200 | -0.200 0.200 | -0.200 0.200 |
| Coil 4 Q | -0.005 | 0.006 | -0.004 | 0.003 | 0.001 | -0.006 | -0.005 | 0.002 |
| | -1.000 1.000 | -0.400 0.400 | -0.200 0.200 | -0.200 0.200 | -0.200 0.200 | -0.200 0.200 | -0.200 0.200 | -0.200 0.200 |
| Coil 5 R | -0.006 | -0.003 | 0.007 | 0.011 | 0.002 | 0.001 | -0.005 | -0.002 |
| | -0.400 0.400 | -0.400 0.400 | -0.400 0.400 | -0.400 0.400 | -0.400 0.400 | -0.400 0.400 | -0.400 0.400 | -0.400 0.400 |
| Coil 5 Q | 0.009 | -0.004 | 0.001 | 0.012 | 0.011 | 0.003 | 0.004 | 0.003 |
| | -2.000 2.000 | -0.800 0.800 | -0.400 0.400 | -0.400 0.400 | -0.400 0.400 | -0.400 0.400 | -0.400 0.400 | -0.400 0.400 |
| Coil 6 R | 0.020 | -0.018 | -0.004 | -0.011 | 0.001 | -0.000 | 0.012 | 0.019 |
| | -1.000 1.000 | -1.000 1.000 | -1.000 1.000 | -1.000 1.000 | -1.000 1.000 | -1.000 1.000 | -1.000 1.000 | -1.000 1.000 |
| Coil 6 Q | 0.004 | -0.012 | -0.013 | -0.015 | -0.001 | -0.008 | 0.003 | 0.004 |
| | -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 | 124.34 | 123.03 | 120.55 | 116.74 | 111.94 | 105.84 | 98.91 | 90.88 |
| | 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 | 7.543 | 23.740 | 39.704 | 55.684 | 71.627 | 87.669 | 103.629 | 119.732 |
| | 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 | 220.40 | 218.14 | 213.93 | 207.30 | 199.00 | 188.31 | 176.15 | 161.96 |
| | 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 | 7.566 | 23.752 | 39.702 | 55.706 | 71.686 | 87.777 | 103.783 | 119.925 |
| | 6.000 9.000 | 19.000 28.000 | 32.000 48.000 | 45.000 67.000 | 57.000 86.000 | 70.000 110.000 | 83.000 120.000 | 96.000 140.000 |
| Coil 2 M | 441.96 | 437.73 | 429.69 | 417.13 | 401.27 | 380.51 | 356.23 | 328.58 |
| | 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 | 7.597 | 23.878 | 39.953 | 56.101 | 72.225 | 88.541 | 104.780 | 121.229 |
| | 6.000 9.000 | 19.000 29.000 | 32.000 48.000 | 45.000 67.000 | 58.000 87.000 | 71.000 110.000 | 84.000 130.000 | 96.000 140.000 |
| Coil 3 M | 713.44 | 705.19 | 689.79 | 666.46 | 637.44 | 600.94 | 559.51 | 512.82 |
| | 590.00 880.00 | 580.00 870.00 | 570.00 850.00 | 550.00 830.00 | 530.00 800.00 | 500.00 760.00 | 470.00 710.00 | 440.00 650.00 |
| Coil 3 P | 7.854 | 24.686 | 41.231 | 57.796 | 74.269 | 90.816 | 107.196 | 123.659 |
| | 6.000 10.000 | 20.000 29.000 | 33.000 49.000 | 46.000 69.000 | 59.000 89.000 | 72.000 110.000 | 85.000 130.000 | 98.000 150.000 |
| Coil 4 M | 1133.8 | 1123.4 | 1103.5 | 1072.3 | 1032.4 | 979.9 | 918.3 | 846.4 |
| | 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 | 7.701 | 24.293 | 40.674 | 57.150 | 73.630 | 90.319 | 106.952 | 123.780 |
| | 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 | 2325.9 | 2298.2 | 2246.2 | 2167.3 | 2068.8 | 1945.5 | 1808.1 | 1653.9 |
| | 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 | 8.207 | 25.661 | 42.854 | 60.041 | 77.100 | 94.215 | 111.123 | 128.080 |
| | 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 | 6106.7 | 6026.2 | 5875.7 | 5649.2 | 5369.4 | 5022.6 | 4639.0 | 4214.6 |
| | 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 | 8.317 | 26.265 | 43.880 | 61.449 | 78.860 | 96.293 | 113.458 | 130.608 |
| | 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 |

# HDTL AFTER LOG VERIFICATION SUMMARY

TOOL #: 1515MA 185586 DATE/TIME PERFORMED: Tue Feb 5 11:28:24 2013 DAYS SINCE CAL: 19

UNIT #: 3882TD HL6756

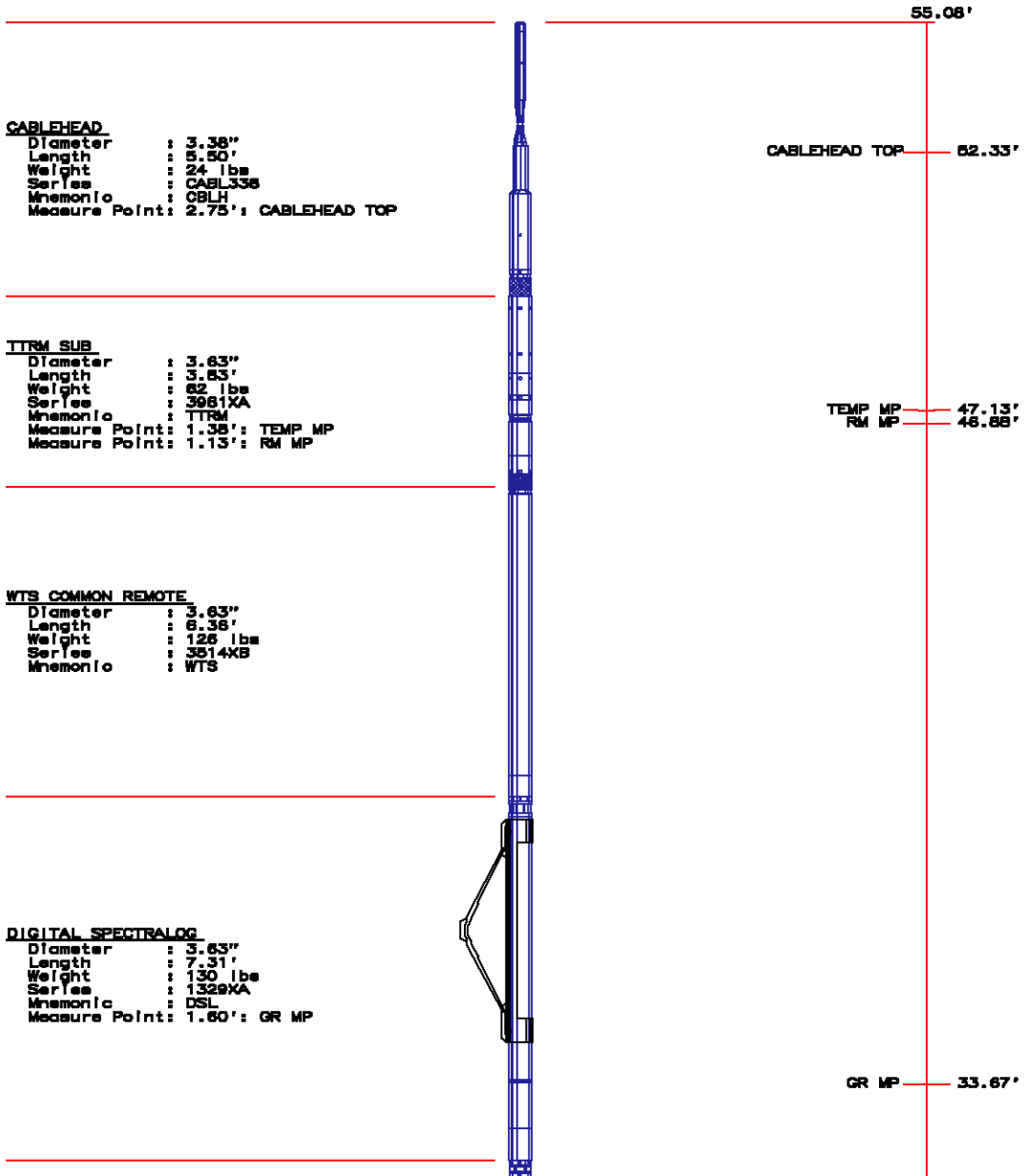
| ZERO DATA(mv) | 10 KHz | 30 KHz | 50 KHz | 70 KHz | 90 KHz | 110 KHz | 130 KHz | 150 KHz |
|---|---|---|---|---|---|---|---|---|
| Coil 0 R | 0.001 | 0.003 | 0.006 | 0.005 | 0.001 | 0.003 | 0.002 | 0.001 |
| | -0.078 0.082 | -0.057 0.063 | -0.024 0.036 | -0.025 0.035 | -0.028 0.032 | -0.028 0.032 | -0.028 0.032 | -0.030 0.030 |
| Coil 0 Q | 0.003 | 0.005 | -0.001 | 0.001 | 0.002 | 0.002 | 0.001 | -0.001 |
| | -0.036 0.044 | -0.116 0.124 | -0.030 0.030 | -0.028 0.032 | -0.026 0.034 | -0.028 0.032 | -0.030 0.030 | -0.031 0.029 |
| Coil 1 R | -0.001 | 0.001 | 0.004 | 0.005 | 0.002 | 0.001 | 0.000 | -0.003 |
| | -0.082 0.078 | -0.050 0.050 | -0.027 0.033 | -0.025 0.035 | -0.029 0.031 | -0.029 0.031 | -0.032 0.028 | -0.032 0.028 |
| Coil 1 Q | 0.001 | -0.001 | -0.004 | -0.000 | 0.002 | 0.002 | -0.000 | -0.003 |
| | -0.399 0.401 | -0.101 0.099 | -0.034 0.026 | -0.030 0.030 | -0.027 0.033 | -0.029 0.031 | -0.031 0.029 | -0.032 0.028 |
| Coil 2 R | 0.006 | 0.004 | 0.002 | 0.001 | -0.002 | -0.001 | 0.003 | 0.007 |
| | -0.063 0.077 | -0.027 0.033 | -0.030 0.030 | -0.029 0.031 | -0.032 0.028 | -0.032 0.028 | -0.027 0.033 | -0.023 0.037 |
| Coil 2 Q | -0.005 | -0.005 | 0.000 | 0.002 | -0.001 | -0.006 | -0.006 | -0.005 |
| | -0.353 0.347 | -0.105 0.095 | -0.030 0.030 | -0.028 0.032 | -0.032 0.028 | -0.037 0.023 | -0.035 0.025 | -0.034 0.026 |
| Coil 3 R | 0.001 | 0.002 | 0.003 | 0.001 | 0.004 | -0.001 | -0.001 | -0.001 |
| | -0.036 0.044 | -0.038 0.042 | -0.039 0.041 | -0.036 0.044 | -0.037 0.043 | -0.041 0.039 | -0.042 0.038 | -0.041 0.039 |
| Coil 3 Q | -0.010 | -0.007 | -0.001 | 0.002 | 0.002 | 0.005 | 0.001 | -0.000 |
| | -0.209 0.191 | -0.084 0.076 | -0.042 0.038 | -0.039 0.041 | -0.037 0.043 | -0.038 0.042 | -0.040 0.040 | -0.041 0.039 |
| Coil 4 R | -0.004 | 0.001 | 0.002 | 0.009 | -0.000 | 0.005 | 0.008 | 0.007 |
| | -0.061 0.059 | -0.060 0.060 | -0.059 0.061 | -0.054 0.066 | -0.060 0.060 | -0.054 0.066 | -0.051 0.069 | -0.053 0.067 |
| Coil 4 Q | -0.005 | -0.001 | -0.007 | -0.000 | -0.003 | -0.003 | -0.002 | 0.004 |
| | -0.305 0.295 | -0.094 0.106 | -0.064 0.056 | -0.057 0.063 | -0.059 0.061 | -0.066 0.054 | -0.065 0.055 | -0.058 0.062 |
| Coil 5 R | -0.000 | -0.003 | 0.005 | 0.009 | 0.003 | 0.006 | -0.005 | -0.010 |
| | -0.126 0.114 | -0.123 0.117 | -0.113 0.127 | -0.109 0.131 | -0.118 0.122 | -0.119 0.121 | -0.125 0.115 | -0.122 0.118 |
| Coil 5 Q | -0.004 | -0.000 | -0.003 | 0.003 | 0.007 | 0.009 | -0.001 | 0.000 |
| | -0.591 0.609 | -0.254 0.246 | -0.119 0.121 | -0.108 0.132 | -0.109 0.131 | -0.117 0.123 | -0.116 0.124 | -0.117 0.123 |
| Coil 6 R | 0.008 | -0.013 | 0.019 | 0.006 | -0.020 | 0.011 | -0.008 | 0.012 |
| | -0.280 0.320 | -0.318 0.282 | -0.304 0.296 | -0.311 0.289 | -0.299 0.301 | -0.300 0.300 | -0.288 0.312 | -0.281 0.319 |
| Coil 6 Q | -0.005 | 0.014 | -0.013 | -0.043 | 0.002 | -0.015 | -0.006 | -0.002 |
| | -1.496 1.504 | -0.612 0.588 | -0.313 0.287 | -0.315 0.285 | -0.301 0.299 | -0.308 0.292 | -0.297 0.303 | -0.296 0.304 |

| ELEC. GAINS | 10 KHz | 30 KHz | 50 KHz | 70 KHz | 90 KHz | 110 KHz | 130 KHz | 150 KHz |
|---|---|---|---|---|---|---|---|---|
| Coil 0 M | 124.36 | 123.06 | 120.58 | 116.78 | 111.89 | 105.87 | 98.84 | 90.87 |
| | 121.85 126.82 | 120.57 125.49 | 118.14 122.96 | 114.41 119.08 | 109.71 114.18 | 103.72 107.96 | 96.93 100.89 | 89.06 92.70 |
| Coil 0 P | 7.544 | 23.750 | 39.730 | 55.715 | 71.637 | 87.732 | 103.622 | 119.767 |
| | 4.543 10.543 | 20.740 26.740 | 36.704 42.704 | 52.684 58.684 | 68.627 74.627 | 84.669 90.669 | 100.629 106.629 | 116.732 122.732 |
| Coil 1 M | 220.44 | 218.18 | 213.98 | 207.30 | 198.99 | 188.31 | 176.15 | 161.94 |
| | 215.99 224.81 | 213.78 222.50 | 209.65 218.20 | 203.16 211.45 | 195.02 202.97 | 184.55 192.08 | 172.63 179.67 | 158.72 165.20 |
| Coil 1 P | 7.569 | 23.759 | 39.727 | 55.733 | 71.697 | 87.828 | 103.808 | 119.973 |
| | 4.566 10.566 | 20.752 26.752 | 36.702 42.702 | 52.706 58.706 | 68.686 74.686 | 84.777 90.777 | 100.783 106.783 | 116.925 122.925 |
| Coil 2 M | 441.93 | 437.68 | 429.60 | 417.06 | 401.00 | 380.40 | 356.29 | 328.25 |
| | 433.12 450.80 | 428.98 446.49 | 421.10 438.29 | 408.78 425.47 | 393.25 409.30 | 372.90 388.12 | 349.10 363.35 | 322.01 335.15 |
| Coil 2 P | 7.600 | 23.893 | 39.978 | 56.147 | 72.238 | 88.602 | 104.809 | 121.290 |
| | 4.597 10.597 | 20.878 26.878 | 36.953 42.953 | 53.101 59.101 | 69.225 75.225 | 85.541 91.541 | 101.780 107.780 | 118.229 124.229 |
| Coil 3 M | 713.67 | 705.38 | 689.97 | 666.69 | 637.46 | 600.99 | 559.58 | 512.65 |
| | 699.17 727.71 | 691.08 719.29 | 675.99 703.58 | 653.13 679.79 | 624.69 650.19 | 588.92 612.96 | 548.32 570.70 | 502.56 523.07 |
| Coil 3 P | 7.857 | 24.691 | 41.257 | 57.831 | 74.283 | 90.880 | 107.240 | 123.728 |
| | 4.854 10.854 | 21.686 27.686 | 38.231 44.231 | 54.796 60.796 | 71.269 77.269 | 87.816 93.816 | 104.196 110.196 | 120.659 126.659 |
| Coil 4 M | 1133.9 | 1123.5 | 1103.7 | 1072.5 | 1032.2 | 980.0 | 918.4 | 846.1 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1111.1 1156.4 | 1100.9 1145.8 | 1081.4 1125.6 | 1050.9 1095.8 | 1011.8 1055.1 | 960.3 999.5 | 900.0 936.7 | 829.5 863.3 |
| Coil 4 P | 7.705 | 24.305 | 40.698 | 57.187 | 73.654 | 90.375 | 106.997 | 123.870 |
| | 4.701 10.701 | 21.293 27.293 | 37.674 43.674 | 54.150 60.150 | 70.630 76.630 | 87.319 93.319 | 103.952 109.952 | 120.780 126.780 |
| Coil 5 M | 2326.2 | 2298.4 | 2246.4 | 2167.4 | 2068.3 | 1945.9 | 1807.5 | 1653.4 |
| | 2279.4 2372.4 | 2252.3 2344.2 | 2201.3 2291.1 | 2124.0 2210.7 | 2027.4 2110.2 | 1906.6 1984.4 | 1771.9 1844.2 | 1620.8 1687.0 |
| Coil 5 P | 8.212 | 25.671 | 42.883 | 60.073 | 77.124 | 94.275 | 111.181 | 128.165 |
| | 5.207 11.207 | 22.661 28.661 | 39.854 45.854 | 57.041 63.041 | 74.100 80.100 | 91.215 97.215 | 108.123 114.123 | 125.080 131.080 |
| Coil 6 M | 6106.2 | 6025.5 | 5875.9 | 5647.7 | 5368.2 | 5020.5 | 4636.7 | 4210.8 |
| | 5984.5 6228.8 | 5905.7 6146.7 | 5758.2 5993.2 | 5536.2 5762.2 | 5262.0 5476.8 | 4922.2 5123.1 | 4546.2 4731.8 | 4130.3 4298.9 |
| Coil 6 P | 8.321 | 26.284 | 43.914 | 61.479 | 78.904 | 96.348 | 113.506 | 130.699 |
| | 5.317 11.317 | 23.265 29.265 | 40.880 46.880 | 58.449 64.449 | 75.860 81.860 | 93.293 99.293 | 110.458 116.458 | 127.608 133.608 |

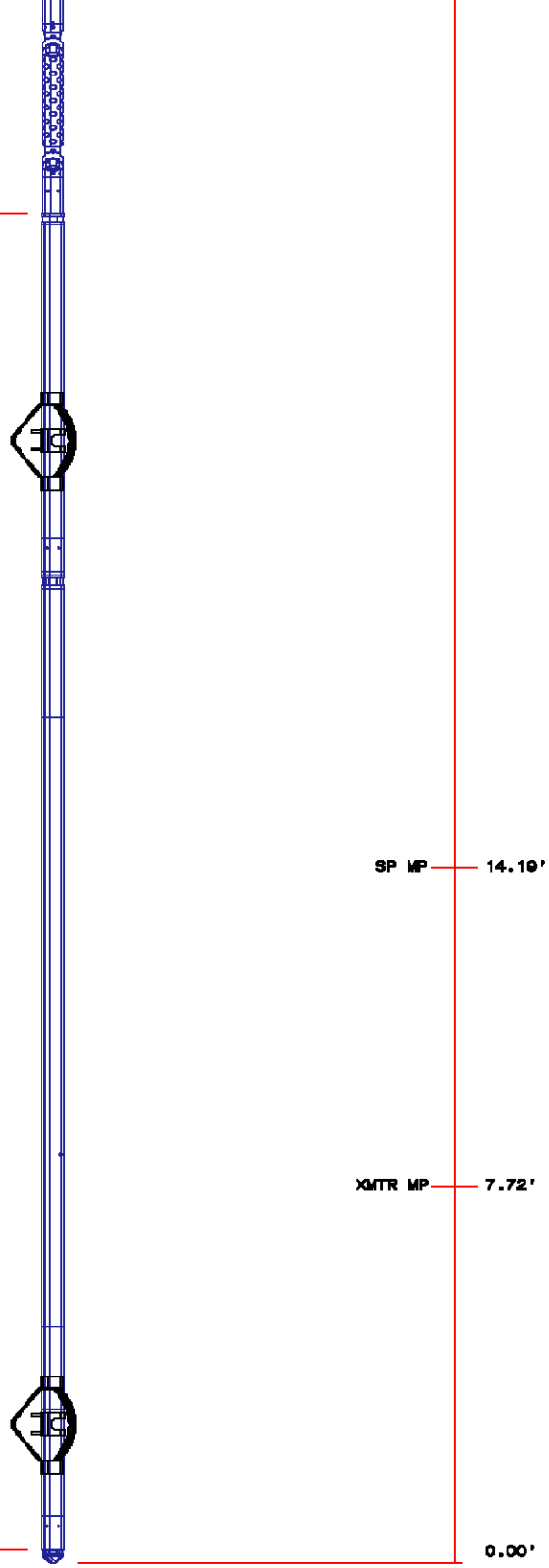
# INSTRUMENT CONFIGURATION

Source File: /data/637702/mRun1-tdg



KNUCKLE JOINT (DOUBLE)
Diameter : 3.38"
Length : 4.65'
Weight : 90 lbs
Series : 3939XA
Mnemonic : KNJT

HIGH DEFINITION INDUCTION TOOL
Diameter : 3.62"
Length : 27.13'
Weight : 415 lbs
Series : 1515XA
Mnemonic : HDIL
Measure Point: 13.91': SP MP
Measure Point: 7.44': XMTR MP



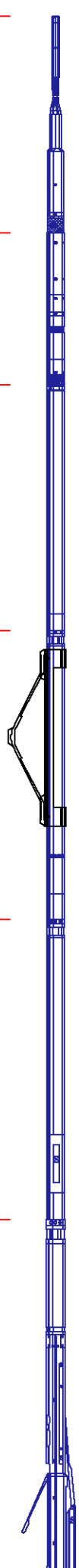

BULL PLUG 3 3/8

TOTAL LENGTH: 55.05'
TOTAL WEIGHT: 878 lbs
MAX DIAMETER: 0'4.00"

# INSTRUMENT CONFIGURATION

Source File: /dgt1c/637702/mRun2-idg

Source File: /data/637702/mkuhz-log



42.10'

**CABLEHEAD**
- Diameter : 3.38"
- Length : 8.60'
- Weight : 24 lbs
- Series : CABL338
- Mnemonic : CBLH
- Measure Point: 2.75': CABLEHEAD TOP

CABLEHEAD TOP — 39.35'

**TTRM SUB**
- Diameter : 3.63"
- Length : 3.83'
- Weight : 62 lbs
- Series : 3981XA
- Mnemonic : TTRM
- Measure Point: 1.38': TEMP MP
- Measure Point: 1.13': RM MP

TEMP MP — 34.15'
RM MP — 33.90'

**WTS COMMON REMOTE**
- Diameter : 3.63"
- Length : 6.36'
- Weight : 126 lbs
- Series : 3514XB
- Mnemonic : WTS

**DIGITAL SPECTRALOG**
- Diameter : 3.63"
- Length : 7.31'
- Weight : 130 lbs
- Series : 1329XA
- Mnemonic : DSL
- Measure Point: 1.60': GR MP

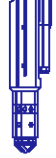
GR MP — 20.69'

**COMPENSATED NEUTRON**
- Diameter : 3.63"
- Length : 7.59'
- Weight : 150 lbs
- Series : 2448XA
- Mnemonic : CN
- Source Type : AM241BE
- Measure Point: 2.63': LSN MP
- Measure Point: 2.24': SSN MP

LSN MP — 14.13'
SSN MP — 13.74'

**Z-DENSILOG**
- Diameter : 4.88"
- Length : 11.22'
- Weight : 380 lbs
- Series : 2234XA
- Mnemonic : ZDL
- Source Type : CS137
- Measure Point: 3.19': CAL MP
- Measure Point: 2.47': LSD MP
- Measure Point: 2.07': SSD MP

CAL MP — 3.47'



LSD MP 2.75'
SSD MP 2.35'

0.00'

BULL PLUG 3 3/8

TOTAL LENGTH: 42.10'
TOTAL WEIGHT: 869 lbs
MAX DIAMETER: 0'4.88"

| | | | |
|---|---|---|---|
| COMPANY | TEXAS BRINE COMPANY | | FILE NO: 0H067692 |
| WELL | GEO PHONE #3 | | API NO: N/A |
| FIELD | NAPOLEANVILLE | | |
| PARISH | ASSUMPTION | STATE LOUISIANA | |

LOCATION:

N 30° 00' 53"
W 91° 08' 37"

SEC 40 TWP 12S RGE 13E

ELEVATIONS:

KB N/A
DF N/A
GL N/A

DATE 05-FEB-2013

# ME&A Daily Action Summary

February 7, 2013

**Subsidence Survey:**

- No Work Done

**Sinkhole Perimeter/Hydrographic Survey:**

- No Work Done

**Support Sinkhole Cleanup**

- No Work Done

**Misc. Survey Work**

- Stake corners of ORW-7 well pad for chipping and fill. Staking access roads from Hwy 70 to ORW-9 well and to ORW-6 well on Dugas & LeBlanc property. As-built sections on containment levee along Rig Road.

# Michael Pisani & Associates

## Texas Brine, L.L.C.
## Assumption Parish, Louisiana
## Daily Field Report

Report By: Anna Fix
Company: MP&A

Date: 2/8/2013
Work Order # 80-05

Health and Safety Meeting ☐ YES ☐ NO

Weather: 65 F foggy then clear

| Personnel | Company | Job Title |
|---|---|---|
| Charles Trahan | MP&A | Geologist |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Site Activities: Start Time 6:50 End Time 16:55

**Equipment On-site:**
Gardner Denver mud rotary rig
Vac truck
Skid steer

**Daily Activity:**
Surface completions at MRAA-01M and MRAA-01D 2/8/2013
Conduct sampling surface water transect 2/8/2013
Measure water level for the industrial water wells 2/8/2013

Estimated time of completion:
On-going

**Proposed schedule:**
Measure pressure and water level at TBC Geoprobe locations 2/13/2013

Estimated time of completion:
On-going

Initials: ABF

*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** 02/07/2013

**GCAL Report** 213012604

| | |
|---|---|
| ***Deliver To*** | Texas Brine<br>4800 San Felipe<br>Houston, TX 77074 |
| ***Attn*** | Bruce Martin |

***Project*** 80-05 Assumption Parish Sinkho

CASE NARRATIVE

**Client:** Michael Pisani & Associates **Report:** 213012604

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 21301260401 (OXY #1), 21301260402 (OXY #2), 21301260403 (OXY #3), 21301260404 (WW #1), 21301260405 (WW #2) and 21301260406 (WW #3) had to be diluted to bracket the concentrations within the calibration range of the instrument. Sample 2130120402 (OXY #2) Methane was over calibration range. Sample was ran at highest dilution possible.

**METALS**

In the SW-846 6010B analysis, samples 21301260401 (OXY #1), 21301260402 (OXY #2), 21301260403 (OXY #3), 21301260404 (WW #1), 21301260405 (WW #2) and 21301260406 (WW #3) had to be diluted in order to bracket the concentration of a target analyte within the linear dynamic range of the instrument.

**CONVENTIONALS**

In the SW-846 9056A analysis, samples 21301260401 (OXY #1), 21301260402 (OXY #2), 21301260403 (OXY #3), 21301260404 (WW #1), 21301260405 (WW #2), 21301260406 (WW #3) and 21301260407 (GP-3) had to be diluted in order to bracket the concentration within the calibration range of the instrument.

**MISCELLANEOUS**

Samples 21301260401 (OXY #1), 21301260402 (OXY #2), 21301260403 (OXY #3), 21301260404 (WW #1), 21301260405 (WW #2) and 21301260406 (WW #3) had to be preserved at the laboratory with HNO3. These containers were used to SW-846 6010B.

# 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.

IntegriSign

Robyn Migues
Technical Director
**GCAL REPORT** 213012604

# Report Sample Summary

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260401 | OXY #1 | Water | 01/22/2013 11:40 | 01/25/2013 16:55 |
| 21301260402 | OXY #2 | Water | 01/22/2013 12:20 | 01/25/2013 16:55 |
| 21301260403 | OXY #3 | Water | 01/22/2013 13:30 | 01/25/2013 16:55 |
| 21301260404 | WW #1 | Water | 01/22/2013 13:50 | 01/25/2013 16:55 |
| 21301260405 | WW #2 | Water | 01/22/2013 13:05 | 01/25/2013 16:55 |
| 21301260406 | WW #3 | Water | 01/22/2013 13:25 | 01/25/2013 16:55 |
| 21301260407 | GP-3 | Water | 01/25/2013 15:10 | 01/25/2013 16:55 |
| 21301260408 | TRIP BLANK | Water | 01/22/2013 00:00 | 01/25/2013 16:55 |

# Summary of Compounds Detected

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260401 | **OXY #1** | Water | 01/22/2013 11:40 | 01/25/2013 16:55 |

## SM 2540C TDS

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| WET-035 | Total Dissolved Solids(TDS) | 5490 | 10.0 | | mg/L |

## RSK 175

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 106-97-8 | Butane | 0.00825 | 0.00550 | | mg/L |
| 74-98-6 | Propane | 0.059 | 0.010 | | mg/L |

## SM 2510 B Conductivity

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 9930 | 10 | | umhos/cm |

## SM 2320B Bicarbonate

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| T-005-B | Bicarbonate Alkalinity | 403 | 1.0 | | mg/L CaCO3 |

## SW-846 6010B

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 7440-70-2 | Calcium | 212 | 0.10 | | mg/L |
| 7439-89-6 | Iron | 3.87 | 0.10 | | mg/L |
| 7439-95-4 | Magnesium | 77.1 | 0.10 | | mg/L |
| 7439-96-5 | Manganese | 0.42 | 0.015 | | mg/L |
| 7440-09-7 | Potassium | 11.3 | 0.50 | | mg/L |

## SW-846 6010B

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 7440-23-5 | Sodium | 1650 | 10.0 | | mg/L |

## SW-846 9056A

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 16887-00-6 | Chloride | 3470 | 200 | | mg/L |

## RSK 175

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 74-82-8 | Methane | 13.8 | 3.00 | | mg/L |

# Summary of Compounds Detected (con't)

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260401 | OXY #1 | Water | 01/22/2013 11:40 | 01/25/2013 16:55 |

## RSK 175

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 74-84-0 | Ethane | 0.543 | 0.100 | | mg/L |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260402 | OXY #2 | Water | 01/22/2013 12:20 | 01/25/2013 16:55 |

## RSK 175

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 106-97-8 | Butane | 0.027 | 0.00550 | | mg/L |
| 74-98-6 | Propane | 0.146 | 0.010 | | mg/L |

## SM 2540C TDS

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| WET-035 | Total Dissolved Solids(TDS) | 3750 | 10.0 | | mg/L |

## SW-846 9056A

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 16887-00-6 | Chloride | 2400 | 100 | | mg/L |

## SM 2510 B Conductivity

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 7140 | 10 | | umhos/cm |

## SM 2320B Bicarbonate

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| T-005-B | Bicarbonate Alkalinity | 533 | 1.0 | | mg/L CaCO3 |

## SW-846 6010B

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 7440-70-2 | Calcium | 154 | 0.10 | | mg/L |
| 7439-89-6 | Iron | 5.81 | 0.10 | | mg/L |
| 7439-95-4 | Magnesium | 50.4 | 0.10 | | mg/L |
| 7439-96-5 | Manganese | 0.33 | 0.015 | | mg/L |
| 7440-09-7 | Potassium | 11.0 | 0.50 | | mg/L |

## SW-846 6010B

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 7440-23-5 | Sodium | 1120 | 10.0 | | mg/L |

# Summary of Compounds Detected (con't)

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260402 | OXY #2 | Water | 01/22/2013 12:20 | 01/25/2013 16:55 |

## RSK 175

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 74-84-0 | Ethane | 2.89 | 0.900 | | mg/L |
| 74-82-8 | Methane | 58.0 | 4.50 | | mg/L |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260403 | OXY #3 | Water | 01/22/2013 13:30 | 01/25/2013 16:55 |

## RSK 175

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 106-97-8 | Butane | 0.018 | 0.00550 | | mg/L |
| 74-98-6 | Propane | 0.111 | 0.010 | | mg/L |

## SM 2540C TDS

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| WET-035 | Total Dissolved Solids(TDS) | 4900 | 10.0 | | mg/L |

## SM 2510 B Conductivity

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 8940 | 10 | | umhos/cm |

## SM 2320B Bicarbonate

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| T-005-B | Bicarbonate Alkalinity | 435 | 1.0 | | mg/L CaCO3 |

## SW-846 6010B

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 7440-70-2 | Calcium | 180 | 0.10 | | mg/L |
| 7439-89-6 | Iron | 1.71 | 0.10 | | mg/L |
| 7439-95-4 | Magnesium | 62.0 | 0.10 | | mg/L |
| 7439-96-5 | Manganese | 0.36 | 0.015 | | mg/L |
| 7440-09-7 | Potassium | 9.92 | 0.50 | | mg/L |

## SW-846 6010B

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 7440-23-5 | Sodium | 1390 | 10.0 | | mg/L |

## SW-846 9056A

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 16887-00-6 | Chloride | 3080 | 100 | | mg/L |

# Summary of Compounds Detected (con't)

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260403 | **OXY #3** | Water | 01/22/2013 13:30 | 01/25/2013 16:55 |

## RSK 175

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 74-84-0 | Ethane | 0.840 | 0.100 | | mg/L |

## RSK 175

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 74-82-8 | Methane | 14.8 | 4.50 | | mg/L |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260404 | **WW #1** | Water | 01/22/2013 13:50 | 01/25/2013 16:55 |

## RSK 175

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 74-84-0 | Ethane | 0.00289 | 0.00100 | | mg/L |

## SM 2540C TDS

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| WET-035 | Total Dissolved Solids(TDS) | 3880 | 10.0 | | mg/L |

## SM 2510 B Conductivity

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 7230 | 10 | | umhos/cm |

## SM 2320B Bicarbonate

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| T-005-B | Bicarbonate Alkalinity | 599 | 1.0 | | mg/L CaCO3 |

## SW-846 6010B

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 7440-70-2 | Calcium | 150 | 0.10 | | mg/L |
| 7439-89-6 | Iron | 4.95 | 0.10 | | mg/L |
| 7439-95-4 | Magnesium | 51.1 | 0.10 | | mg/L |
| 7439-96-5 | Manganese | 0.34 | 0.015 | | mg/L |
| 7440-09-7 | Potassium | 8.11 | 0.50 | | mg/L |

## SW-846 6010B

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

# Summary of Compounds Detected (con't)

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260404 | **WW #1** | Water | 01/22/2013 13:50 | 01/25/2013 16:55 |

## SW-846 9056A

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 16887-00-6 | Chloride | 2320 | 100 | | mg/L |

## RSK 175

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 74-82-8 | Methane | 6.72 | 3.00 | | mg/L |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260405 | **WW #2** | Water | 01/22/2013 13:05 | 01/25/2013 16:55 |

## SM 2540C TDS

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| WET-035 | Total Dissolved Solids(TDS) | 4160 | 10.0 | | mg/L |

## SM 2320B Bicarbonate

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| T-005-B | Bicarbonate Alkalinity | 502 | 1.0 | | mg/L CaCO3 |

## SM 2510 B Conductivity

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 7610 | 10 | | umhos/cm |

## SW-846 6010B

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 7440-70-2 | Calcium | 174 | 0.10 | | mg/L |
| 7439-89-6 | Iron | 7.91 | 0.10 | | mg/L |
| 7439-95-4 | Magnesium | 57.5 | 0.10 | | mg/L |
| 7439-96-5 | Manganese | 0.44 | 0.015 | | mg/L |
| 7440-09-7 | Potassium | 9.86 | 0.50 | | mg/L |

## SW-846 6010B

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 7440-23-5 | Sodium | 1210 | 10.0 | | mg/L |

## RSK 175

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 74-82-8 | Methane | 8.96 | 3.00 | | mg/L |

# Summary of Compounds Detected (con't)

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260405 | **WW #2** | Water | 01/22/2013 13:05 | 01/25/2013 16:55 |

## RSK 175

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 74-84-0 | Ethane | 0.035 | 0.010 | | mg/L |

## SW-846 9056A

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 16887-00-6 | Chloride | 2420 | 100 | | mg/L |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260406 | **WW #3** | Water | 01/22/2013 13:25 | 01/25/2013 16:55 |

## SM 2540C TDS

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| WET-035 | Total Dissolved Solids(TDS) | 5330 | 10.0 | | mg/L |

## SM 2320B Bicarbonate

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| T-005-B | Bicarbonate Alkalinity | 443 | 1.0 | | mg/L CaCO3 |

## SM 2510 B Conductivity

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 9830 | 10 | | umhos/cm |

## SW-846 6010B

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 7440-70-2 | Calcium | 208 | 0.10 | | mg/L |
| 7439-89-6 | Iron | 6.25 | 0.10 | | mg/L |
| 7439-95-4 | Magnesium | 72.7 | 0.10 | | mg/L |
| 7439-96-5 | Manganese | 0.40 | 0.015 | | mg/L |
| 7440-09-7 | Potassium | 10.6 | 0.50 | | mg/L |

## SW-846 6010B

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 7440-23-5 | Sodium | 1570 | 10.0 | | mg/L |

## RSK 175

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 74-84-0 | Ethane | 0.173 | 0.050 | | mg/L |

# Summary of Compounds Detected (con't)

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260406 | **WW #3** | Water | 01/22/2013 13:25 | 01/25/2013 16:55 |

## RSK 175

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **74-82-8** | **Methane** | **14.8** | **4.50** | | **mg/L** |

## SW-846 9056A

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **16887-00-6** | **Chloride** | **3320** | **100** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260407 | **GP-3** | Water | 01/25/2013 15:10 | 01/25/2013 16:55 |

## SW-846 9056A

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **16887-00-6** | **Chloride** | **13.1** | **0.500** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260401 | **OXY #1** | Water | 01/22/2013 11:40 | 01/25/2013 16:55 |

## SW-846 8260B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 17:59 | CEK | 499810 |

| 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 | 98 | 78 - 130 |
| 1868-53-7 | Dibromofluoromethane | .05 | .05 | mg/L | 99 | 77 - 127 |
| 2037-26-5 | Toluene d8 | .05 | .05 | mg/L | 100 | 76 - 134 |
| 17060-07-0 | 1,2-Dichloroethane-d4 | .05 | .048 | mg/L | 97 | 71 - 127 |

## RSK 175

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 02/05/2013 09:52 | JAR | 500255 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **106-97-8** | **Butane** | **0.00825** | **0.00550** | | **mg/L** |
| 74-85-1 | Ethene | ND | 0.00100 | | mg/L |
| **74-98-6** | **Propane** | **0.059** | **0.010** | | **mg/L** |

| CAS# | Surrogate | Conc. Spiked | Conc. Rec | Units | % Recovery | Rec Limits |
|---|---|---|---|---|---|---|
| 115-07-1 | Propene | .041 | .03 | mg/L | 73 | 40 - 143 |

## RSK 175

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 600 | 02/05/2013 10:00 | JAR | 500255 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **74-82-8** | **Methane** | **13.8** | **3.00** | | **mg/L** |

## RSK 175

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 100 | 02/05/2013 10:07 | JAR | 500255 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **74-84-0** | **Ethane** | **0.543** | **0.100** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260401 | **OXY #1** | Water | 01/22/2013 11:40 | 01/25/2013 16:55 |

## TX1006/LA 1006

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/30/2013 13:00 | 499644 | TX 1006/LA 1006 | 1 | 01/31/2013 21:58 | SMH | 500067 |

| 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 | 16.1 | mg/L | 103 | 60 - 140 |

## SW-846 6010B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/29/2013 13:50 | 499796 | SW-846 3010A | 10 | 02/03/2013 19:02 | BNB | 500199 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **7440-23-5** | **Sodium** | **1650** | **10.0** | | **mg/L** |

## SW-846 6010B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/29/2013 13:50 | 499796 | SW-846 3010A | 1 | 02/03/2013 21:07 | BNB | 500199 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **7440-70-2** | **Calcium** | **212** | **0.10** | | **mg/L** |
| **7439-89-6** | **Iron** | **3.87** | **0.10** | | **mg/L** |
| **7439-95-4** | **Magnesium** | **77.1** | **0.10** | | **mg/L** |
| **7439-96-5** | **Manganese** | **0.42** | **0.015** | | **mg/L** |
| **7440-09-7** | **Potassium** | **11.3** | **0.50** | | **mg/L** |

## SM 2540C TDS

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 13:55 | DJH | 499726 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **WET-035** | **Total Dissolved Solids(TDS)** | **5490** | **10.0** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260401 | **OXY #1** | Water | 01/22/2013 11:40 | 01/25/2013 16:55 |

## SM 2320B Carbonate

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/30/2013 09:10 | JEM | 499878 |

| 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 | 01/30/2013 09:10 | JEM | 499878 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **T-005-B** | **Bicarbonate Alkalinity** | **403** | **1.0** | | **mg/L CaCO3** |

## SM 2510 B Conductivity

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/30/2013 08:45 | DJH | 499866 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **C-011** | **Specific Conductance** | **9930** | **10** | | **umhos/cm** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 20 | 01/31/2013 11:03 | AEL | 499925 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 14808-79-8 | Sulfate | ND | 4.00 | | mg/L |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 2000 | 01/31/2013 11:56 | AEL | 499925 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **16887-00-6** | **Chloride** | **3470** | **200** | | **mg/L** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 50 | 02/01/2013 13:06 | MCP | 499925 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 24959-67-9 | Bromide | ND | 10.0 | | mg/L |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260402 | **OXY #2** | Water | 01/22/2013 12:20 | 01/25/2013 16:55 |

## SW-846 8260B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 18:18 | CEK | 499810 |

| 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 | .049 | mg/L | 97 | 77 - 127 |
| 2037-26-5 | Toluene d8 | .05 | .051 | mg/L | 102 | 76 - 134 |
| 17060-07-0 | 1,2-Dichloroethane-d4 | .05 | .049 | mg/L | 98 | 71 - 127 |

## RSK 175

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 02/05/2013 10:15 | JAR | 500255 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **106-97-8** | **Butane** | **0.027** | **0.00550** | | **mg/L** |
| 74-85-1 | Ethene | ND | 0.00100 | | mg/L |
| **74-98-6** | **Propane** | **0.146** | **0.010** | | **mg/L** |

| CAS# | Surrogate | Conc. Spiked | Conc. Rec | Units | % Recovery | Rec Limits |
|---|---|---|---|---|---|---|
| 115-07-1 | Propene | .041 | .025 | mg/L | 61 | 40 - 143 |

## RSK 175

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 900 | 02/05/2013 10:31 | JAR | 500255 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **74-84-0** | **Ethane** | **2.89** | **0.900** | | **mg/L** |
| **74-82-8** | **Methane** | **58.0** | **4.50** | | **mg/L** |

## TX1006/LA 1006

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/30/2013 13:00 | 499644 | TX 1006/LA 1006 | 1 | 01/31/2013 22:28 | SMH | 500067 |

| 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 |
|---|---|---|---|---|
| 21301260402 | **OXY #2** | Water | 01/22/2013 12:20 | 01/25/2013 16:55 |

## TX1006/LA 1006

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/30/2013 13:00 | 499644 | TX 1006/LA 1006 | 1 | 01/31/2013 22:28 | SMH | 500067 |

| 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 | 15.7 | 18.2 | mg/L | 116 | 60 - 140 |

## SW-846 6010B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/29/2013 13:50 | 499796 | SW-846 3010A | 10 | 02/03/2013 19:10 | BNB | 500199 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **7440-23-5** | **Sodium** | **1120** | **10.0** | | **mg/L** |

## SW-846 6010B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/29/2013 13:50 | 499796 | SW-846 3010A | 1 | 02/03/2013 21:14 | BNB | 500199 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **7440-70-2** | **Calcium** | **154** | **0.10** | | **mg/L** |
| **7439-89-6** | **Iron** | **5.81** | **0.10** | | **mg/L** |
| **7439-95-4** | **Magnesium** | **50.4** | **0.10** | | **mg/L** |
| **7439-96-5** | **Manganese** | **0.33** | **0.015** | | **mg/L** |
| **7440-09-7** | **Potassium** | **11.0** | **0.50** | | **mg/L** |

## SM 2540C TDS

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 13:55 | DJH | 499726 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **WET-035** | **Total Dissolved Solids(TDS)** | **3750** | **10.0** | | **mg/L** |

## SM 2320B Carbonate

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/30/2013 09:10 | JEM | 499878 |

| 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 |
|---|---|---|---|---|
| 21301260402 | **OXY #2** | Water | 01/22/2013 12:20 | 01/25/2013 16:55 |

## SM 2320B Bicarbonate

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/30/2013 09:10 | JEM | 499878 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **T-005-B** | **Bicarbonate Alkalinity** | **533** | **1.0** | | **mg/L CaCO3** |

## SM 2510 B Conductivity

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/30/2013 08:45 | DJH | 499866 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **C-011** | **Specific Conductance** | **7140** | **10** | | **umhos/cm** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1000 | 01/31/2013 12:49 | AEL | 499925 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **16887-00-6** | **Chloride** | **2400** | **100** | | **mg/L** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 10 | 01/31/2013 13:42 | AEL | 499925 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 14808-79-8 | Sulfate | ND | 2.00 | | mg/L |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 50 | 02/01/2013 13:59 | MCP | 499925 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 24959-67-9 | Bromide | ND | 10.0 | | mg/L |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260403 | **OXY #3** | Water | 01/22/2013 13:30 | 01/25/2013 16:55 |

## SW-846 8260B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 19:00 | CEK | 499810 |

| 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 | .05 | mg/L | 100 | 77 - 127 |
| 2037-26-5 | Toluene d8 | .05 | .051 | mg/L | 101 | 76 - 134 |
| 17060-07-0 | 1,2-Dichloroethane-d4 | .05 | .049 | mg/L | 98 | 71 - 127 |

## RSK 175

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 02/05/2013 10:38 | JAR | 500255 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **106-97-8** | **Butane** | **0.018** | **0.00550** | | **mg/L** |
| 74-85-1 | Ethene | ND | 0.00100 | | mg/L |
| **74-98-6** | **Propane** | **0.111** | **0.010** | | **mg/L** |

| CAS# | Surrogate | Conc. Spiked | Conc. Rec | Units | % Recovery | Rec Limits |
|---|---|---|---|---|---|---|
| 115-07-1 | Propene | .041 | .021 | mg/L | 51 | 40 - 143 |

## RSK 175

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 900 | 02/05/2013 10:47 | JAR | 500255 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **74-82-8** | **Methane** | **14.8** | **4.50** | | **mg/L** |

## RSK 175

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 100 | 02/05/2013 10:54 | JAR | 500255 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **74-84-0** | **Ethane** | **0.840** | **0.100** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260403 | **OXY #3** | Water | 01/22/2013 13:30 | 01/25/2013 16:55 |

## TX1006/LA 1006

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/30/2013 13:00 | 499644 | TX 1006/LA 1006 | 1 | 01/31/2013 22:58 | SMH | 500067 |

| 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 | 13 | mg/L | 83 | 60 - 140 |

## SW-846 6010B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/29/2013 13:50 | 499796 | SW-846 3010A | 1 | 02/03/2013 21:21 | BNB | 500199 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **7440-70-2** | **Calcium** | **180** | **0.10** | | **mg/L** |
| **7439-89-6** | **Iron** | **1.71** | **0.10** | | **mg/L** |
| **7439-95-4** | **Magnesium** | **62.0** | **0.10** | | **mg/L** |
| **7439-96-5** | **Manganese** | **0.36** | **0.015** | | **mg/L** |
| **7440-09-7** | **Potassium** | **9.92** | **0.50** | | **mg/L** |

## SW-846 6010B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/29/2013 13:50 | 499796 | SW-846 3010A | 10 | 02/05/2013 20:27 | AWG | 500325 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **7440-23-5** | **Sodium** | **1390** | **10.0** | | **mg/L** |

## SM 2540C TDS

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 13:55 | DJH | 499726 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **WET-035** | **Total Dissolved Solids(TDS)** | **4900** | **10.0** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260403 | **OXY #3** | Water | 01/22/2013 13:30 | 01/25/2013 16:55 |

## SM 2320B Carbonate

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/30/2013 09:10 | JEM | 499878 |

| 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 | 01/30/2013 09:10 | JEM | 499878 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **T-005-B** | **Bicarbonate Alkalinity** | **435** | **1.0** | | **mg/L CaCO3** |

## SM 2510 B Conductivity

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/30/2013 08:45 | DJH | 499866 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **C-011** | **Specific Conductance** | **8940** | **10** | | **umhos/cm** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 10 | 01/31/2013 13:59 | AEL | 499925 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 14808-79-8 | Sulfate | ND | 2.00 | | mg/L |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1000 | 01/31/2013 14:17 | AEL | 499925 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **16887-00-6** | **Chloride** | **3080** | **100** | | **mg/L** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 50 | 02/01/2013 14:17 | MCP | 499925 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 24959-67-9 | Bromide | ND | 10.0 | | mg/L |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260404 | **WW #1** | Water | 01/22/2013 13:50 | 01/25/2013 16:55 |

## SW-846 8260B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 19:19 | CEK | 499810 |

| 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 | .049 | mg/L | 98 | 77 - 127 |
| 2037-26-5 | Toluene d8 | .05 | .052 | mg/L | 103 | 76 - 134 |
| 17060-07-0 | 1,2-Dichloroethane-d4 | .05 | .05 | mg/L | 99 | 71 - 127 |

## RSK 175

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 02/05/2013 11:01 | JAR | 500255 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 106-97-8 | Butane | ND | 0.00550 | | mg/L |
| **74-84-0** | **Ethane** | **0.00289** | **0.00100** | | **mg/L** |
| 74-85-1 | Ethene | ND | 0.00100 | | mg/L |
| 74-98-6 | Propane | ND | 0.010 | | mg/L |

| CAS# | Surrogate | Conc. Spiked | Conc. Rec | Units | % Recovery | Rec Limits |
|---|---|---|---|---|---|---|
| 115-07-1 | Propene | .041 | .027 | mg/L | 65 | 40 - 143 |

## RSK 175

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 600 | 02/05/2013 11:09 | JAR | 500255 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **74-82-8** | **Methane** | **6.72** | **3.00** | | **mg/L** |

## TX1006/LA 1006

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/30/2013 13:00 | 499644 | TX 1006/LA 1006 | 1 | 01/31/2013 23:27 | SMH | 500067 |

| 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 |
|---|---|---|---|---|
| 21301260404 | **WW #1** | Water | 01/22/2013 13:50 | 01/25/2013 16:55 |

## TX1006/LA 1006

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/30/2013 13:00 | 499644 | TX 1006/LA 1006 | 1 | 01/31/2013 23:27 | SMH | 500067 |

| 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 | 16 | 17.6 | mg/L | 110 | 60 - 140 |

## SW-846 6010B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/29/2013 13:50 | 499796 | SW-846 3010A | 1 | 02/03/2013 21:29 | BNB | 500199 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **7440-70-2** | **Calcium** | **150** | **0.10** | | **mg/L** |
| **7439-89-6** | **Iron** | **4.95** | **0.10** | | **mg/L** |
| **7439-95-4** | **Magnesium** | **51.1** | **0.10** | | **mg/L** |
| **7439-96-5** | **Manganese** | **0.34** | **0.015** | | **mg/L** |
| **7440-09-7** | **Potassium** | **8.11** | **0.50** | | **mg/L** |

## SW-846 6010B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/29/2013 13:50 | 499796 | SW-846 3010A | 10 | 02/05/2013 20:35 | AWG | 500325 |

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

## SM 2540C TDS

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 13:55 | DJH | 499726 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **WET-035** | **Total Dissolved Solids(TDS)** | **3880** | **10.0** | | **mg/L** |

## SM 2320B Carbonate

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/30/2013 09:10 | JEM | 499878 |

| 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 |
|---|---|---|---|---|
| 21301260404 | **WW #1** | Water | 01/22/2013 13:50 | 01/25/2013 16:55 |

## SM 2320B Bicarbonate

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/30/2013 09:10 | JEM | 499878 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **T-005-B** | **Bicarbonate Alkalinity** | **599** | **1.0** | | **mg/L CaCO3** |

## SM 2510 B Conductivity

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/30/2013 08:45 | DJH | 499866 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **C-011** | **Specific Conductance** | **7230** | **10** | | **umhos/cm** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 10 | 01/31/2013 14:34 | AEL | 499925 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 14808-79-8 | Sulfate | ND | 2.00 | | mg/L |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1000 | 01/31/2013 14:52 | AEL | 499925 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **16887-00-6** | **Chloride** | **2320** | **100** | | **mg/L** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 50 | 02/01/2013 14:34 | MCP | 499925 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 24959-67-9 | Bromide | ND | 10.0 | | mg/L |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260405 | **WW #2** | Water | 01/22/2013 13:05 | 01/25/2013 16:55 |

## SW-846 8260B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 19:39 | CEK | 499810 |

| 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 | .05 | mg/L | 99 | 77 - 127 |
| 2037-26-5 | Toluene d8 | .05 | .051 | mg/L | 102 | 76 - 134 |
| 17060-07-0 | 1,2-Dichloroethane-d4 | .05 | .05 | mg/L | 99 | 71 - 127 |

## RSK 175

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 02/05/2013 11:19 | JAR | 500255 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 106-97-8 | Butane | ND | 0.00550 | | mg/L |
| 74-85-1 | Ethene | ND | 0.00100 | | mg/L |
| 74-98-6 | Propane | ND | 0.010 | | mg/L |

| CAS# | Surrogate | Conc. Spiked | Conc. Rec | Units | % Recovery | Rec Limits |
|---|---|---|---|---|---|---|
| 115-07-1 | Propene | .041 | .024 | mg/L | 59 | 40 - 143 |

## RSK 175

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 10 | 02/05/2013 11:28 | JAR | 500255 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **74-84-0** | **Ethane** | **0.035** | **0.010** | | **mg/L** |

## RSK 175

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 600 | 02/05/2013 11:37 | JAR | 500255 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **74-82-8** | **Methane** | **8.96** | **3.00** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260405 | **WW #2** | Water | 01/22/2013 13:05 | 01/25/2013 16:55 |

## TX1006/LA 1006

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/30/2013 13:00 | 499644 | TX 1006/LA 1006 | 1 | 02/01/2013 00:55 | SMH | 500067 |

| 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 | 16 | mg/L | 103 | 60 - 140 |

## SW-846 6010B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/29/2013 13:50 | 499796 | SW-846 3010A | 1 | 02/03/2013 21:36 | BNB | 500199 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **7440-70-2** | **Calcium** | **174** | **0.10** | | **mg/L** |
| **7439-89-6** | **Iron** | **7.91** | **0.10** | | **mg/L** |
| **7439-95-4** | **Magnesium** | **57.5** | **0.10** | | **mg/L** |
| **7439-96-5** | **Manganese** | **0.44** | **0.015** | | **mg/L** |
| **7440-09-7** | **Potassium** | **9.86** | **0.50** | | **mg/L** |

## SW-846 6010B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/29/2013 13:50 | 499796 | SW-846 3010A | 10 | 02/05/2013 20:43 | AWG | 500325 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **7440-23-5** | **Sodium** | **1210** | **10.0** | | **mg/L** |

## SM 2540C TDS

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 13:55 | DJH | 499726 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **WET-035** | **Total Dissolved Solids(TDS)** | **4160** | **10.0** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260405 | **WW #2** | Water | 01/22/2013 13:05 | 01/25/2013 16:55 |

## SM 2320B Carbonate

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/30/2013 09:10 | JEM | 499878 |

| 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 | 01/30/2013 09:10 | JEM | 499878 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **T-005-B** | **Bicarbonate Alkalinity** | **502** | **1.0** | | **mg/L CaCO3** |

## SM 2510 B Conductivity

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/30/2013 08:45 | DJH | 499866 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **C-011** | **Specific Conductance** | **7610** | **10** | | **umhos/cm** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 10 | 01/31/2013 15:10 | AEL | 499925 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 14808-79-8 | Sulfate | ND | 2.00 | | mg/L |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1000 | 01/31/2013 15:27 | AEL | 499925 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **16887-00-6** | **Chloride** | **2420** | **100** | | **mg/L** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 50 | 02/01/2013 14:52 | MCP | 499925 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 24959-67-9 | Bromide | ND | 10.0 | | mg/L |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260406 | **WW #3** | Water | 01/22/2013 13:25 | 01/25/2013 16:55 |

## SW-846 8260B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 19:59 | CEK | 499810 |

| 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 | 101 | 78 - 130 |
| 1868-53-7 | Dibromofluoromethane | .05 | .05 | mg/L | 99 | 77 - 127 |
| 2037-26-5 | Toluene d8 | .05 | .051 | mg/L | 103 | 76 - 134 |
| 17060-07-0 | 1,2-Dichloroethane-d4 | .05 | .05 | mg/L | 99 | 71 - 127 |

## RSK 175

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 02/05/2013 11:47 | JAR | 500255 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 106-97-8 | Butane | ND | 0.00550 | | mg/L |
| 74-85-1 | Ethene | ND | 0.00100 | | mg/L |
| 74-98-6 | Propane | ND | 0.010 | | mg/L |

| CAS# | Surrogate | Conc. Spiked | Conc. Rec | Units | % Recovery | Rec Limits |
|---|---|---|---|---|---|---|
| 115-07-1 | Propene | .041 | .022 | mg/L | 54 | 40 - 143 |

## RSK 175

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 50 | 02/05/2013 11:56 | JAR | 500255 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **74-84-0** | **Ethane** | **0.173** | **0.050** | | **mg/L** |

## RSK 175

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 900 | 02/05/2013 12:09 | JAR | 500255 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **74-82-8** | **Methane** | **14.8** | **4.50** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260406 | **WW #3** | Water | 01/22/2013 13:25 | 01/25/2013 16:55 |

## TX1006/LA 1006

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/30/2013 13:00 | 499644 | TX 1006/LA 1006 | 1 | 02/01/2013 01:24 | SMH | 500067 |

| 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 | 12.8 | mg/L | 82 | 60 - 140 |

## SW-846 6010B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/29/2013 13:50 | 499796 | SW-846 3010A | 1 | 02/03/2013 21:43 | BNB | 500199 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **7440-70-2** | **Calcium** | **208** | **0.10** | | **mg/L** |
| **7439-89-6** | **Iron** | **6.25** | **0.10** | | **mg/L** |
| **7439-95-4** | **Magnesium** | **72.7** | **0.10** | | **mg/L** |
| **7439-96-5** | **Manganese** | **0.40** | **0.015** | | **mg/L** |
| **7440-09-7** | **Potassium** | **10.6** | **0.50** | | **mg/L** |

## SW-846 6010B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/29/2013 13:50 | 499796 | SW-846 3010A | 10 | 02/05/2013 21:05 | AWG | 500325 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **7440-23-5** | **Sodium** | **1570** | **10.0** | | **mg/L** |

## SM 2540C TDS

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 13:55 | DJH | 499726 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **WET-035** | **Total Dissolved Solids(TDS)** | **5330** | **10.0** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260406 | **WW #3** | Water | 01/22/2013 13:25 | 01/25/2013 16:55 |

## SM 2320B Carbonate

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/30/2013 09:10 | JEM | 499878 |

| 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 | 01/30/2013 09:10 | JEM | 499878 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **T-005-B** | **Bicarbonate Alkalinity** | **443** | **1.0** | | **mg/L CaCO3** |

## SM 2510 B Conductivity

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/30/2013 08:45 | DJH | 499866 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **C-011** | **Specific Conductance** | **9830** | **10** | | **umhos/cm** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 10 | 01/31/2013 15:45 | AEL | 499925 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 14808-79-8 | Sulfate | ND | 2.00 | | mg/L |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1000 | 01/31/2013 16:02 | AEL | 499925 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **16887-00-6** | **Chloride** | **3320** | **100** | | **mg/L** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 50 | 02/01/2013 15:09 | MCP | 499925 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 24959-67-9 | Bromide | ND | 10.0 | | mg/L |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260407 | **GP-3** | Water | 01/25/2013 15:10 | 01/25/2013 16:55 |

## SW-846 8015C DRO

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/31/2013 05:30 | 499931 | SW-846 3510C | 1 | 01/31/2013 11:46 | SMH | 499993 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| GCSV-00-4 | Diesel Range Organics | ND | 0.126 | | mg/L |

| CAS# | Surrogate | Conc. Spiked | Conc. Rec | Units | % Recovery | Rec Limits |
|---|---|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | .051 | .044 | mg/L | 86 | 59 - 120 |

## SW-846 8015C GRO

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 19:36 | BMR | 499716 |

| 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 | .032 | mg/L | 105 | 49 - 136 |

## TX1006/LA 1006

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/30/2013 13:00 | 499644 | TX 1006/LA 1006 | 1 | 02/01/2013 01:53 | SMH | 500067 |

| 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 | 13.1 | mg/L | 84 | 60 - 140 |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 5 | 02/01/2013 15:27 | MCP | 499925 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **16887-00-6** | **Chloride** | **13.1** | **0.500** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301260408 | **TRIP BLANK** | Water | 01/22/2013 00:00 | 01/25/2013 16:55 |

## SW-846 8260B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 23:45 | CEK | 499833 |

| 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 | .05 | mg/L | 100 | 77 - 127 |
| 2037-26-5 | Toluene d8 | .05 | .052 | mg/L | 103 | 76 - 134 |
| 17060-07-0 | 1,2-Dichloroethane-d4 | .05 | .048 | mg/L | 96 | 71 - 127 |

## SW-846 8015C GRO

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 02/04/2013 13:36 | BMR | 500240 |

| 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 | .039 | mg/L | 131 | 49 - 136 |

# GC/MS Volatiles Quality Control Summary

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Analytical Batch** 499810 | | **Client ID** | MB499810 | | | LCS499810 | | | LCSD499810 | | |
| **Prep Batch** N/A | | **GCAL ID** | 1154448 | | | 1154449 | | | 1154452 | | |
| | | **Sample Type** | Method Blank | | | LCS | | | LCSD | | |
| | | **Analytical Date** | 01/29/2013 12:54 | | | 01/29/2013 12:14 | | | 01/29/2013 13:18 | | |
| | | **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 | 0.055 | 110 | 74 - 126 | 0.056 | 112 | 2 | 30 |
| 1330-20-7 | Xylene (total) | ND | 0.015 | 0.150 | 0.166 | 111 | 74 - 127 | 0.170 | 113 | 2 | 30 |
| 75-35-4 | 1,1-Dichloroethene | ND | 0.00500 | 0.050 | 0.055 | 110 | 69 - 129 | 0.054 | 108 | 2 | 20 |
| 71-43-2 | Benzene | ND | 0.00500 | 0.050 | 0.053 | 105 | 70 - 129 | 0.053 | 106 | 0 | 20 |
| 79-01-6 | Trichloroethene | ND | 0.00500 | 0.050 | 0.054 | 108 | 76 - 129 | 0.056 | 112 | 4 | 20 |
| 108-88-3 | Toluene | ND | 0.00500 | 0.050 | 0.052 | 104 | 72 - 120 | 0.054 | 108 | 4 | 20 |
| 108-90-7 | Chlorobenzene | ND | 0.00500 | 0.050 | 0.051 | 102 | 74 - 123 | 0.052 | 104 | 2 | 20 |
| **Surrogate** | | | | | | | | | | | |
| 460-00-4 | 4-Bromofluorobenzene | 47.8 | 96 | 50 | 50.6 | 101 | 78 - 130 | 52.1 | 104 | | |
| 1868-53-7 | Dibromofluoromethane | 48.8 | 98 | 50 | 49.7 | 99 | 77 - 127 | 49.4 | 99 | | |
| 2037-26-5 | Toluene d8 | 51.5 | 103 | 50 | 49.2 | 98 | 76 - 134 | 50.2 | 100 | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 48.8 | 98 | 50 | 49.4 | 99 | 71 - 127 | 48.9 | 98 | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Analytical Batch** 499833 | | **Client ID** | MB499833 | | | LCS499833 | | | LCSD499833 | | |
| **Prep Batch** N/A | | **GCAL ID** | 1154534 | | | 1154535 | | | 1154536 | | |
| | | **Sample Type** | Method Blank | | | LCS | | | LCSD | | |
| | | **Analytical Date** | 01/29/2013 22:03 | | | 01/29/2013 21:01 | | | 01/29/2013 21:21 | | |
| | | **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 | 0.056 | 113 | 74 - 126 | 0.055 | 110 | 2 | 30 |
| 1330-20-7 | Xylene (total) | ND | 0.015 | 0.150 | 0.171 | 114 | 74 - 127 | 0.169 | 113 | 1 | 30 |
| 75-35-4 | 1,1-Dichloroethene | ND | 0.00500 | 0.050 | 0.054 | 108 | 69 - 129 | 0.053 | 106 | 2 | 20 |
| 71-43-2 | Benzene | ND | 0.00500 | 0.050 | 0.053 | 106 | 70 - 129 | 0.052 | 105 | 2 | 20 |
| 79-01-6 | Trichloroethene | ND | 0.00500 | 0.050 | 0.056 | 111 | 76 - 129 | 0.054 | 109 | 4 | 20 |
| 108-88-3 | Toluene | ND | 0.00500 | 0.050 | 0.052 | 104 | 72 - 120 | 0.053 | 105 | 2 | 20 |
| 108-90-7 | Chlorobenzene | ND | 0.00500 | 0.050 | 0.052 | 103 | 74 - 123 | 0.052 | 103 | 0 | 20 |
| **Surrogate** | | | | | | | | | | | |
| 460-00-4 | 4-Bromofluorobenzene | 49.3 | 99 | 50 | 51.5 | 103 | 78 - 130 | 51.6 | 103 | | |
| 1868-53-7 | Dibromofluoromethane | 48.4 | 97 | 50 | 50.1 | 100 | 77 - 127 | 50.4 | 101 | | |
| 2037-26-5 | Toluene d8 | 51 | 102 | 50 | 49.7 | 99 | 76 - 134 | 49.9 | 100 | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 48.1 | 96 | 50 | 49.5 | 99 | 71 - 127 | 50.1 | 100 | | |

# GC/MS Volatiles Quality Control Summary

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Analytical Batch** | 499833 | **Client ID** | ROLL-OFF DUMPSTER | | | 1153333MS | | | 1153333MSD | | |
| **Prep Batch** | N/A | **GCAL ID** | 21301251701 | | | 1154537 | | | 1154538 | | |
| | | **Sample Type** | SAMPLE | | | MS | | | MSD | | |
| | | **Analytical Date** | 01/30/2013 00:05 | | | 01/30/2013 00:24 | | | 01/30/2013 00:44 | | |
| | | **Matrix** | Solid | | | Solid | | | Solid | | |
| **SW-846 8260B** | | **Units** | **Result** | mg/L **RDL** | **Spike Added** | **Result** | **% R** | **Control Limits % R** | **Result** | **% R** | **RPD** | **RPD Limit** |
| 75-35-4 | 1,1-Dichloroethene | | 0.00 | 0.200 | 2.00 | 2.16 | 108 | 68 - 129 | 2.19 | 110 | 1 | 22 |
| 71-43-2 | Benzene | | 0.00 | 0.200 | 2.00 | 2.10 | 105 | 73 - 128 | 2.14 | 107 | 2 | 21 |
| 79-01-6 | Trichloroethene | | 0.00 | 0.200 | 2.00 | 2.16 | 108 | 78 - 127 | 2.18 | 109 | 0.9 | 24 |
| 108-90-7 | Chlorobenzene | | 0.00 | 0.200 | 2.00 | 2.04 | 102 | 75 - 121 | 2.09 | 105 | 2 | 21 |
| **Surrogate** | | | | | | | | | | | | |
| 460-00-4 | 4-Bromofluorobenzene | | | | 2000 | 2050 | 103 | 62 - 127 | 2080 | 104 | | |
| 1868-53-7 | Dibromofluoromethane | | | | 2000 | 2020 | 101 | 65 - 130 | 1960 | 98 | | |
| 2037-26-5 | Toluene d8 | | | | 2000 | 2010 | 101 | 71 - 132 | 2010 | 101 | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | | | | 2000 | 1940 | 97 | 62 - 125 | 1900 | 95 | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Analytical Batch** | 499833 | **Client ID** | TANK 2 | | | 1153334MS | | |
| **Prep Batch** | N/A | **GCAL ID** | 21301251702 | | | 1154539 | | |
| | | **Sample Type** | SAMPLE | | | MS | | |
| | | **Analytical Date** | 01/30/2013 03:06 | | | 01/30/2013 01:04 | | |
| | | **Matrix** | Water | | | Water | | |
| **SW-846 8260B** | | **Units** | **Result** | mg/L **RDL** | **Spike Added** | **Result** | **% R** | **Control Limits % R** |
| 75-35-4 | 1,1-Dichloroethene | | 0.00 | 0.200 | 2.00 | 2.20 | 110 | 69 - 129 |
| 71-43-2 | Benzene | | 0.00 | 0.200 | 2.00 | 2.14 | 107 | 70 - 129 |
| 79-01-6 | Trichloroethene | | 0.00 | 0.200 | 2.00 | 2.23 | 112 | 76 - 129 |
| 108-90-7 | Chlorobenzene | | 0.00 | 0.200 | 2.00 | 2.08 | 104 | 74 - 123 |
| **Surrogate** | | | | | | | | |
| 460-00-4 | 4-Bromofluorobenzene | | | | 2000 | 2110 | 106 | 78 - 130 |
| 1868-53-7 | Dibromofluoromethane | | | | 2000 | 2000 | 100 | 77 - 127 |
| 2037-26-5 | Toluene d8 | | | | 2000 | 2020 | 101 | 76 - 134 |
| 17060-07-0 | 1,2-Dichloroethane-d4 | | | | 2000 | 1910 | 96 | 71 - 127 |

# GC/MS Volatiles Quality Control Summary

| | | | | |
|---|---|---|---|---|
| **Analytical Batch** 499833 | **Client ID** | SLUDGE FROM WV-302 SAMPLE #28 | | 1153135MS |
| **Prep Batch** N/A | **GCAL ID** | 21301244201 | | 1154546 |
| | **Sample Type** | SAMPLE | | MS |
| | **Analytical Date** | 01/30/2013 03:26 | | 01/30/2013 02:04 |
| | **Matrix** | Solid | | Solid |

| **SW-846 8260B** | | **Units** | mg/L | **Spike** | **Result** | | **Control** |
|---|---|---|---|---|---|---|---|
| | | **Result** | **RDL** | **Added** | | **% R** | **Limits % R** |
| 75-35-4 | 1,1-Dichloroethene | 0.00 | 0.500 | 5.00 | 5.61 | 112 | 68 - 129 |
| 71-43-2 | Benzene | 0.321 | 0.500 | 5.00 | 5.56 | 105 | 73 - 128 |
| 79-01-6 | Trichloroethene | 0.00 | 0.500 | 5.00 | 5.67 | 113 | 78 - 127 |
| 108-90-7 | Chlorobenzene | 0.294 | 0.500 | 5.00 | 5.31 | 100 | 75 - 121 |
| **Surrogate** | | | | | | | |
| 460-00-4 | 4-Bromofluorobenzene | | | 5000 | 5120 | 102 | 62 - 127 |
| 1868-53-7 | Dibromofluoromethane | | | 5000 | 4990 | 100 | 65 - 130 |
| 2037-26-5 | Toluene d8 | | | 5000 | 4920 | 98 | 71 - 132 |
| 17060-07-0 | 1,2-Dichloroethane-d4 | | | 5000 | 4750 | 95 | 62 - 125 |

| | | | | |
|---|---|---|---|---|
| **Analytical Batch** 499833 | **Client ID** | 5F-693 (TCLP) | | 1153276MS |
| **Prep Batch** N/A | **GCAL ID** | 21301251301 | | 1154638 |
| | **Sample Type** | SAMPLE | | MS |
| | **Analytical Date** | 01/30/2013 04:45 | | 01/30/2013 01:24 |
| | **Matrix** | Solid | | Solid |

| **SW-846 8260B** | | **Units** | mg/L | **Spike** | **Result** | | **Control** |
|---|---|---|---|---|---|---|---|
| | | **Result** | **RDL** | **Added** | | **% R** | **Limits % R** |
| 75-35-4 | 1,1-Dichloroethene | 0.00 | 0.200 | 2.00 | 2.13 | 107 | 68 - 129 |
| 71-43-2 | Benzene | 0.00 | 0.200 | 2.00 | 2.09 | 105 | 73 - 128 |
| 79-01-6 | Trichloroethene | 0.00 | 0.200 | 2.00 | 2.15 | 108 | 78 - 127 |
| 108-90-7 | Chlorobenzene | 0.00 | 0.200 | 2.00 | 2.04 | 102 | 75 - 121 |
| **Surrogate** | | | | | | | |
| 460-00-4 | 4-Bromofluorobenzene | | | 2000 | 2050 | 103 | 62 - 127 |
| 1868-53-7 | Dibromofluoromethane | | | 2000 | 1990 | 100 | 65 - 130 |
| 2037-26-5 | Toluene d8 | | | 2000 | 2010 | 101 | 71 - 132 |
| 17060-07-0 | 1,2-Dichloroethane-d4 | | | 2000 | 1910 | 96 | 62 - 125 |

# GC/MS Volatiles Quality Control Summary

| | | | | |
|---|---|---|---|---|
| **Analytical Batch** 499833 | **Client ID** | 5F-669 (TCLP) | | 1153278MS |
| **Prep Batch** N/A | **GCAL ID** | 21301251303 | | 1154639 |
| | **Sample Type** | SAMPLE | | MS |
| | **Analytical Date** | 01/30/2013 05:05 | | 01/30/2013 01:44 |
| | **Matrix** | Solid | | Solid |

| **SW-846 8260B** | | **Units** | mg/L | **Spike** | **Result** | | **Control** |
|---|---|---|---|---|---|---|---|
| | | **Result** | **RDL** | **Added** | | **% R** | **Limits % R** |
| 75-35-4 | 1,1-Dichloroethene | 0.00 | 0.200 | 2.00 | 2.21 | 111 | 68 - 129 |
| 71-43-2 | Benzene | 0.151 | 0.200 | 2.00 | 2.26 | 105 | 73 - 128 |
| 79-01-6 | Trichloroethene | 0.00 | 0.200 | 2.00 | 2.17 | 109 | 78 - 127 |
| 108-90-7 | Chlorobenzene | 0.00 | 0.200 | 2.00 | 2.09 | 105 | 75 - 121 |
| **Surrogate** | | | | | | | |
| 460-00-4 | 4-Bromofluorobenzene | | | 2000 | 2080 | 104 | 62 - 127 |
| 1868-53-7 | Dibromofluoromethane | | | 2000 | 2000 | 100 | 65 - 130 |
| 2037-26-5 | Toluene d8 | | | 2000 | 1990 | 100 | 71 - 132 |
| 17060-07-0 | 1,2-Dichloroethane-d4 | | | 2000 | 1870 | 94 | 62 - 125 |

# General Chromatography Quality Control Summary

| | | | | | |
|---|---|---|---|---|---|
| **Analytical Batch** | 499993 | **Client ID** | MB499931 | LCS499931 | LCSD499931 |
| **Prep Batch** | 499931 | **GCAL ID** | 1155030 | 1155031 | 1155032 |
| **Prep Method** | SW-846 | **Sample Type** | Method Blank | LCS | LCSD |
| | 3510C | **Prep Date** | 01/31/2013 05:30 | 01/31/2013 05:30 | 01/31/2013 05:30 |
| | | **Analytical Date** | 01/31/2013 08:33 | 01/31/2013 08:52 | 01/31/2013 09:12 |
| | | **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 | 0.888 | 89 | 47 - 120 | 0.893 | 89 | 0.6 | 40 |
| **Surrogate** | | | | | | | | | | | |
| 84-15-1 | o-Terphenyl | 39.5 | 79 | 50 | 44.5 | 89 | 59 - 120 | 41.9 | 84 | | |

# General Chromatography Quality Control Summary

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Analytical Batch** 499716 | | **Client ID** | MB499716 | | LCS499716 | | |
| **Prep Batch** N/A | | **GCAL ID** | 1153992 | | 1153993 | | |
| | | **Sample Type** | Method Blank | | LCS | | |
| | | **Analytical Date** | 01/28/2013 13:52 | | 01/28/2013 13:32 | | |
| | | **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 | 0.441 | 88 | 70 - 128 |
| **Surrogate** | | | | | | | |
| 106-39-8 | Bromochlorobenzene | 32 | 107 | 30 | 34 | 113 | 49 - 136 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Analytical Batch** 499716 | | **Client ID** | S-1 INFLUENT | | 1152506MS | | | 1152506MSD | | | |
| **Prep Batch** N/A | | **GCAL ID** | 21301230701 | | 1153994 | | | 1153995 | | | |
| | | **Sample Type** | SAMPLE | | MS | | | MSD | | | |
| | | **Analytical Date** | 01/28/2013 16:36 | | 01/28/2013 16:56 | | | 01/28/2013 17:16 | | | |
| | | **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 | 47.0 | 10.0 | 50.0 | 90.0 | 86 | 70 - 128 | 90.4 | 87 | 0.4 | 40 |
| **Surrogate** | | | | | | | | | | | |
| 106-39-8 | Bromochlorobenzene | | | 3000 | 3370 | 112 | 49 - 136 | 3420 | 114 | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Analytical Batch** 500240 | | **Client ID** | MB500240 | | LCS500240 | | | LCSD500240 | | | |
| **Prep Batch** N/A | | **GCAL ID** | 1156614 | | 1156615 | | | 1156616 | | | |
| | | **Sample Type** | Method Blank | | LCS | | | LCSD | | | |
| | | **Analytical Date** | 02/04/2013 11:44 | | 02/04/2013 11:16 | | | 02/04/2013 11:30 | | | |
| | | **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 | ND | 0.100 | 0.500 | 0.519 | 104 | 70 - 128 | 0.466 | 93 | 11 | 25 |
| **Surrogate** | | | | | | | | | | | |
| 106-39-8 | Bromochlorobenzene | 36.2 | 121 | 30 | 40.7 | 136 | 49 - 136 | 40.7 | 136 | | |

# General Chromatography Quality Control Summary

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Analytical Batch** | 500255 | **Client ID** | MB500255 | | | LCS500255 | | | LCSD500255 | | |
| **Prep Batch** | N/A | **GCAL ID** | 1156654 | | | 1156655 | | | 1156656 | | |
| | | **Sample Type** | Method Blank | | | LCS | | | LCSD | | |
| | | **Analytical Date** | 02/05/2013 09:19 | | | 02/05/2013 09:36 | | | 02/05/2013 09:43 | | |
| | | **Matrix** | Water | | | Water | | | Water | | |
| **RSK 175** | | **Units** | mg/L | | **Spike** | **Result** | | **Control** | **Result** | | **RPD** |
| | | **Result** | **RDL** | | **Added** | | **% R** | **Limits % R** | | **% R** | **RPD** | **Limit** |
| 74-82-8 | Methane | ND | 0.00500 | | 0.018 | 0.019 | 110 | 39 - 120 | 0.019 | 109 | 0 | 27 |
| 74-85-1 | Ethene | ND | 0.00100 | | 0.00306 | 0.00274 | 90 | 45 - 134 | 0.00269 | 88 | 2 | 25 |
| 74-84-0 | Ethane | ND | 0.00100 | | 0.00328 | 0.00293 | 89 | 45 - 128 | 0.00294 | 90 | 0.3 | 29 |
| 74-98-6 | Propane | ND | 0.010 | | 0.051 | 0.037 | 73 | 30 - 170 | 0.037 | 73 | 0 | 40 |
| 106-97-8 | Butane | ND | 0.00550 | | 0.081 | 0.061 | 75 | 30 - 170 | 0.061 | 75 | 0 | 40 |
| **Surrogate** | | | | | | | | | | | | |
| 115-07-1 | Propene | 31.4 | 78 | | 40.5 | 25.6 | 63 | 40 - 143 | 25.3 | 62 | | |

# General Chromatography Quality Control Summary

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Analytical Batch** | 500067 | **Client ID** | MB499644 | | | LCS499644 | | | LCSD499644 | | | |
| **Prep Batch** | 499644 | **GCAL ID** | 1153724 | | | 1153725 | | | 1153726 | | | |
| **Prep Method** | TX 1006/LA 1006 | **Sample Type** | Method Blank | | | LCS | | | LCSD | | | |
| | | **Prep Date** | 01/30/2013 13:00 | | | 01/30/2013 13:00 | | | 01/30/2013 13:00 | | | |
| | | **Analytical Date** | 01/31/2013 12:40 | | | 01/31/2013 13:11 | | | 01/31/2013 13:43 | | | |
| | | **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 | 62.1 | 50.5 | 81 | 60 - 140 | 54.6 | 88 | 8 | 20 |
| **Surrogate** | | | | | | | | | | | | |
| 84-15-1 | o-Terphenyl | | 17500 | 114 | 15500 | 16100 | 104 | 60 - 140 | 14700 | 95 | | |

# Inorganics Quality Control Summary

| | | | | |
|---|---|---|---|---|
| **Analytical Batch** | 500199 | **Client ID** | MB499796 | LCS499796 |
| **Prep Batch** | 499796 | **GCAL ID** | 1154338 | 1154339 |
| **Prep Method** | SW-846 | **Sample Type** | Method Blank | LCS |
| | 3010A | **Prep Date** | 01/29/2013 13:50 | 01/29/2013 13:50 |
| | | **Analytical Date** | 02/03/2013 18:39 | 02/03/2013 18:46 |
| | | **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 | 4.74 | 95 | 80 - 120 |
| 7439-89-6 | Iron | ND | 0.10 | 5.00 | 4.78 | 96 | 80 - 120 |
| 7439-95-4 | Magnesium | ND | 0.10 | 5.00 | 4.73 | 95 | 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 | 9.54 | 95 | 80 - 120 |
| 7440-23-5 | Sodium | ND | 1.00 | 20.0 | 19.0 | 95 | 80 - 120 |

| | | | | |
|---|---|---|---|---|
| **Analytical Batch** | 500199 | **Client ID** | Separator Effluent | 1154036MS |
| **Prep Batch** | 499796 | **GCAL ID** | 21301281301 | 1154341 |
| **Prep Method** | SW-846 | **Sample Type** | SAMPLE | MS |
| | 3010A | **Prep Date** | 01/29/2013 13:50 | 01/29/2013 13:50 |
| | | **Analytical Date** | 02/03/2013 20:04 | 02/03/2013 20:18 |
| | | **Matrix** | Water | Water |

| **SW-846 6010B** | | **Units** | mg/L | **Spike** | **Result** | | **Control** |
|---|---|---|---|---|---|---|---|
| | | **Result** | **RDL** | **Added** | | **% R** | **Limits % R** |
| 7440-70-2 | Calcium | 9.77 | 0.10 | 5.00 | 14.6 | 97 | 75 - 125 |
| 7439-89-6 | Iron | 0.70 | 0.10 | 5.00 | 5.45 | 95 | 75 - 125 |
| 7439-95-4 | Magnesium | 1.63 | 0.10 | 5.00 | 6.33 | 94 | 75 - 125 |
| 7439-96-5 | Manganese | 0.039 | 0.015 | 0.50 | 0.52 | 95 | 75 - 125 |
| 7440-09-7 | Potassium | 1.93 | 0.50 | 10.0 | 11.5 | 96 | 75 - 125 |

| | | | | |
|---|---|---|---|---|
| **Analytical Batch** | 500199 | **Client ID** | Separator Effluent | 1154036DUP |
| **Prep Batch** | 499796 | **GCAL ID** | 21301281301 | 1154340 |
| **Prep Method** | SW-846 | **Sample Type** | SAMPLE | DUP |
| | 3010A | **Prep Date** | 01/29/2013 13:50 | 01/29/2013 13:50 |
| | | **Analytical Date** | 02/03/2013 20:04 | 02/03/2013 20:11 |
| | | **Matrix** | Water | Water |

| **SW-846 6010B** | | **Units** | mg/L | **Result** | | **RPD** |
|---|---|---|---|---|---|---|
| | | **Result** | **RDL** | | **RPD** | **Limit** |
| 7440-70-2 | Calcium | 9.77 | 0.10 | 10.1 | 3 | 20 |

# Inorganics Quality Control Summary

| | | | | |
|---|---|---|---|---|
| **Analytical Batch** | 500199 | **Client ID** | Separator Effluent | 1154036DUP |
| **Prep Batch** | 499796 | **GCAL ID** | 21301281301 | 1154340 |
| **Prep Method** | SW-846 | **Sample Type** | SAMPLE | DUP |
| | 3010A | **Prep Date** | 01/29/2013 13:50 | 01/29/2013 13:50 |
| | | **Analytical Date** | 02/03/2013 20:04 | 02/03/2013 20:11 |
| | | **Matrix** | Water | Water |

| **SW-846 6010B** | | **Units** | mg/L | **Result** | | **RPD** |
|---|---|---|---|---|---|---|
| | | **Result** | **RDL** | | **RPD** | **Limit** |
| 7439-89-6 | Iron | 0.70 | 0.10 | 0.70 | 0 | 20 |
| 7439-95-4 | Magnesium | 1.63 | 0.10 | 1.69 | 4 | 20 |
| 7439-96-5 | Manganese | 0.039 | 0.015 | 0.039 | 0 | 20 |
| 7440-09-7 | Potassium | 1.93 | 0.50 | 1.99 | 3 | 20 |

# General Chemistry Quality Control Summary

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Analytical Batch** 499726 | **Client ID** | MB499726 | | | LCS499726 | | |
| **Prep Batch** N/A | **GCAL ID** | 1154022 | | | 1154023 | | |
| | **Sample Type** | Method Blank | | | LCS | | |
| | **Analytical Date** | 01/28/2013 13:55 | | | 01/28/2013 13:55 | | |
| | **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 | 955 | 95.5 | 80 - 120 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Analytical Batch** 499726 | **Client ID** | OXY #1 | | 1153755DUP | | |
| **Prep Batch** N/A | **GCAL ID** | 21301260401 | | 1154024 | | |
| | **Sample Type** | SAMPLE | | DUP | | |
| | **Analytical Date** | 01/28/2013 13:55 | | 01/28/2013 13:55 | | |
| | **Matrix** | Water | | Water | | |
| **SM 2540C TDS** | | **Units** | mg/L | **Result** | | **RPD** |
| | | **Result** | **RDL** | | **RPD** | **Limit** |
| WET-035 | Total Dissolved Solids(TDS) | 5490 | 10.0 | 5360 | 2.4 | 5 |

# General Chemistry Quality Control Summary

| | | | | | | |
|---|---|---|---|---|---|---|
| **Analytical Batch** 499878 | | **Client ID** | OXY #1 | 1153755DUP | | |
| **Prep Batch** N/A | | **GCAL ID** | 21301260401 | 1154681 | | |
| | | **Sample Type** | SAMPLE | DUP | | |
| | | **Analytical Date** | ORA-00936: missing expression 93642000 | 01/30/2013 09:10 | | |
| | | **Matrix** | Water | Water | | |
| **SM 2320B Carbonate** | | **Units** | mg/L CaCO3 | **Result** | | **RPD** |
| | | **Result** | **RDL** | | **RPD** | **Limit** |
| T-005-B | Bicarbonate Alkalinity | 403 | 1.0 | 404 | 0.2 | 11 |
| T-005-C | Carbonate Alkalinity | 0.00 | 1.0 | 0.00 | 0 | 11 |

# General Chemistry Quality Control Summary

| | | | | | | |
|---|---|---|---|---|---|---|
| **Analytical Batch** 499866 | **Client ID** | OXY #1 | | 1153755DUP | | |
| **Prep Batch** N/A | **GCAL ID** | 21301260401 | | 1154660 | | |
| | **Sample Type** | SAMPLE | | DUP | | |
| | **Analytical Date** | 01/30/2013 08:45 | | 01/30/2013 08:45 | | |
| | **Matrix** | Water | | Water | | |
| **SM 2510 B Conductivity** | | **Units** | umhos/cm | **Result** | | **RPD** |
| | | **Result** | **RDL** | | **RPD** | **Limit** |
| C-011 | Specific Conductance | 9930 | 10 | 9920 | 0.1 | 10 |

# General Chemistry Quality Control Summary

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Analytical Batch** 499925 | **Client ID** | MB499925 | | | LCS499925 | | |
| **Prep Batch** N/A | **GCAL ID** | 1154979 | | | 1154980 | | |
| | **Sample Type** | Method Blank | | | LCS | | |
| | **Analytical Date** | 01/31/2013 10:10 | | | 01/31/2013 10:28 | | |
| | **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 | 4.38 | 87.5 | 80 - 120 |
| 16887-00-6 | Chloride | ND | 0.100 | 2.50 | 2.30 | 91.8 | 80 - 120 |
| 14808-79-8 | Sulfate | ND | 0.200 | 5.00 | 4.63 | 92.5 | 80 - 120 |

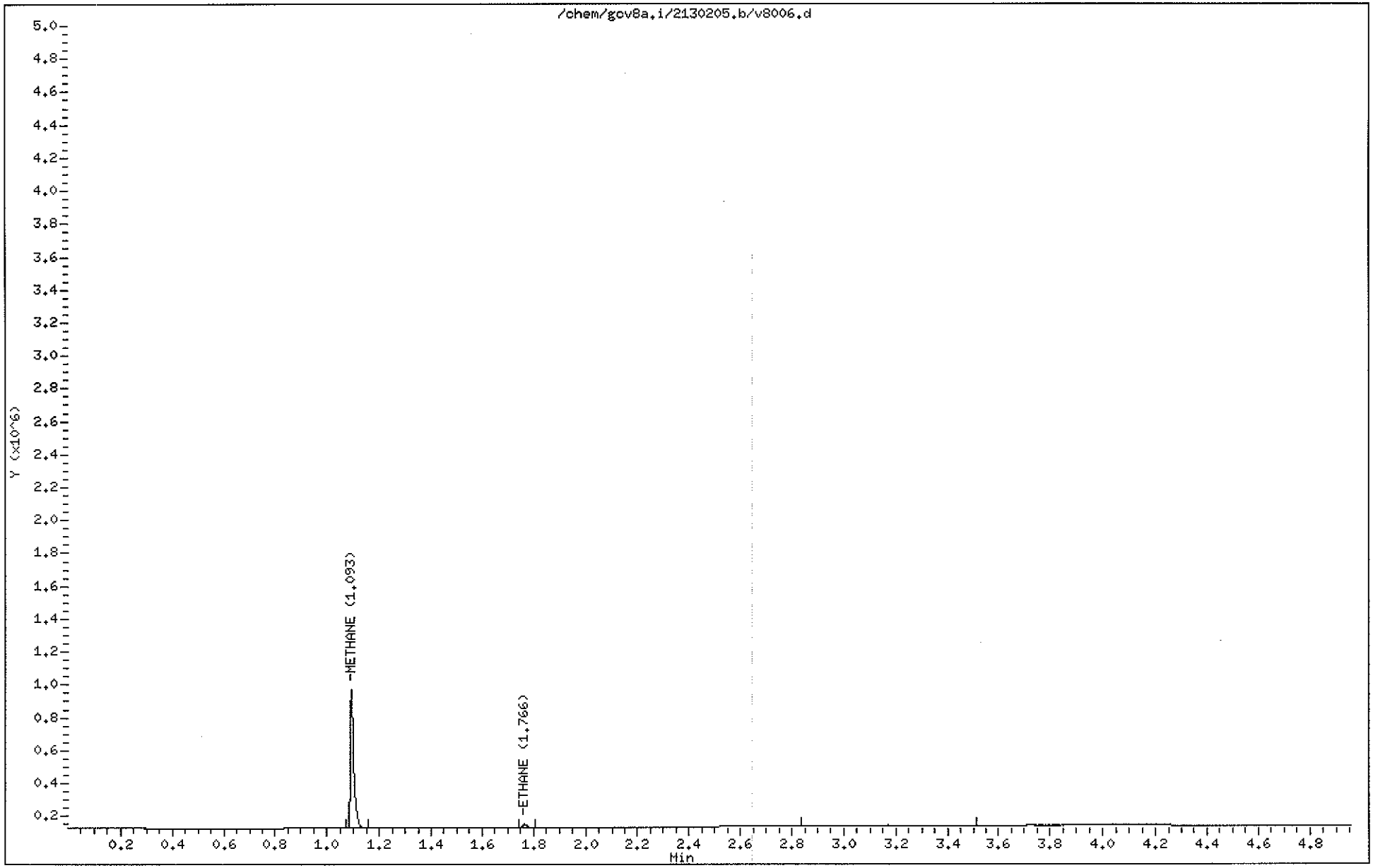
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Analytical Batch** 499925 | **Client ID** | OXY #1 | | | 1153755MS | | | 1153755MSD | | | |
| **Prep Batch** N/A | **GCAL ID** | 21301260401 | | | 1154981 | | | 1154982 | | | |
| | **Sample Type** | SAMPLE | | | MS | | | MSD | | | |
| | **Analytical Date** | 01/31/2013 11:03 | | | 01/31/2013 11:21 | | | 01/31/2013 11:38 | | | |
| | **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 | 0.000 | 4.00 | 100 | 89.6 | 89.6 | 75 - 125 | 90.2 | 90.2 | 0.67 | 15 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Analytical Batch** 499925 | **Client ID** | SS001-EA05_0113 | | | 1154805MS | | | 1154805MSD | | | |
| **Prep Batch** N/A | **GCAL ID** | 21301302006 | | | 1154983 | | | 1154984 | | | |
| | **Sample Type** | SAMPLE | | | MS | | | MSD | | | |
| | **Analytical Date** | 02/01/2013 15:45 | | | 02/01/2013 16:38 | | | 02/01/2013 16:55 | | | |
| | **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 | 1.39 | 0.200 | 5.00 | 6.06 | 93.4 | 75 - 125 | 5.94 | 91.1 | 2 | 15 |

Data File: /chem/gcv8a.i/2130205.b/v8006.d
Date : 05-FEB-2013 10:00
Client ID: 21301260401
Sample Info: 21301260401

Instrument: gcv8a.i

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

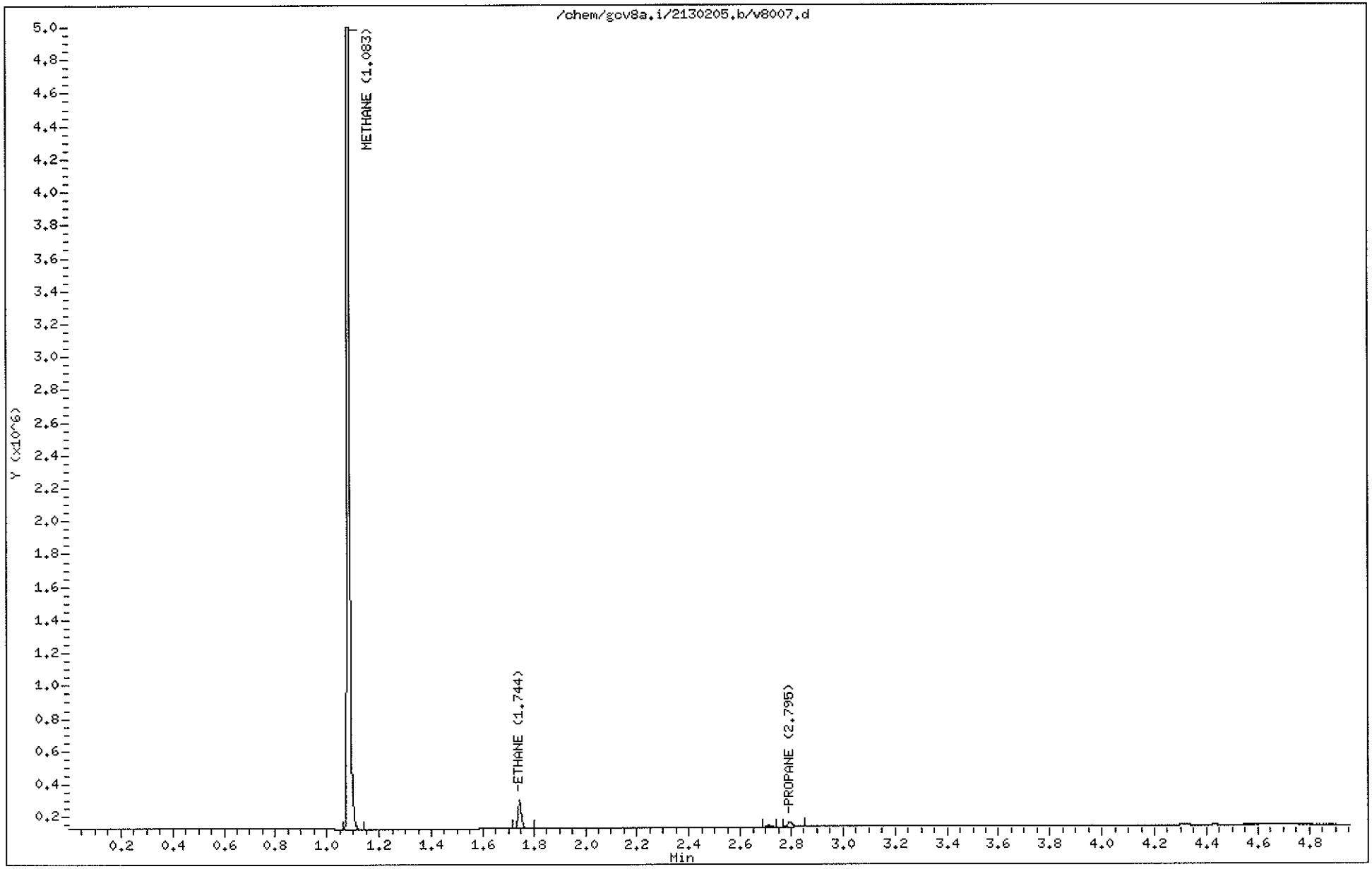


Data File: /chem/gcv8a.i/2130205.b/v8007.d
Date : 05-FEB-2013 10:07
Client ID: 21301260401
Sample Info: 21301260401

Instrument: gcv8a.i

Operator: JAR
Column diameter: 0.53

Column phase: GS-Q-30M



Data File: /chem/gcv8a.i/2130205.b/v8005.d

Date : 05-FEB-2013 09:52

Client ID: 21301260401

Sample Info: 21301260401

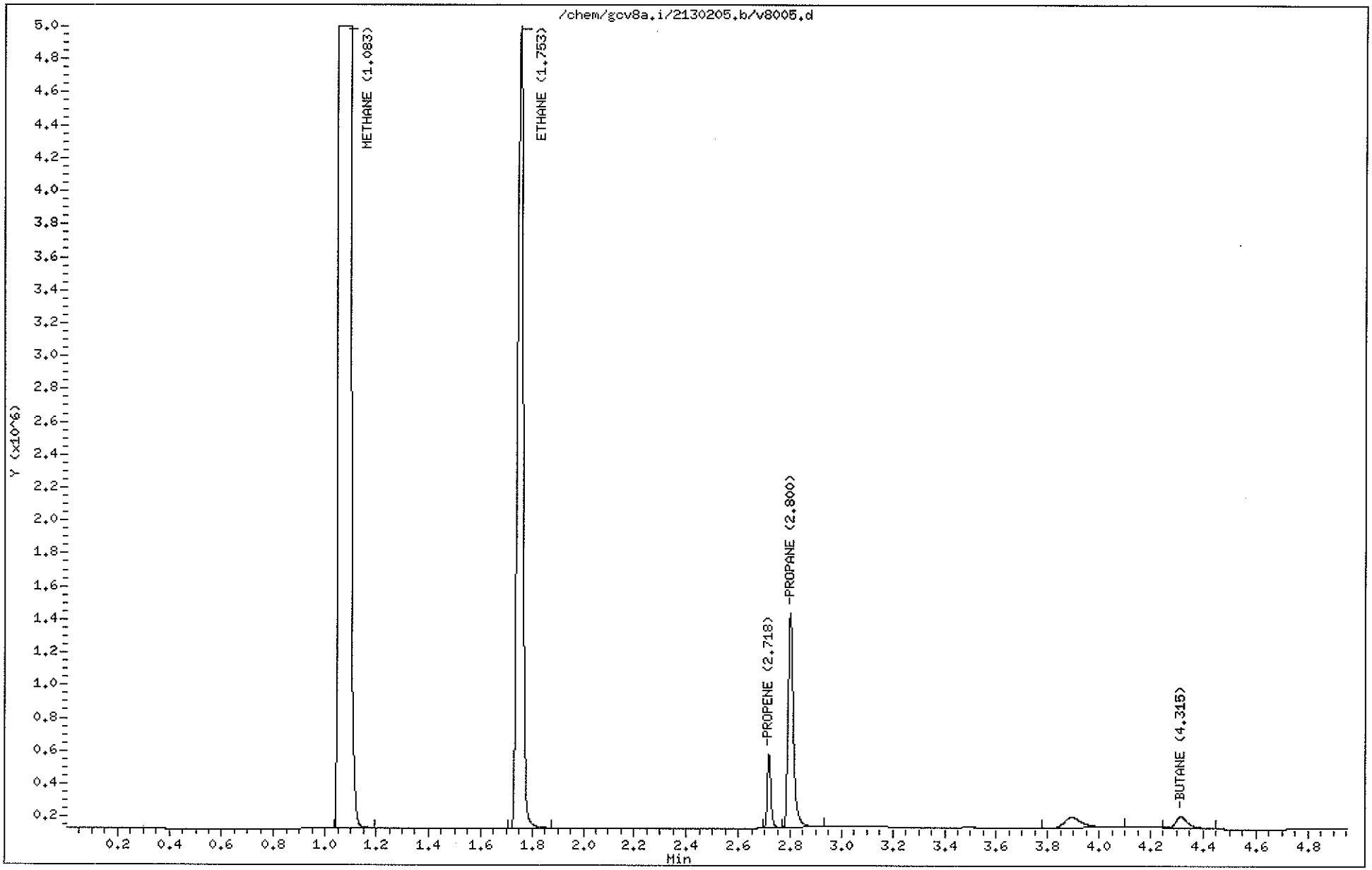
Column phase: GS-Q-30M

Instrument: gcv8a.i

Operator: JAR

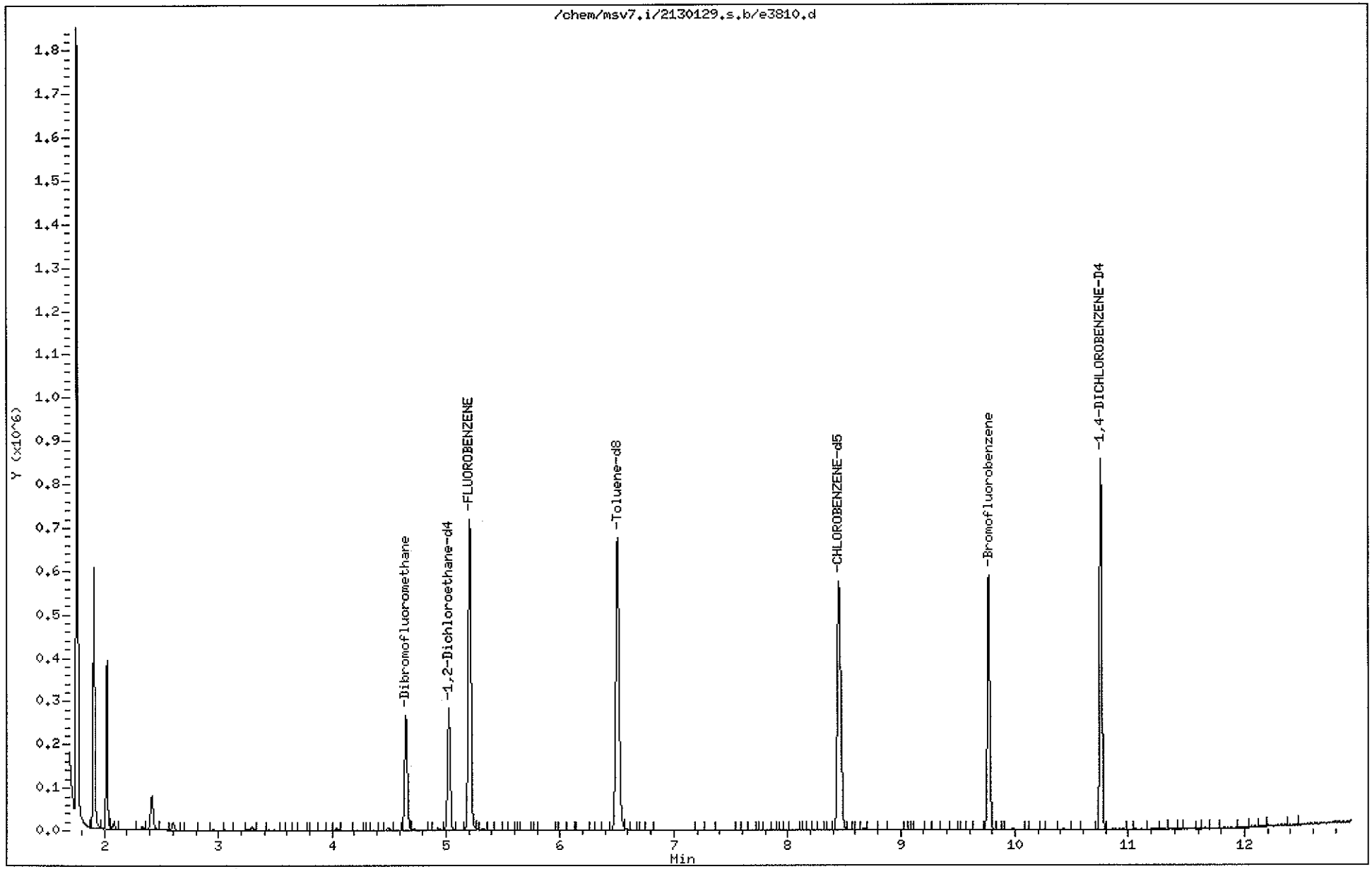
Column diameter: 0.53





Data File: /chem/msv7.i/2130129.s.b/e3810.d
Date : 29-JAN-2013 17:59
Client ID: 21301260401
Sample Info: 21301260401*
Purge Volume: 5.0
Column phase: RTX-VMS-30M

Instrument: msv7.i
Operator: CEK
Column diameter: 0.25



Data File: /chem/gosv20a.i/2130131.b/sv20a022.d



Date : 31-JAN-2013 21:58

Client ID:

Instrument: gosv20a.i

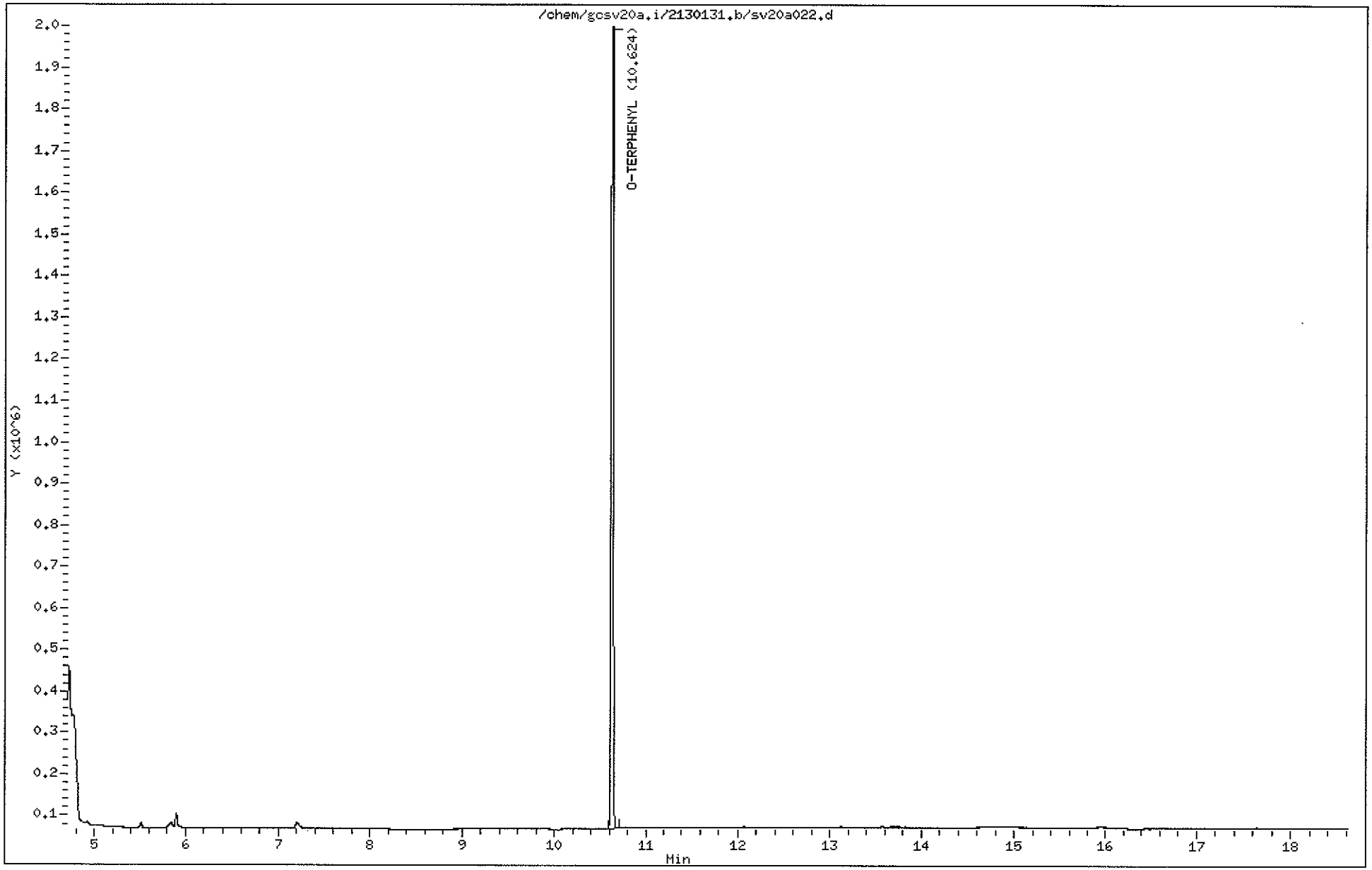
Sample Info: 21301260401*1

Volume Injected (uL): 1.0

Operator: smh

Column phase: DB-5MS-30M

Column diameter: 0.25



Data File: /chem/gcv8a.i/2130205.b/v8010.d



Date : 05-FEB-2013 10:31

Client ID: 21301260402

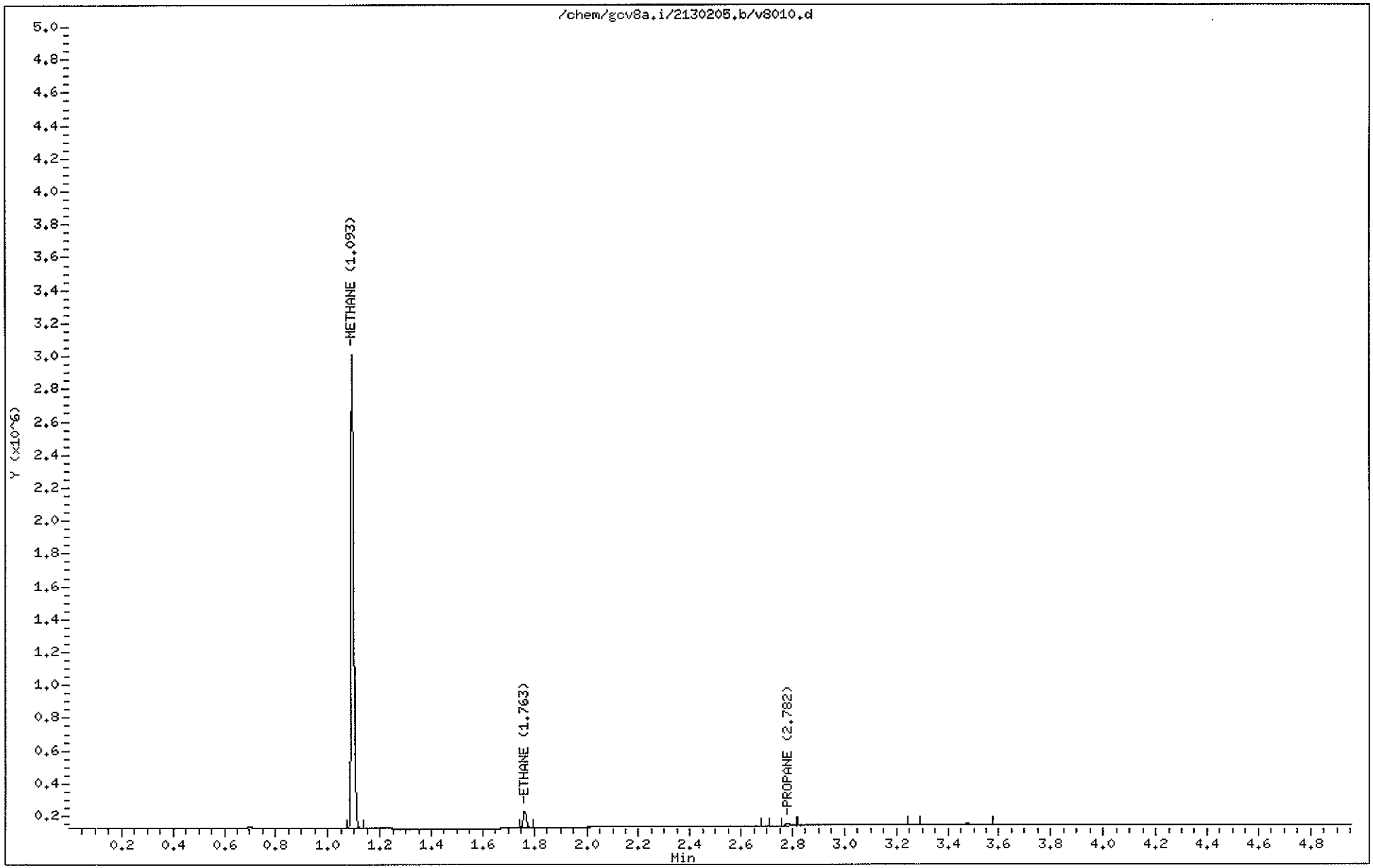
Instrument: gcv8a.i

Sample Info: 21301260402

Operator: JAR

Column phase: GS-Q-30M

Column diameter: 0.53

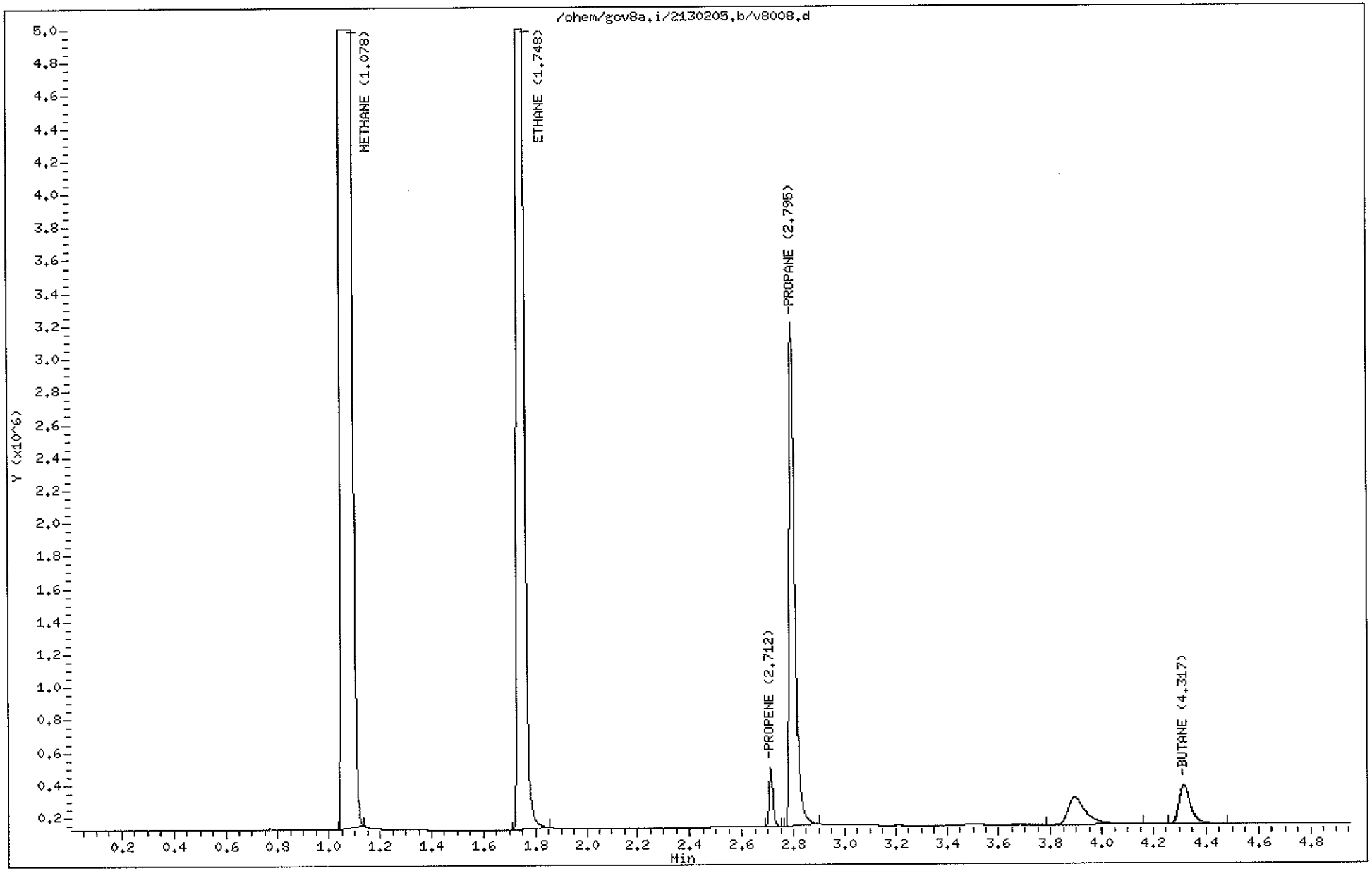


Data File: /chem/gcv8a.i/2130205.b/v8008.d
Date : 05-FEB-2013 10:15
Client ID: 21301260402
Sample Info: 21301260402

Column phase: GS-Q-30M

Instrument: gcv8a.i

Operator: JAR
Column diameter: 0.53



Data File: /chem/msv7.i/2130129.s.b/e3811.d



Date : 29-JAN-2013 18:18

Client ID: 21301260402

Instrument: msv7.i

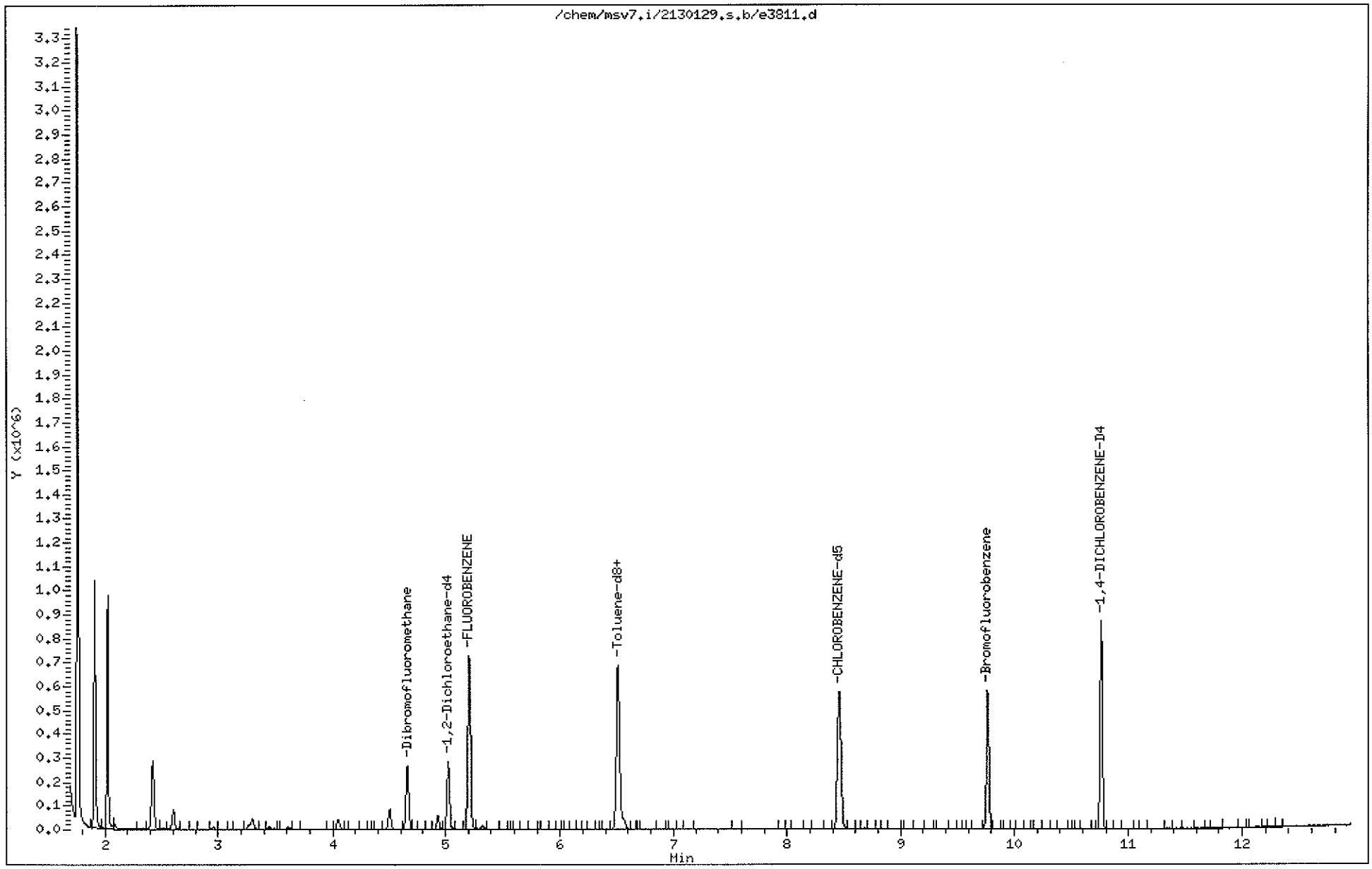
Sample Info: 21301260402x

Purge Volume: 5.0

Operator: CEK

Column phase: RTX-VMS-30M

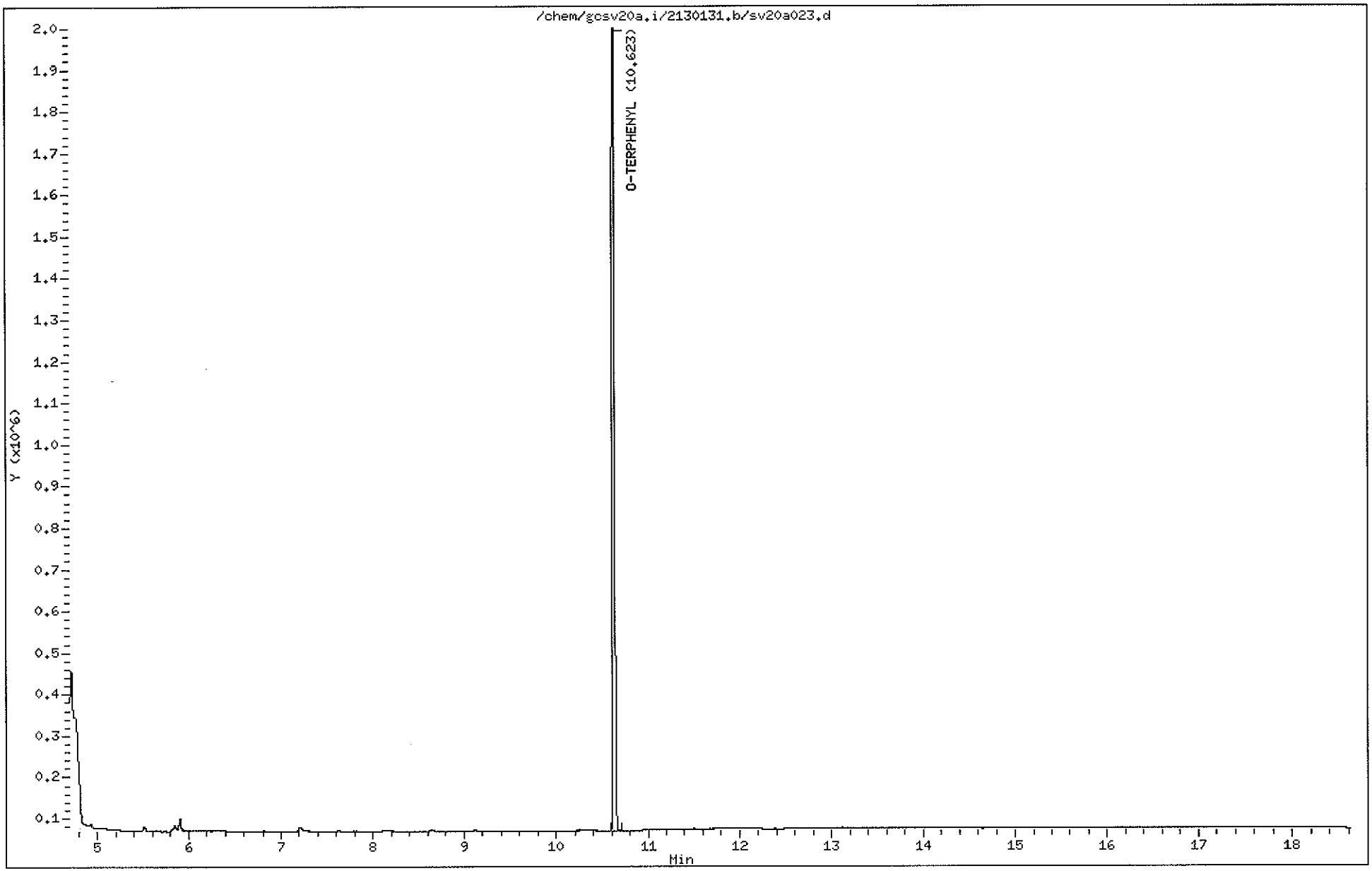
Column diameter: 0.25



Data File: /chem/gcsv20a.i/2130131.b/sv20a023.d
Date : 31-JAN-2013 22:28
Client ID:
Sample Info: 21301260402*1
Volume Injected (uL): 1.0
Column phase: DB-5MS-30M

Instrument: gcsv20a.i

Operator: smh
Column diameter: 0.25



Data File: /chem/gcv8a.i/2130205.b/v8012.d



Date : 05-FEB-2013 10:47

Client ID: 21301260403

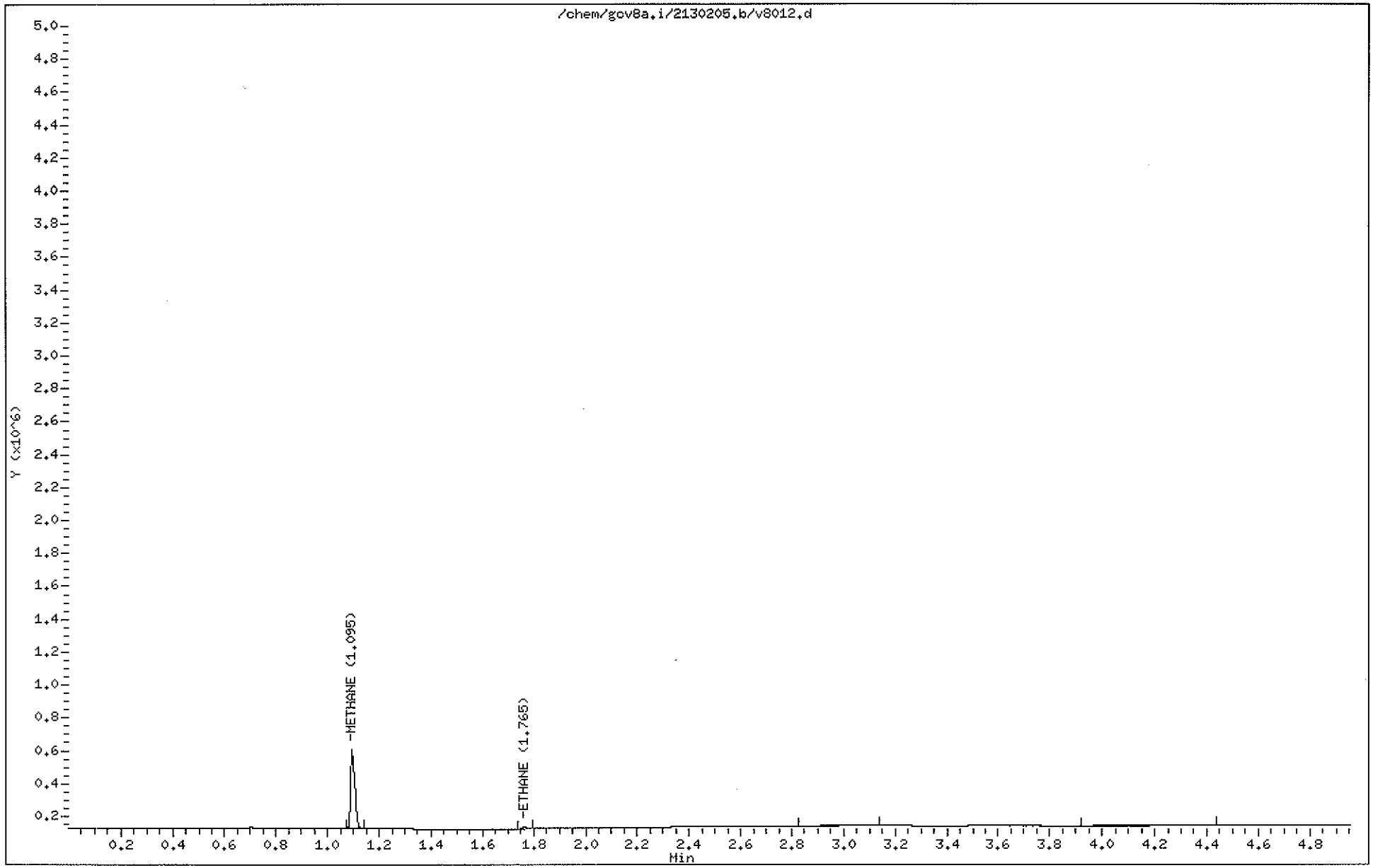
Instrument: gcv8a.i

Sample Info: 21301260403

Operator: JAR

Column phase: GS-Q-30M

Column diameter: 0.53



Data File: /chem/gcv8a.i/2130205.b/v8013.d



Date : 05-FEB-2013 10:54

Client ID: 21301260403

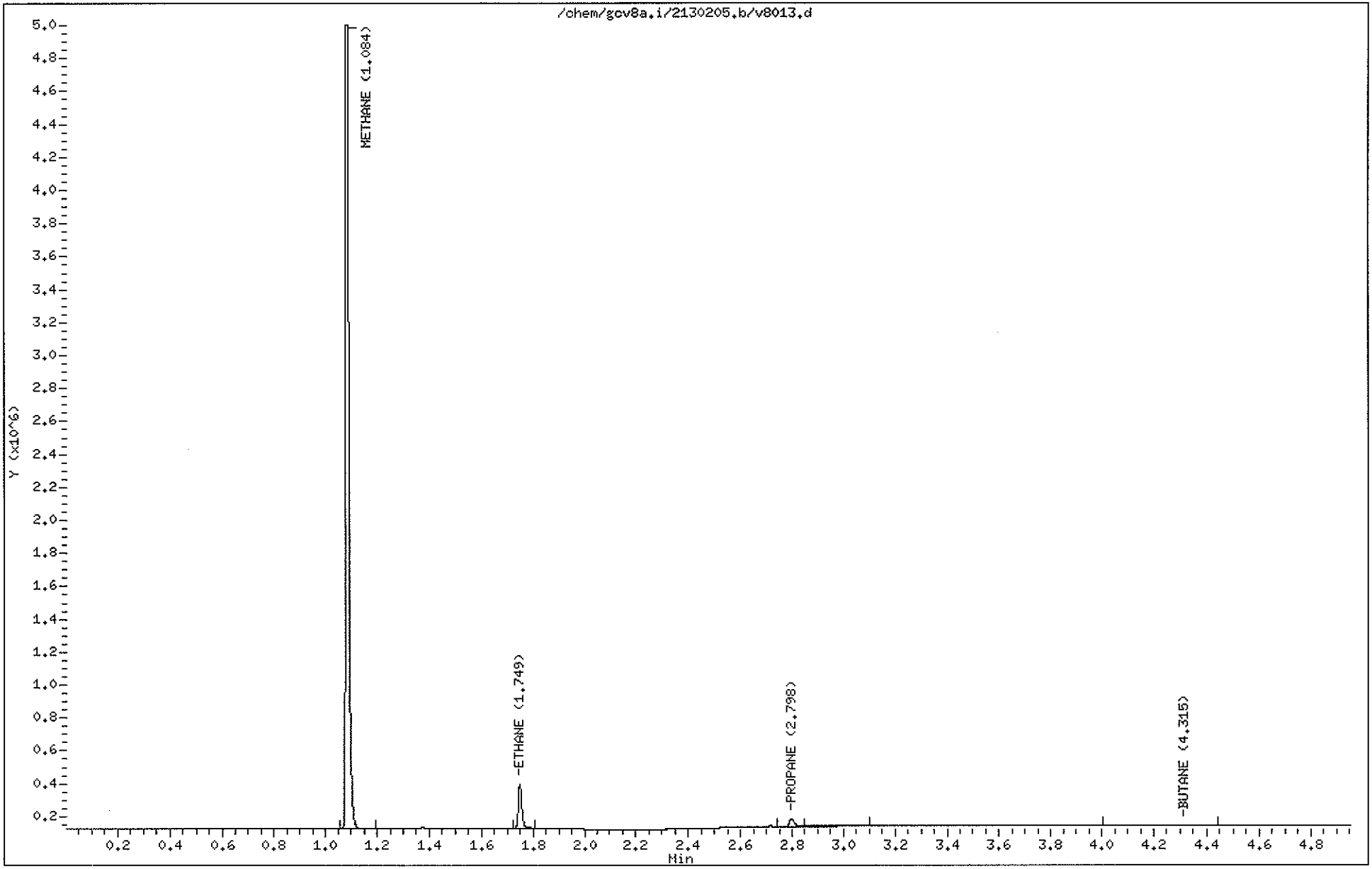
Instrument: gcv8a.i

Sample Info: 21301260403

Operator: JAR

Column phase: GS-Q-30M

Column diameter: 0.53



Data File: /chem/gcv8a.i/2130205.b/v8011.d



Date : 05-FEB-2013 10:38

Client ID: 21301260403

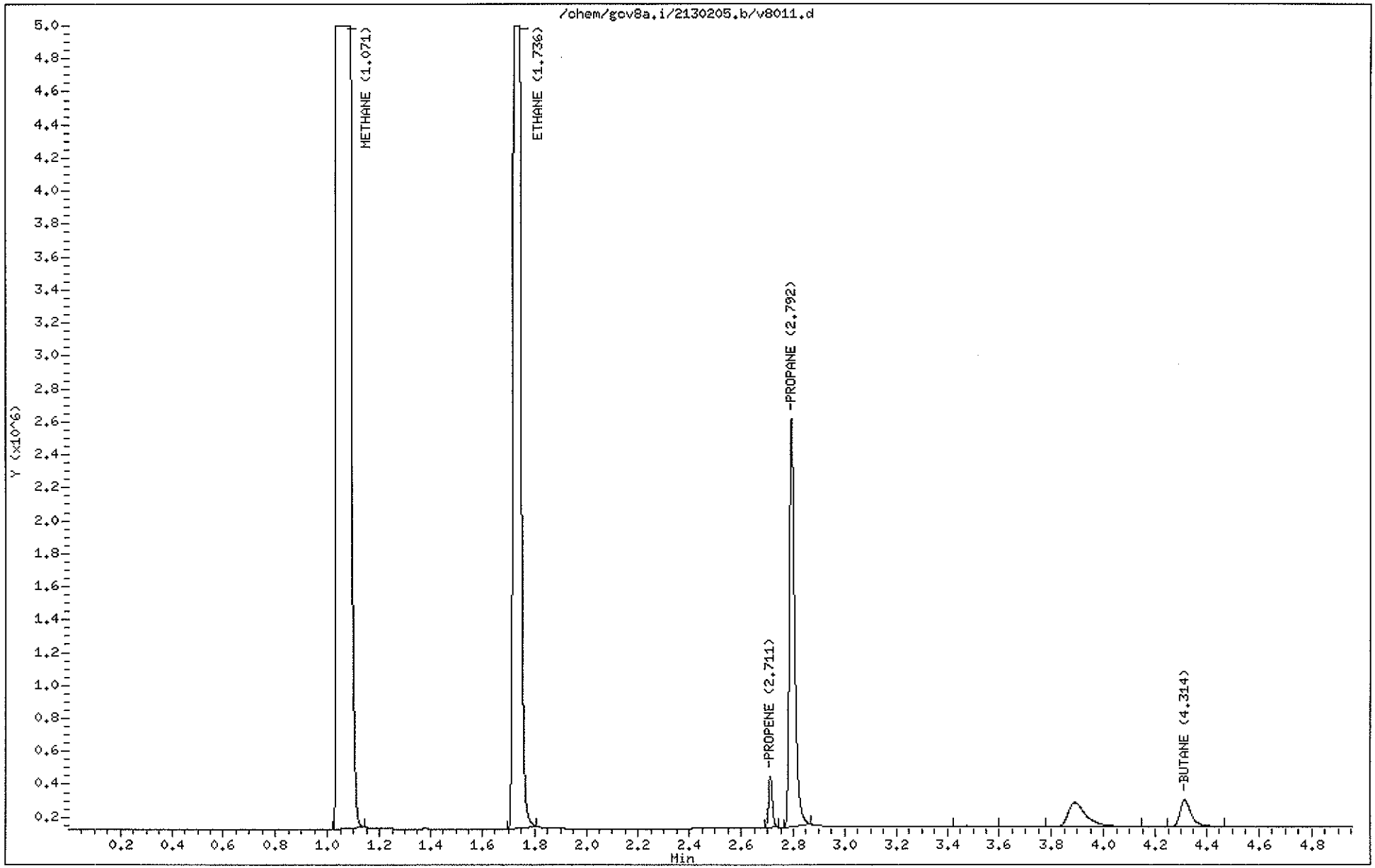
Instrument: gcv8a.i

Sample Info: 21301260403

Operator: JAR

Column phase: GS-Q-30M

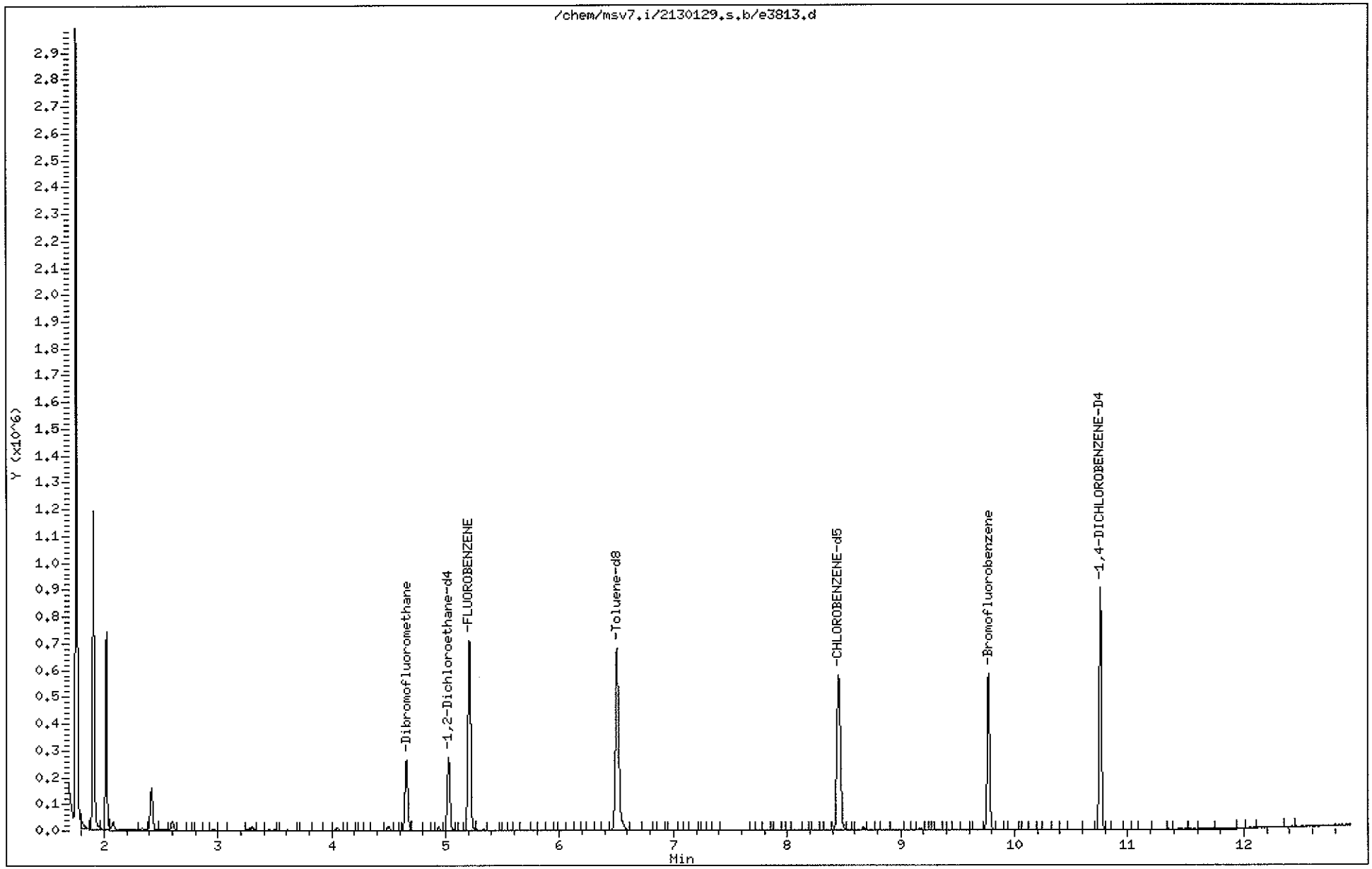
Column diameter: 0.53



Data File: /chem/msv7.i/2130129.s.b/e3813.d
Date : 29-JAN-2013 19:00
Client ID: 21301260403
Sample Info: 21301260403*
Purge Volume: 5.0
Column phase: RTX-VMS-30M

Instrument: msv7.i

Operator: CEK
Column diameter: 0.25



Data File: /chem/gcsv20a.i/2130131.b/sv20a024.d



Date : 31-JAN-2013 22:58

Client ID:

Instrument: gcsv20a.i

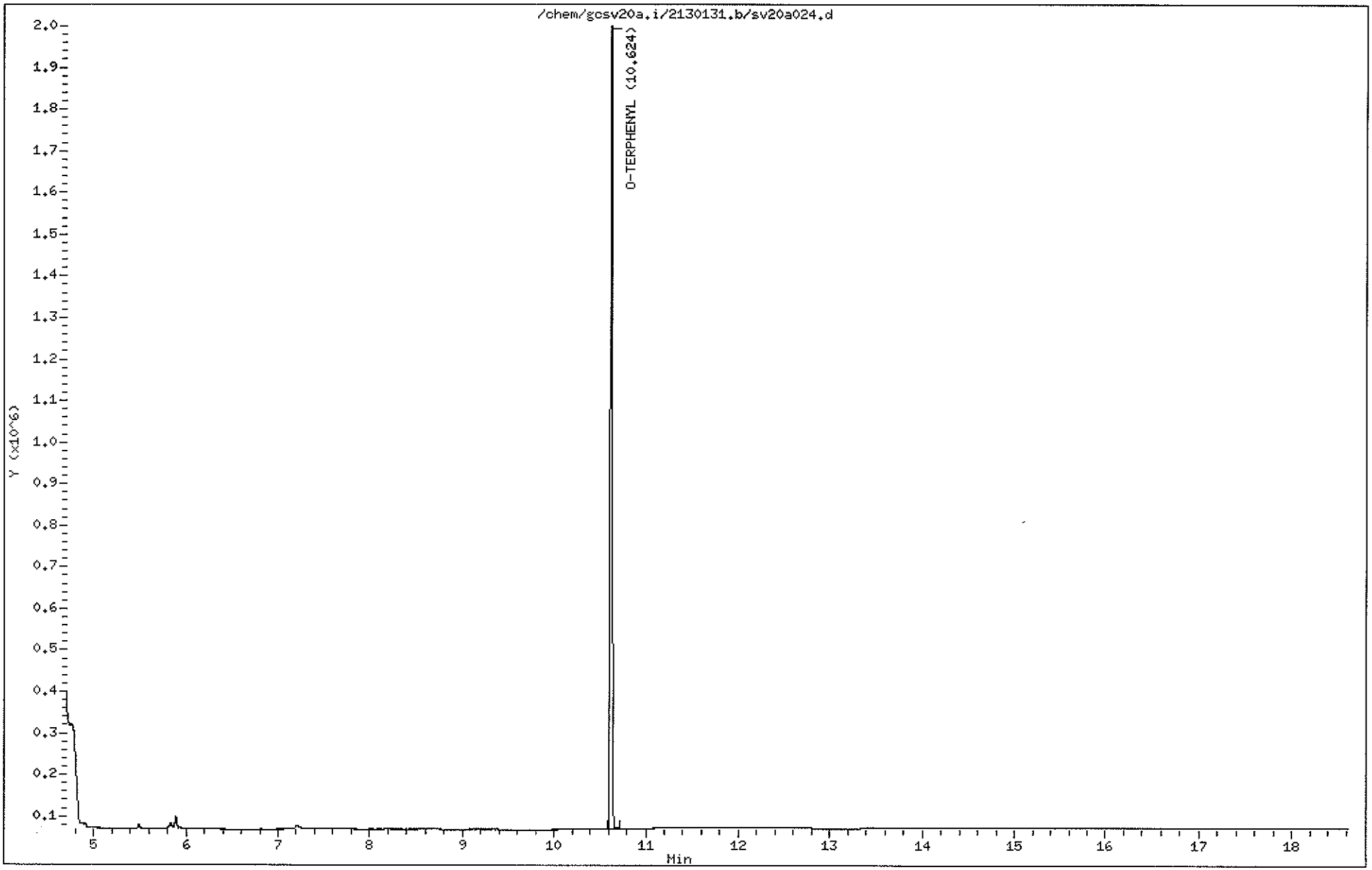
Sample Info: 21301260403*1

Volume Injected (uL): 1.0

Operator: smh

Column phase: DB-5MS-30M

Column diameter: 0.25



Data File: /chem/gcv8a.i/2130205.b/v8015.d



Date : 05-FEB-2013 11:09

Client ID: 21301260404

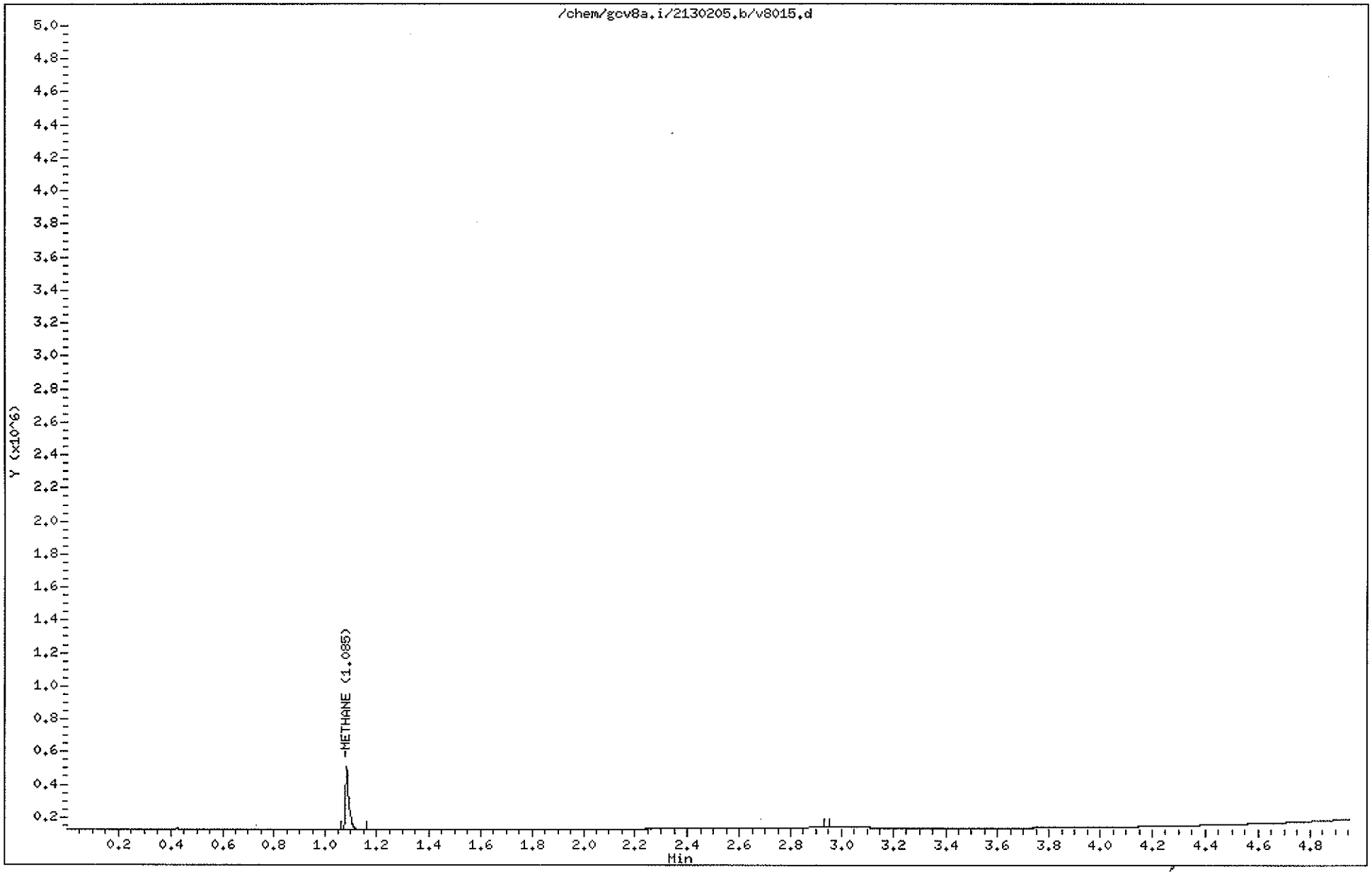
Instrument: gcv8a.i

Sample Info: 21301260404

Operator: JAR

Column phase: GS-Q-30M

Column diameter: 0.53



Data File: /chem/gcv8a.i/2130205.b/v8014.d



Date : 05-FEB-2013 11:01

Client ID: 21301260404

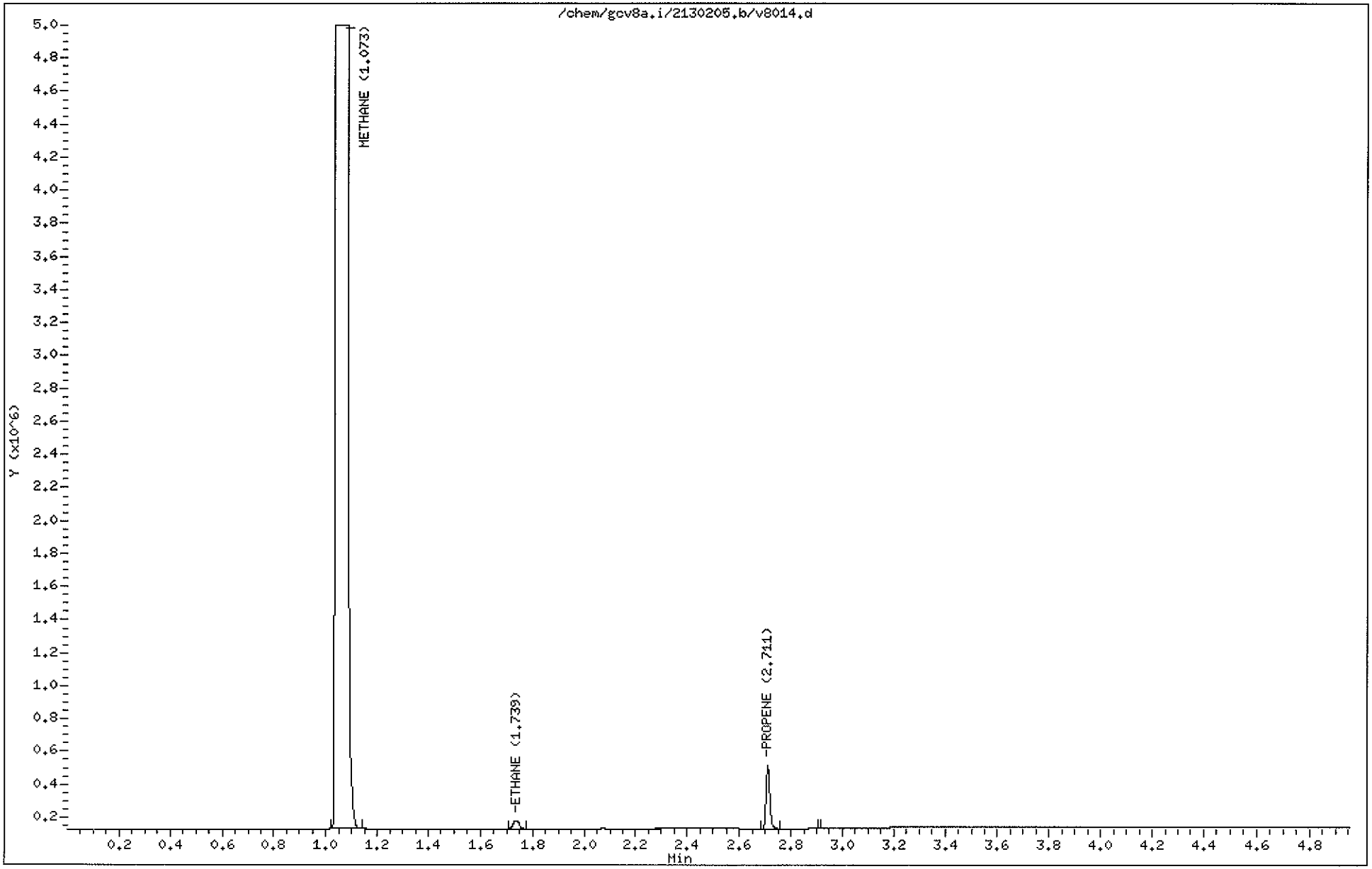
Instrument: gcv8a.i

Sample Info: 21301260404

Operator: JAR

Column phase: GS-Q-30M

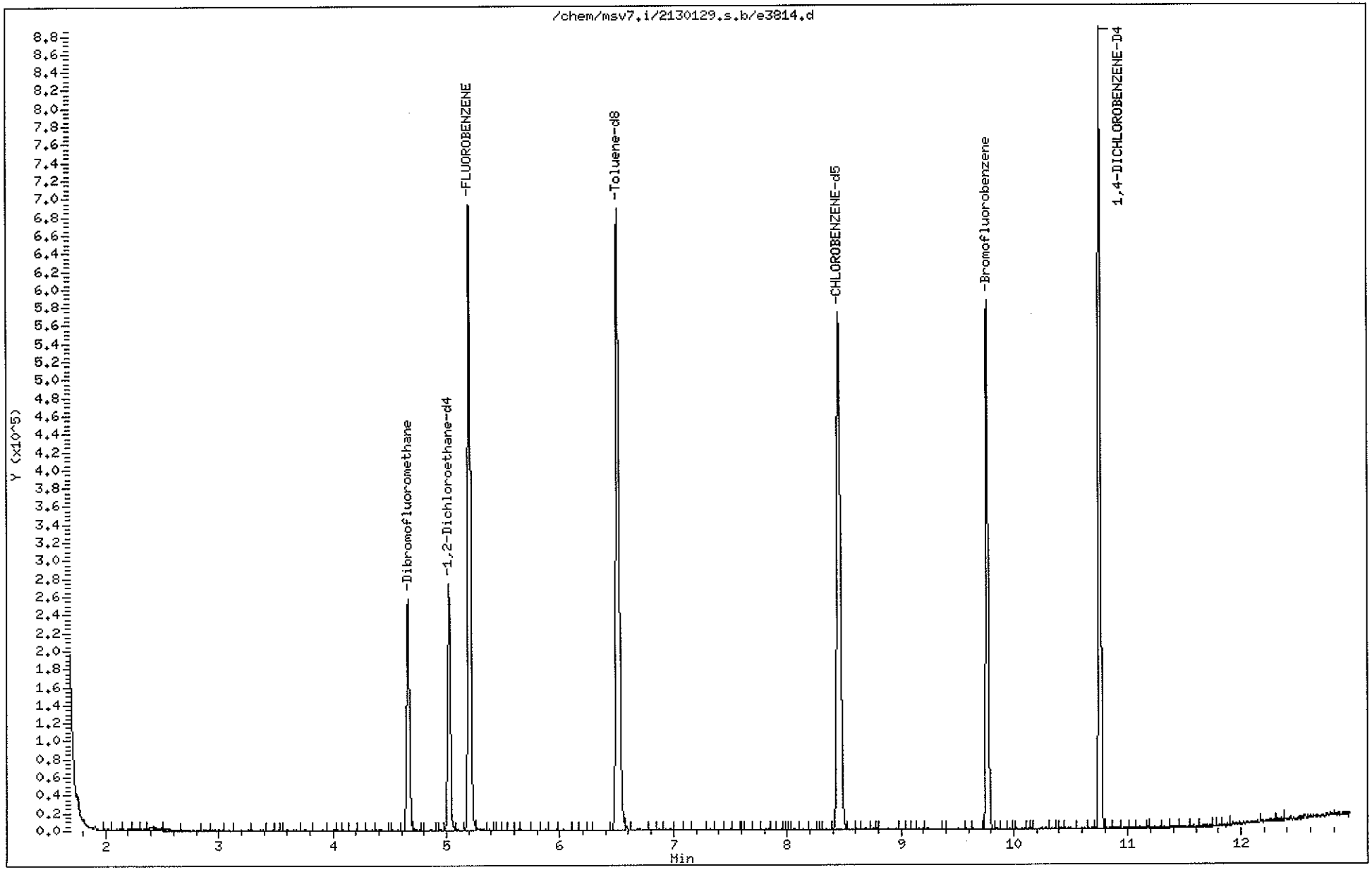
Column diameter: 0.53



Data File: /chem/msv7.i/2130129.s.b/e3814.d
Date : 29-JAN-2013 19:19
Client ID: 21301260404
Sample Info: 21301260404*
Purge Volume: 5.0
Column phase: RTX-VMS-30M

Instrument: msv7.i

Operator: CEK
Column diameter: 0.25



Data File: /chem/gcsv20a.i/2130131.b/sv20a025.d



Date : 31-JAN-2013 23:27

Client ID:

Instrument: gcsv20a.i

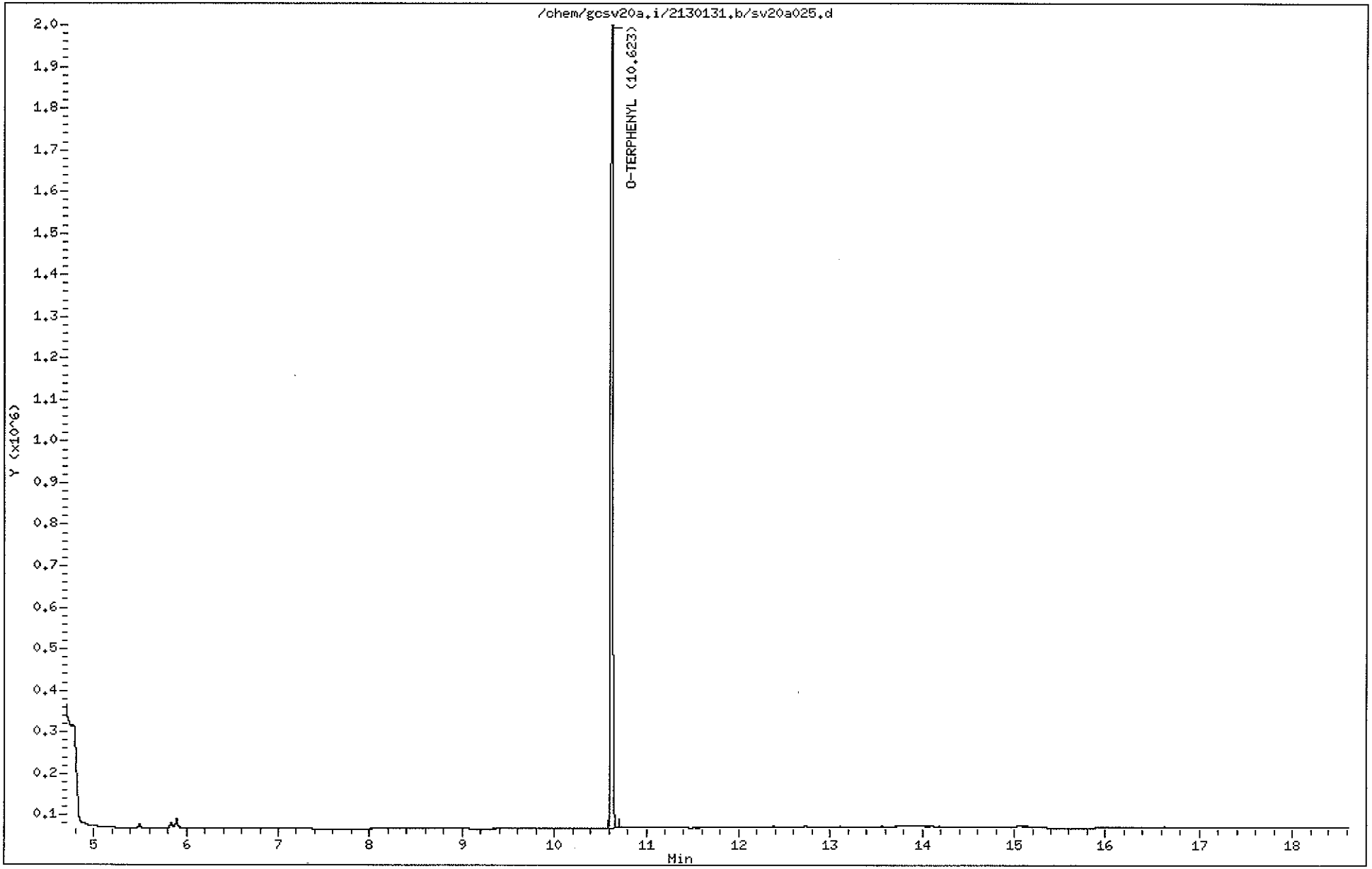
Sample Info: 21301260404*1

Volume Injected (uL): 1.0

Operator: smh

Column phase: DB-5MS-30M

Column diameter: 0.25



Data File: /chem/gcv8a.i/2130205.b/v8018.d



Date : 05-FEB-2013 11:37

Client ID: 21301260405

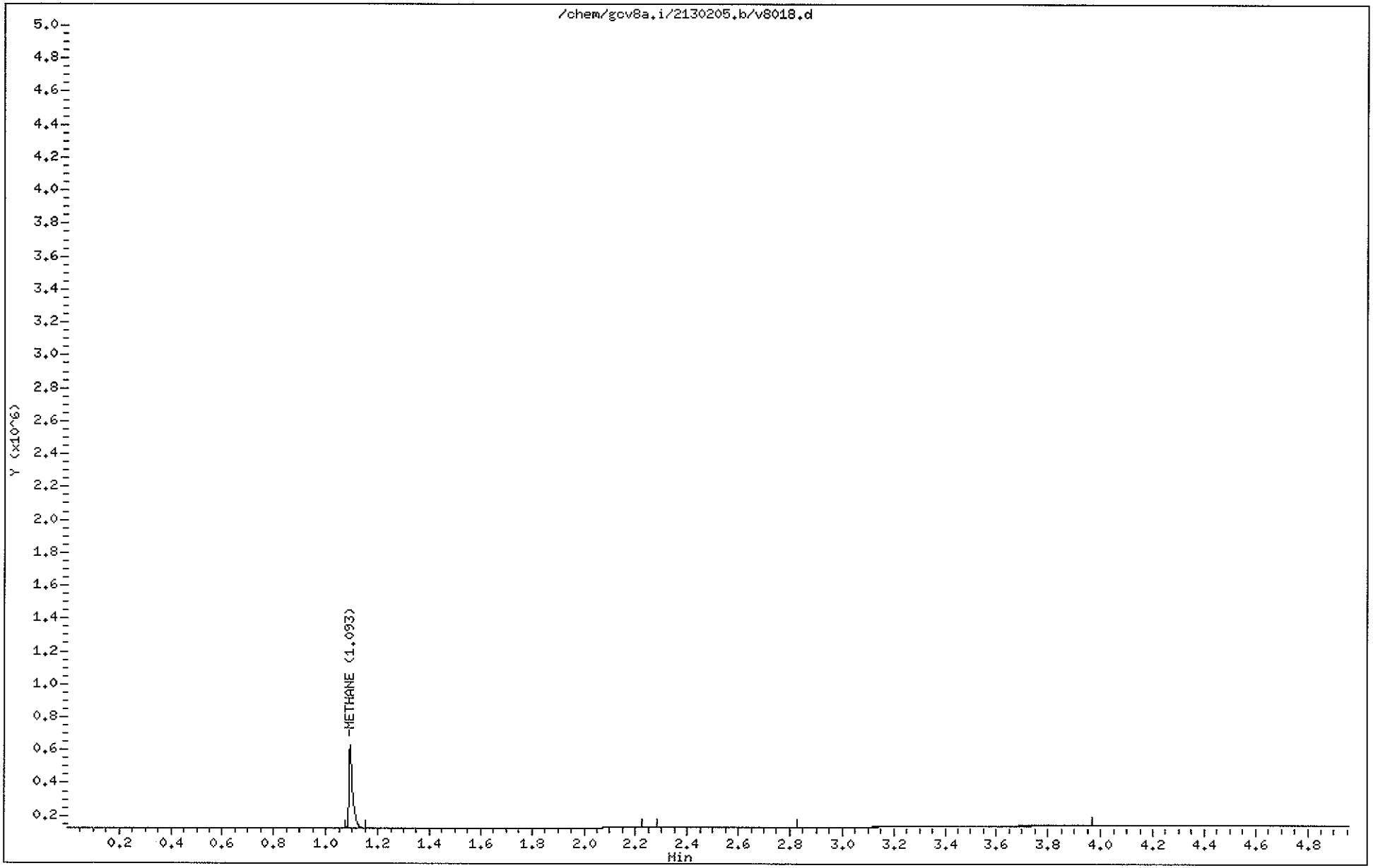
Instrument: gcv8a.i

Sample Info: 21301260405

Operator: JAR

Column phase: GS-Q-30M

Column diameter: 0.53



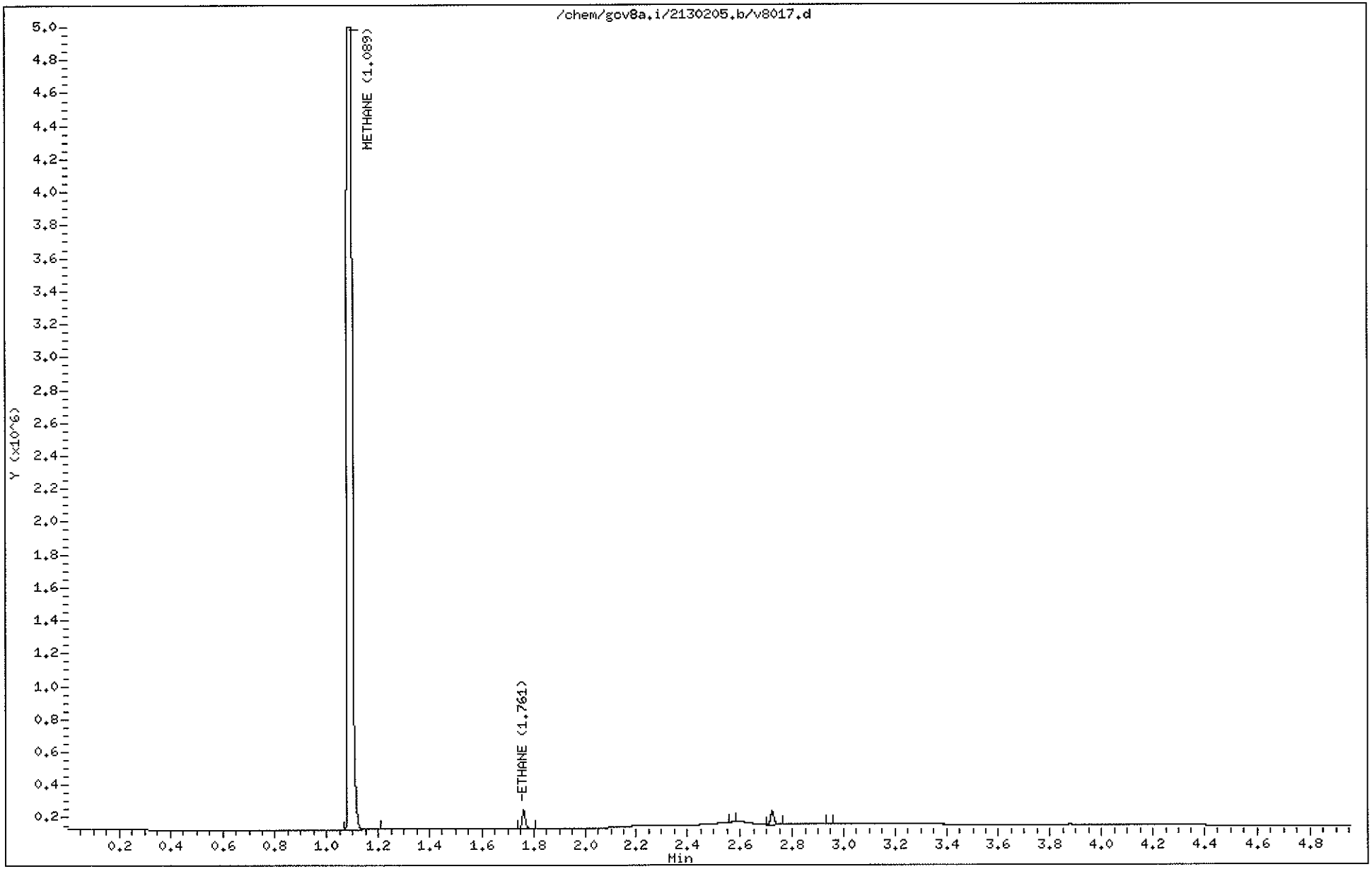
Data File: /chem/gcv8a.i/2130205.b/v8017.d
Date : 05-FEB-2013 11:28
Client ID: 21301260405
Sample Info: 21301260405

Instrument: gcv8a.i

Operator: JAR

Column phase: GS-Q-30M

Column diameter: 0.53



Data File: /chem/gcv8a.i/2130205.b/v8016.d

Date : 05-FEB-2013 11:19

Client ID: 21301260405

Sample Info: 21301260405

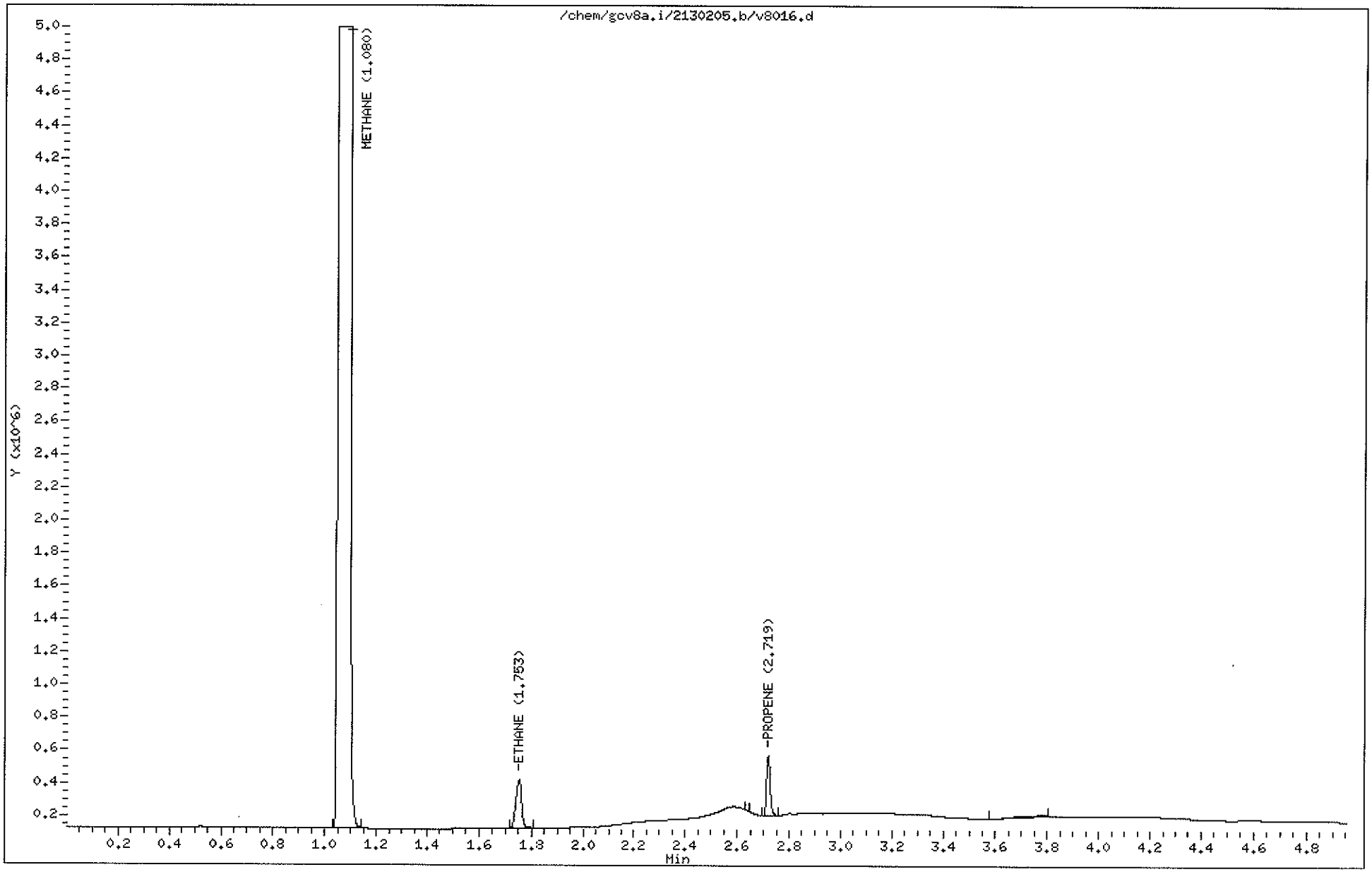
Column phase: GS-Q-30M

Instrument: gcv8a.i

Operator: JAR

Column diameter: 0.53





Data File: /chem/msv7.i/2130129.s.b/e3815.d



Date : 29-JAN-2013 19:39

Client ID: 21301260405

Instrument: msv7.i

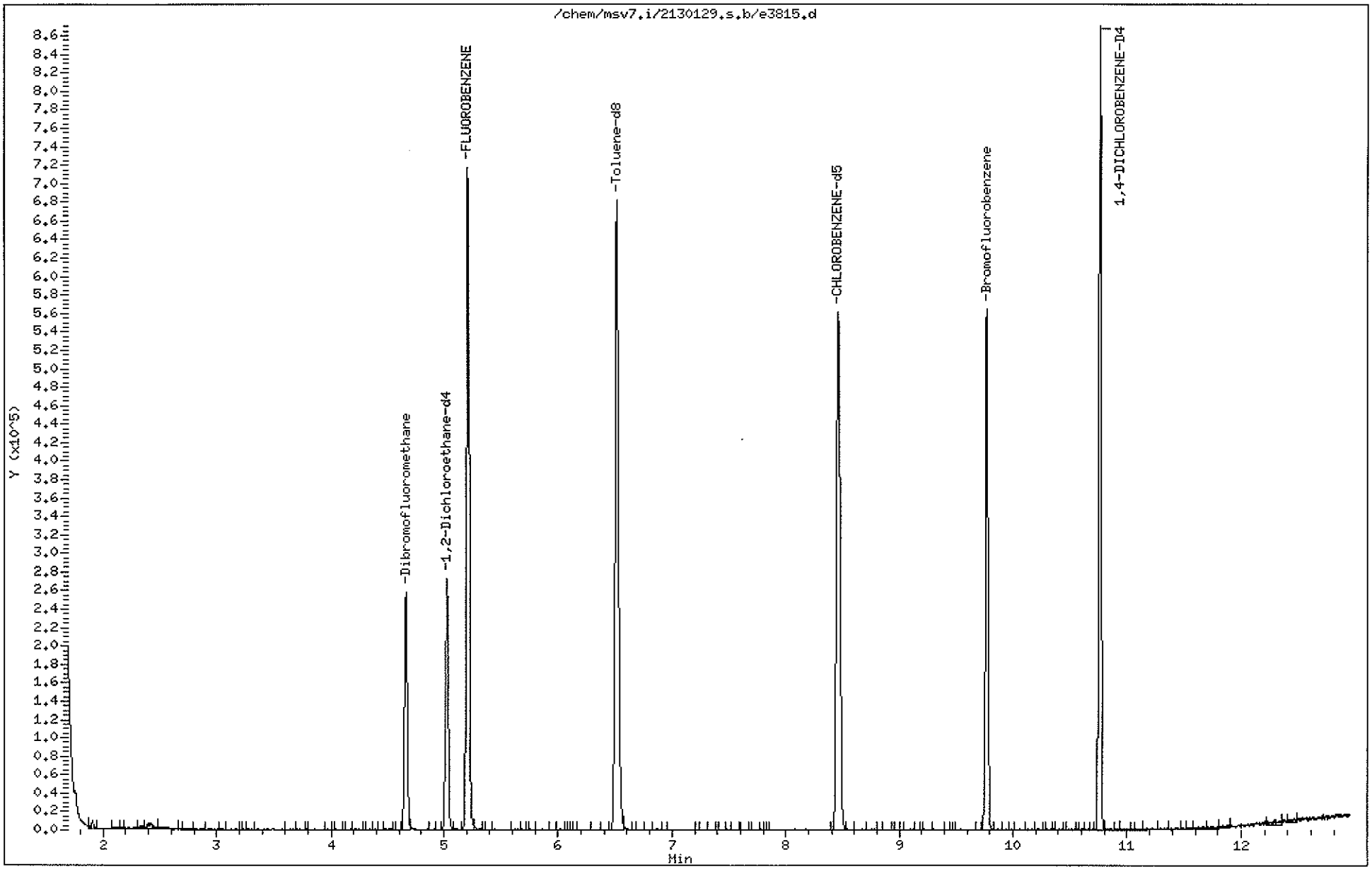
Sample Info: 21301260405*

Purge Volume: 5.0

Operator: CEK

Column phase: RTX-VMS-30M

Column diameter: 0.25



Data File: /chem/gcsv20a.i/2130131.b/sv20a028.d



Date : 01-FEB-2013 00:55

Client ID:

Instrument: gcsv20a.i

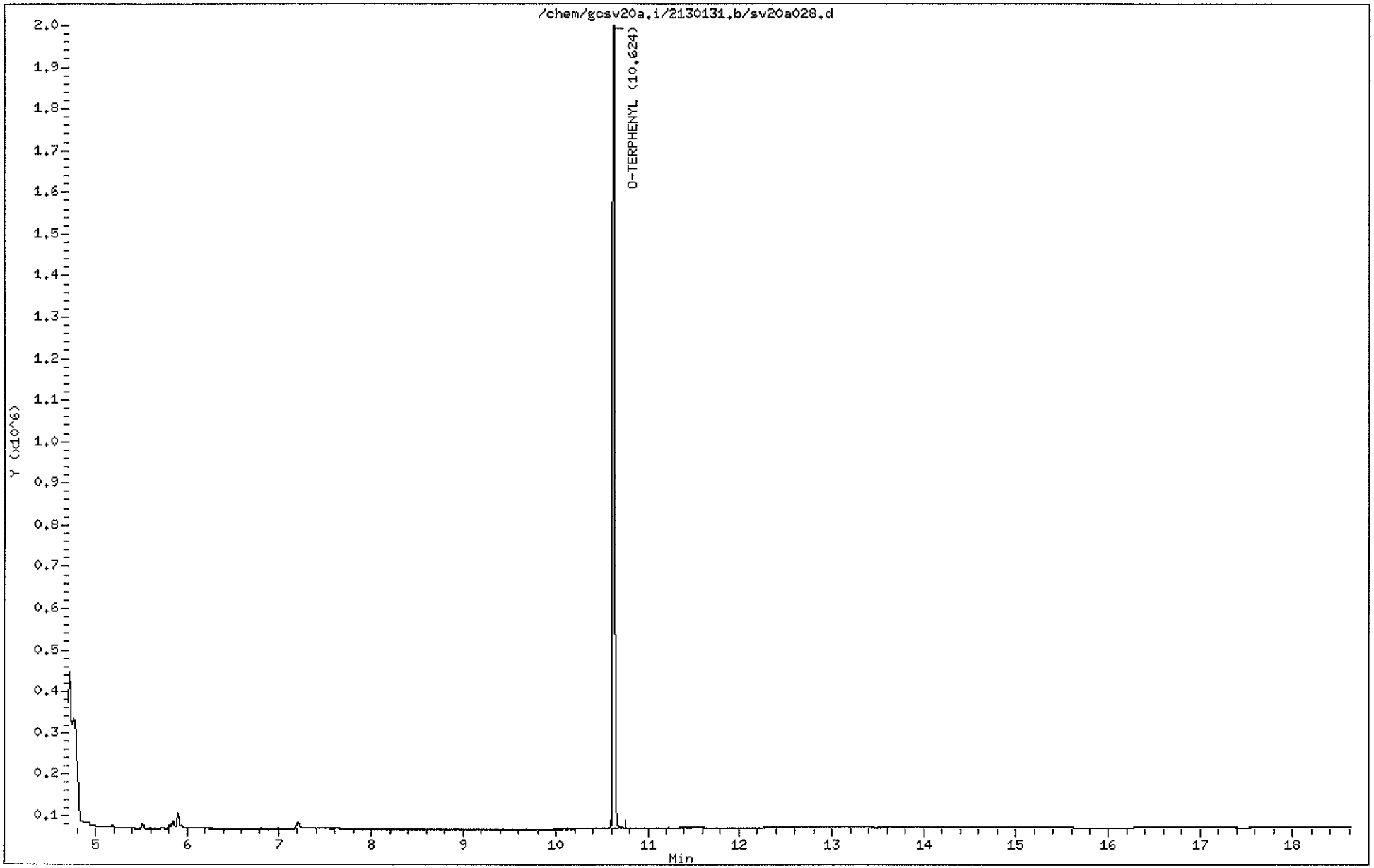
Sample Info: 21301260405*1

Volume Injected (uL): 1.0

Operator: smh

Column phase: DB-5MS-30M

Column diameter: 0.25



Data File: /chem/gcv8a.i/2130205.b/v8021.d



Date : 05-FEB-2013 12:09

Client ID: 21301260406

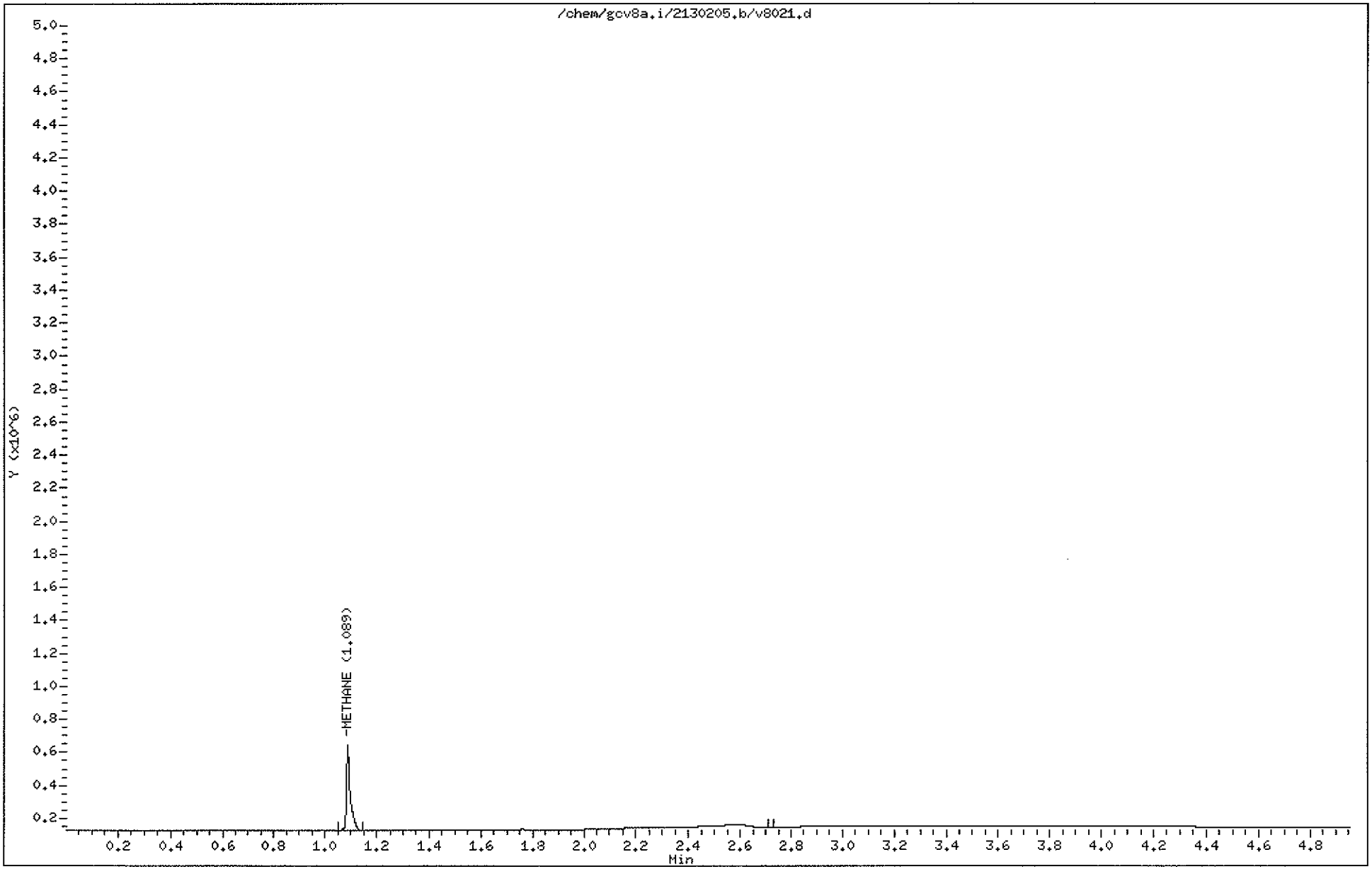
Instrument: gcv8a.i

Sample Info: 21301260406

Operator: JAR

Column phase: GS-Q-30M

Column diameter: 0.53



Data File: /chem/gcv8a.i/2130205.b/v8020.d

Date : 05-FEB-2013 11:56

Client ID: 21301260406

Sample Info: 21301260406

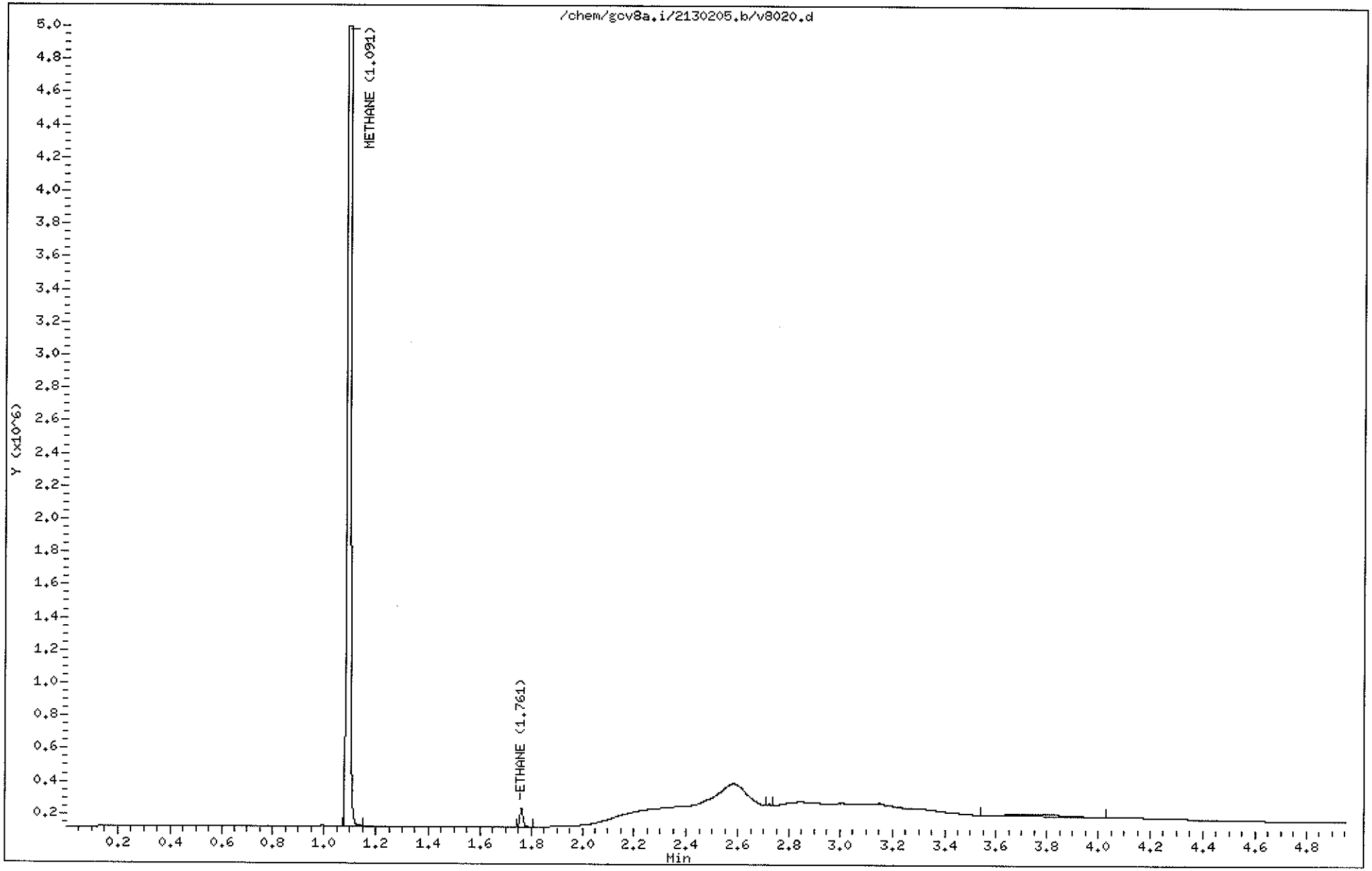
Column phase: GS-Q-30M

Instrument: gcv8a.i

Operator: JAR

Column diameter: 0.53





Data File: /chem/gcv8a.i/2130205.b/v8019.d

Date : 05-FEB-2013 11:47

Client ID: 21301260406

Sample Info: 21301260406

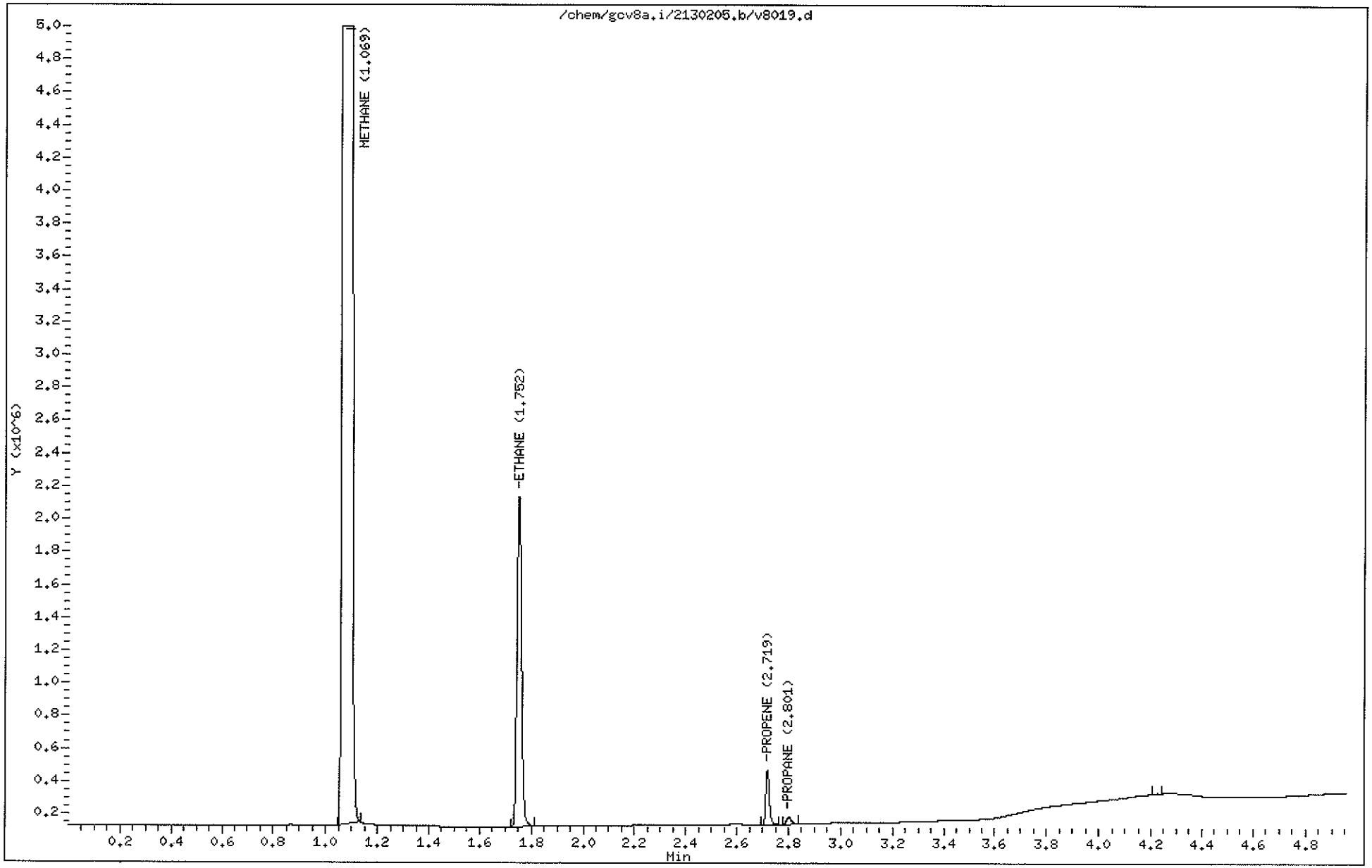
Column phase: GS-Q-30M

Instrument: gcv8a.i

Operator: JAR

Column diameter: 0.53





Data File: /chem/msv7.i/2130129.s.b/e3816.d

Date : 29-JAN-2013 19:59

Client ID: 21301260406

Sample Info: 21301260406*

Purge Volume: 5.0

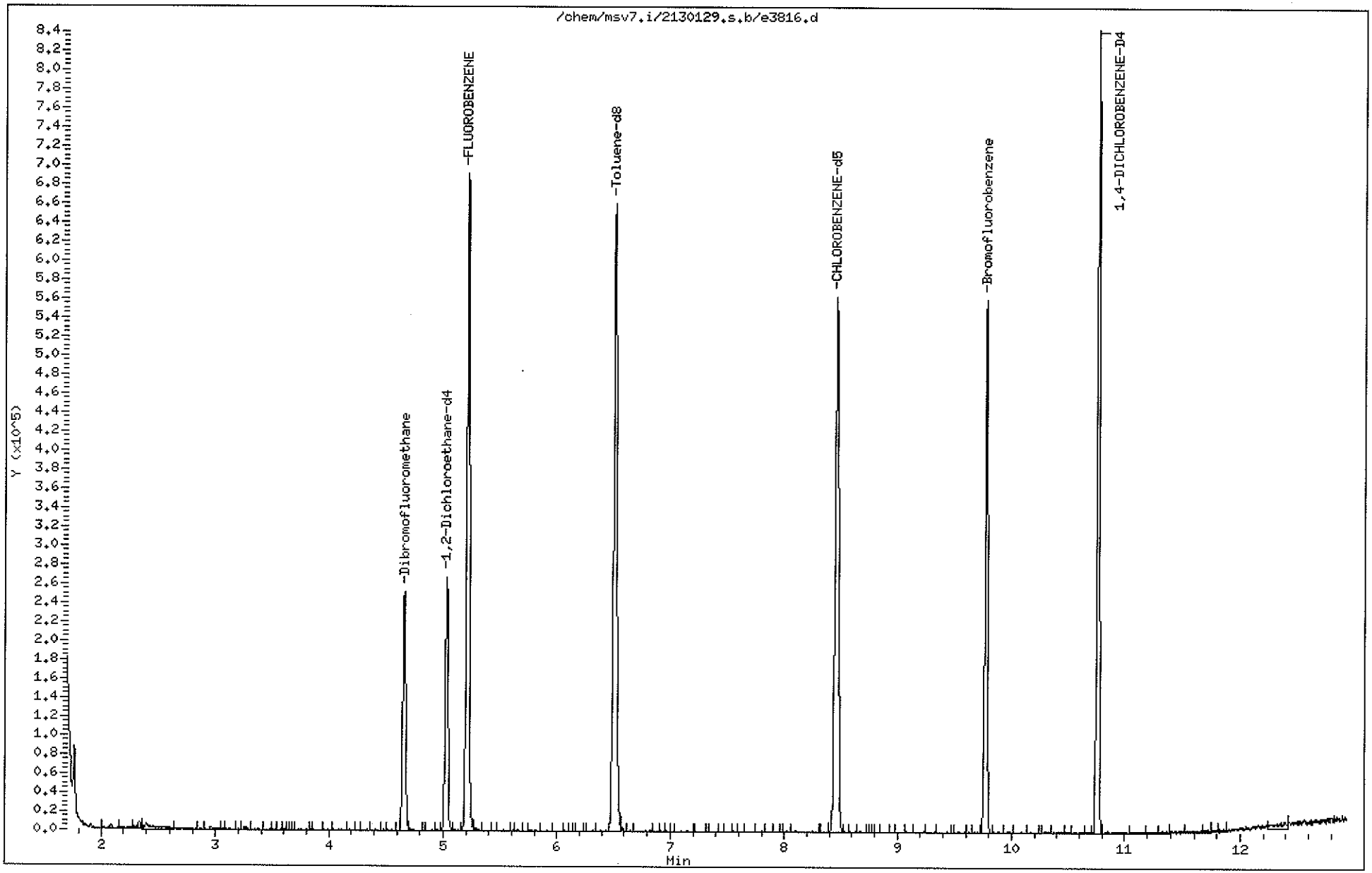
Column phase: RTX-VMS-30M

Instrument: msv7.i

Operator: CEK

Column diameter: 0.25





Data File: /chem/gcsv20a.i/2130131.b/sv20a029.d



Date : 01-FEB-2013 01:24

Client ID:

Instrument: gcsv20a.i

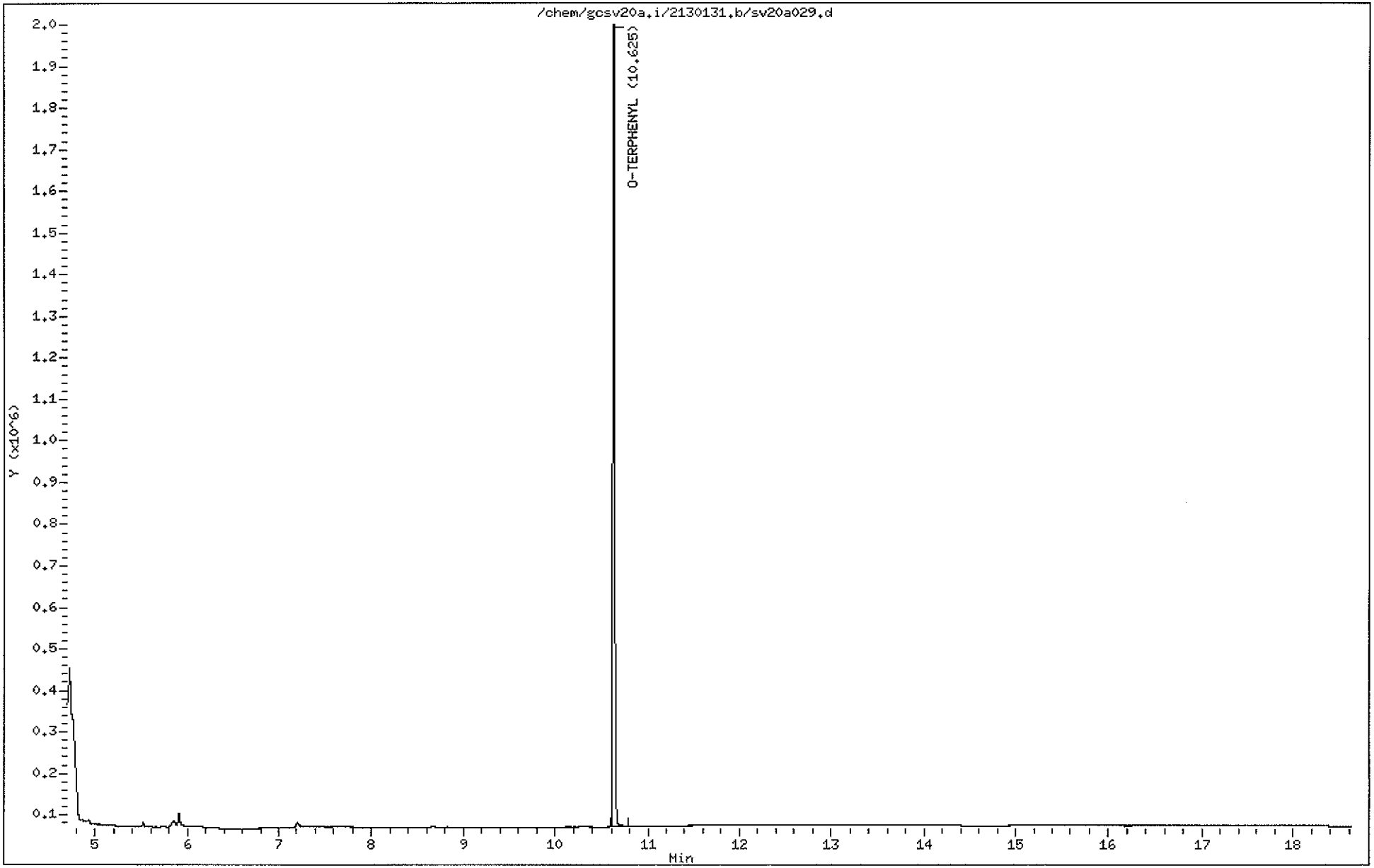
Sample Info: 21301260406X1

Volume Injected (uL): 1.0

Operator: smh

Column phase: DB-5MS-30M

Column diameter: 0.25



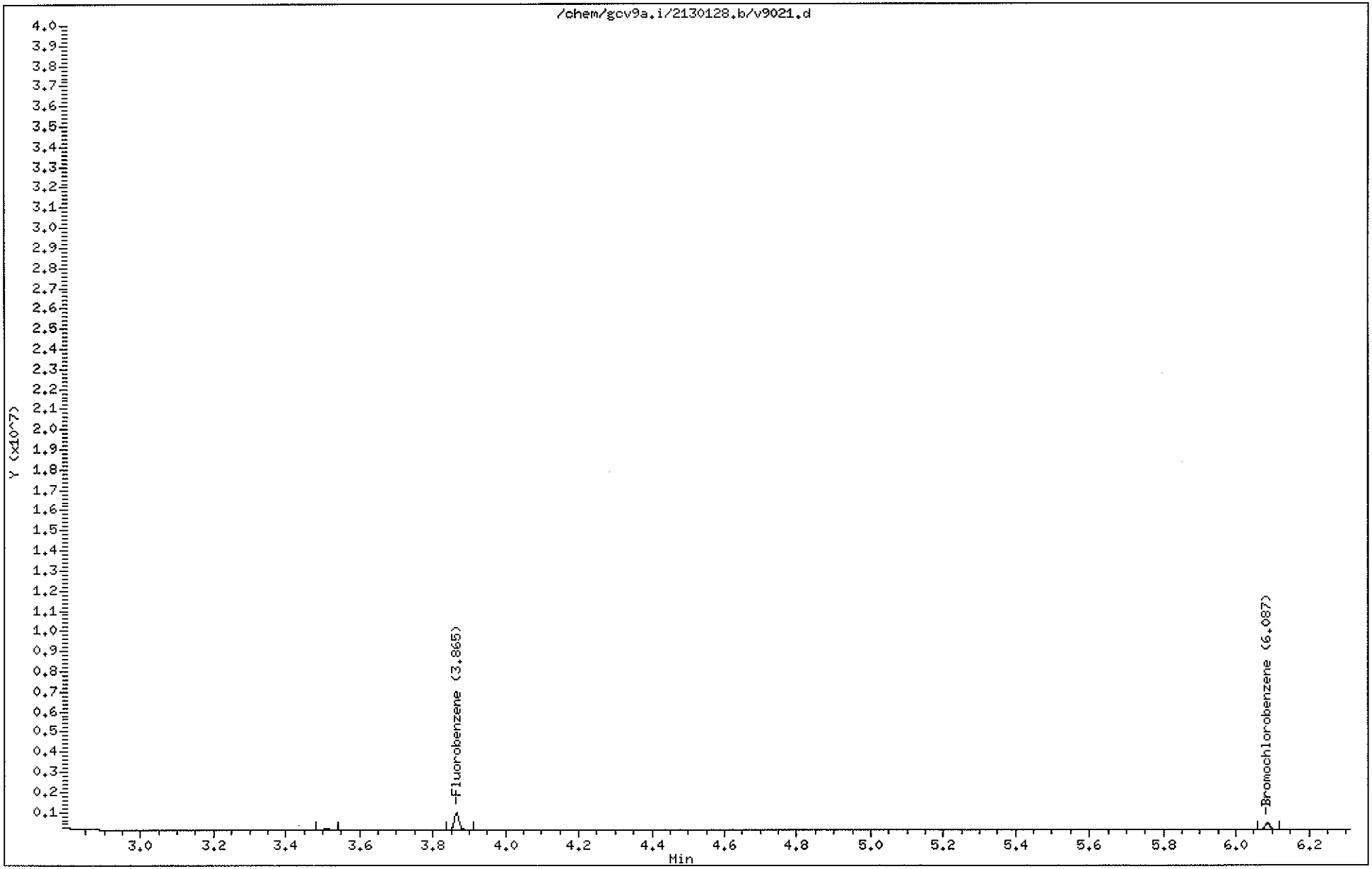
Data File: /chem/gcv9a.i/2130128.b/v9021.d
Date : 28-JAN-2013 19:36
Client ID: 21301260407
Sample Info: 21301260407

Instrument: gcv9a.i

Operator: BMR

Column phase: RTX-VMS

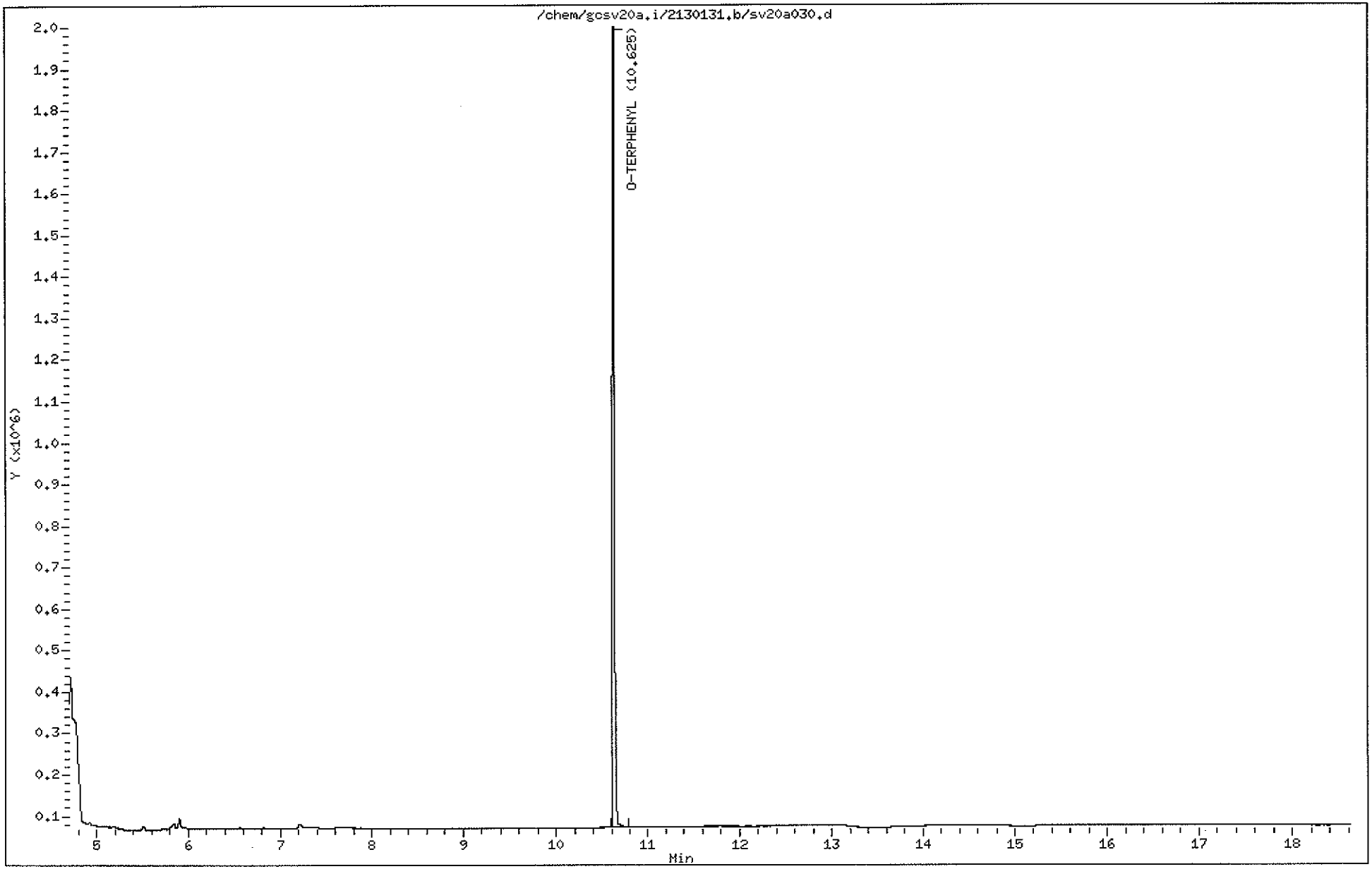
Column diameter: 0.25



Data File: /chem/gcsv20a.i/2130131.b/sv20a030.d
Date : 01-FEB-2013 01:53
Client ID:
Sample Info: 21301260407*1
Volume Injected (uL): 1.0
Column phase: DB-5MS-30M

Instrument: gcsv20a.i

Operator: smh
Column diameter: 0.25



Data File: /chem/gosv21b.i/2130131.b/sv21b065d.d



Date : 31-JAN-2013 11:46

Client ID:

Instrument: gosv21b.i

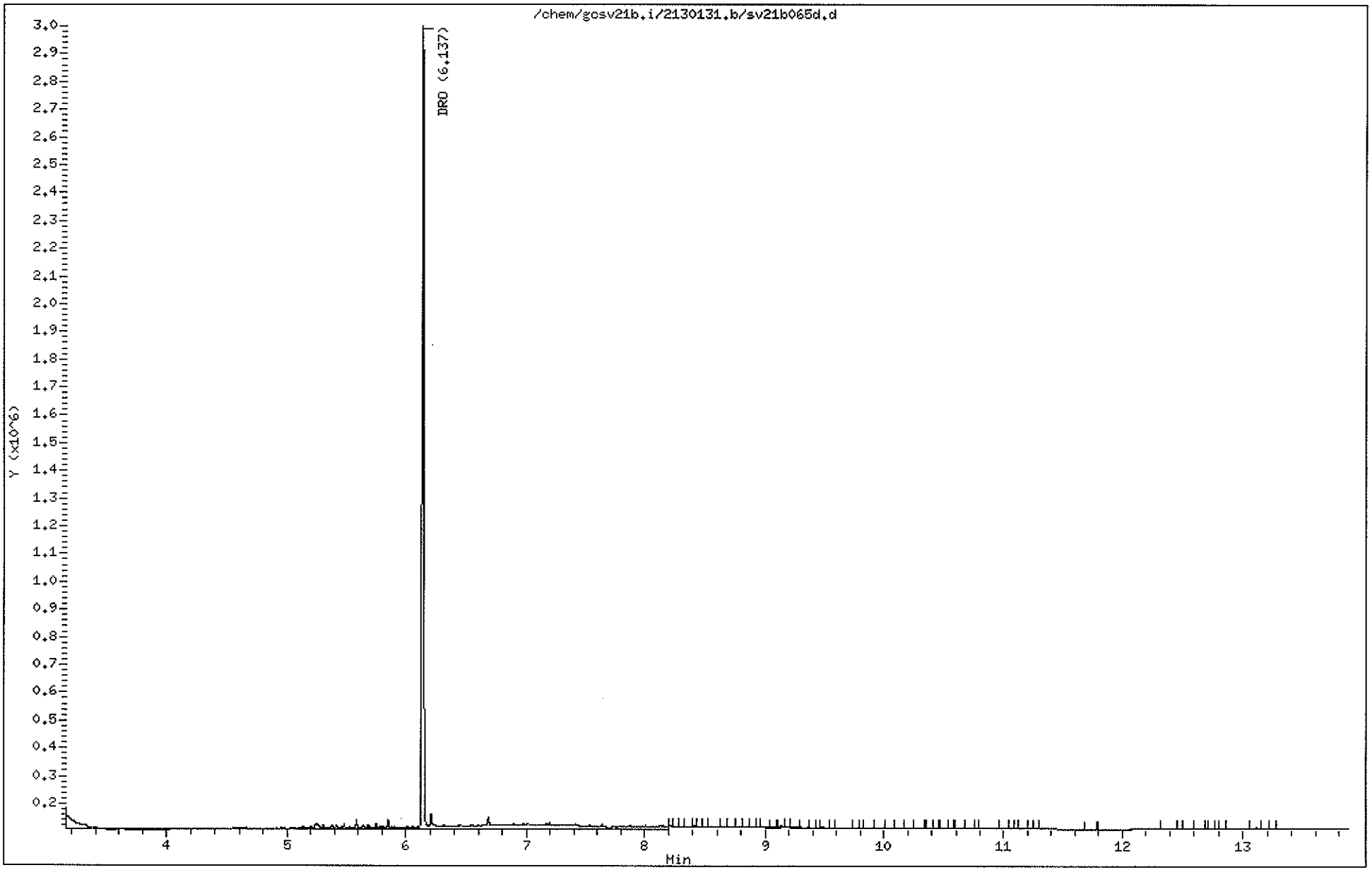
Sample Info: 21301260407*1

Volume Injected (uL): 1.0

Operator: smh

Column phase: RTX-5-30M

Column diameter: 0.53

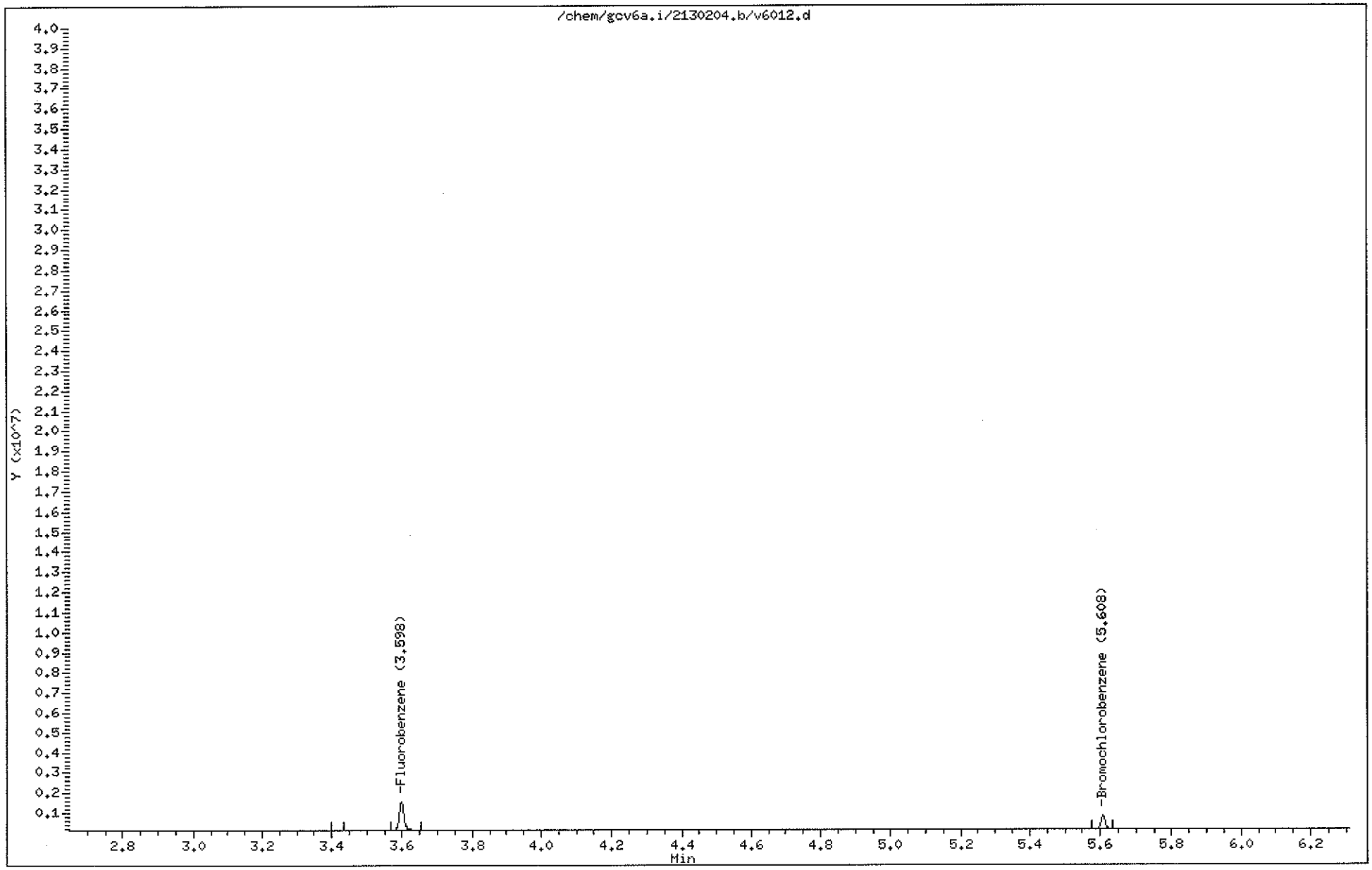


Data File: /chem/gcv6a.i/2130204.b/v6012.d
Date : 04-FEB-2013 13:36
Client ID: 21301260408
Sample Info: 21301260408

Instrument: gcv6a.i

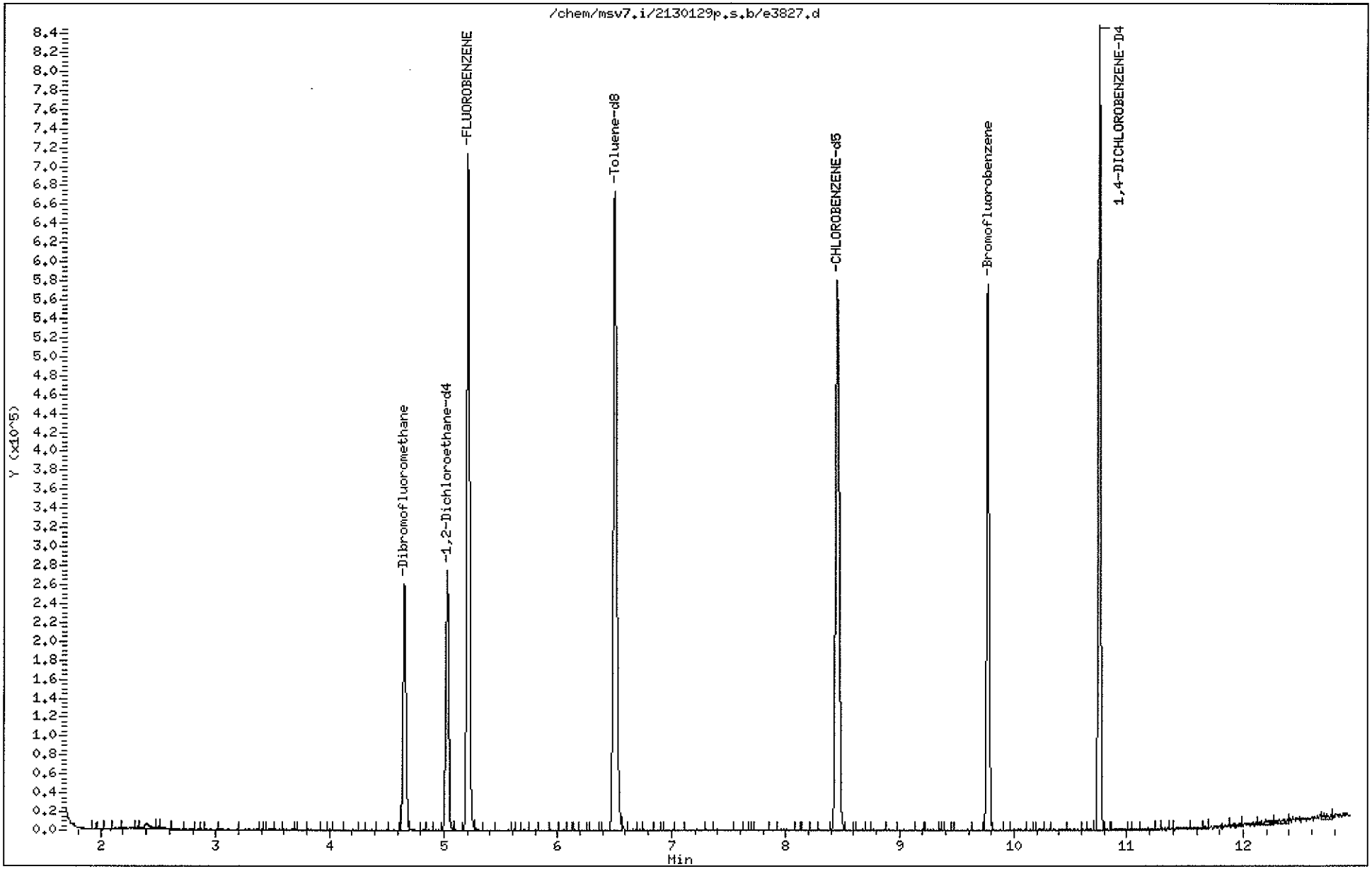
Operator: BMR

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



Data File: /chem/msv7.i/2130129p.s.b/e3827.d
Date : 29-JAN-2013 23:45
Client ID:
Sample Info: 21301260408*
Purge Volume: 5.0
Column phase: RTX-VMS-30M

Instrument: msv7.i
Operator: CEK
Column diameter: 0.25



# GCAL

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 & Associates | 4271 | 213012604 | 2/5/13 |

**Report to:**
Client: Michael Pisani & Assoc
Address: 1100 Poydras St Suite 1400
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 3.8, 4.6, 3.0

| Matrix[1] | Date | Time (2400) | Comp | Grab | Sample Description | Preservatives | No Containers | Cl, TDS, Cond | BTEX | TPH Frac 1036 | Bromide Sulfate | Ca, Mn, Mg, Fe, K, Na | Carbonate/Bicarbonate | Dissolved Gas | TPH GRO, DRO | Chlorides | | | Remarks: | Lab ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| W | 1-22-13 | 1140 | | X | Oxy #1 | HCl HNO3 | 9 | X | X | X | X | X | X | X | | | | | | 1 |
| | 1-22-13 | 1220 | | X | Oxy #2 | ↓ | 9 | X | X | X | X | X | X | X | | | | | | 2 |
| | 1-22-13 | 1330 | | X | Oxy #3 | HCl, HNO3 | 11 | X | X | X | X | X | X | X | | | | | | 3 |
| | 1-22-13 | 1350 | | X | WW #1 | ↓ | 9 | X | X | X | X | X | X | X | | | | | | 4 |
| | 1-22-13 | 1305 | | X | WW #2 | ↓ | 9 | X | X | X | X | X | X | X | | | | | | 5 |
| | 1-22-13 | 1325 | | X | WW #3 | HCl, HNO3 | 9 | X | X | X | X | X | X | X | | | | | | 6 |
| W | 1-22-13 | 150 | | X | GP-3 | HCl | 10 | | | X | | | | | X | X | | | | 7 |
| W | 1-22-13 | | | | Trip Blank | HCL | 3 | | X | | | | | | X | | | | SMC 1/28/13 per client | |

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

| Relinquished by: (Signature) | Received by: (Signature) | Date: | Time: |
|---|---|---|---|
| [signature] | [signature] | 1/25/13 | 1655 |
| 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

*213012604*

| SAMPLE DELIVERY GROUP | 213012604 |
|---|---|
| **Client**<br>4271 - Michael Pisani & Associates | **Transport Method**<br>CUST |
| **Profile**<br>233926 - 80-05 Assumption Parish Sinkhole | **Received By**<br>Law, Brittany P.<br>Pfeifer, Ben J. |
| **Line Item(s)**<br>2 - Waters - BTEX | **Receive Date(s)**<br>01/25/13 |

## 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) |
|---|---|
| | 3.8 |
| | 4.6 |
| | 3.0 |

## DISCREPANCIES

None

## LABORATORY PRESERVATIONS

| | |
|---|---|
| 21301260401-2\ HNO3 | 21301260405-2\ HNO3 |
| 21301260402-2\ HNO3 | 21301260406-2\ HNO3 |
| 21301260404-2\ HNO3 | 21301260403-3\ HNO3 |

NOTES

*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** 02/04/2013

**GCAL Report** 213012545

| | |
|---|---|
| ***Deliver To*** | Texas Brine<br>4800 San Felipe<br>Houston, TX 77074 |
| ***Attn*** | Bruce Martin |

***Project*** 80-05 Assumption Parish Sinkho

CASE NARRATIVE

**Client:** Michael Pisani & Associates **Report:** 213012545

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 MASS SPECTROMETRY

In the SW-846 8260B analysis, the recovery for the surrogate, Toluene-d8 is above the upper control limit for sample 21301254507 (W-3 (TR)). All other surrogate recoveries are acceptable for this sample.

In the SW-846 8260B analysis for analytical batch 499769, the LCS recovery is above the upper control limit for Ethylbenzene. The LCS/LCSD RPD is above the control limit for several analytes. These analytes were not detected in the associated samples.

## 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.

IntegriSign

Robyn Migues
Technical Director
**GCAL REPORT** 213012545

# Report Sample Summary

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254501 | E-3 (TR) | Water | 01/25/2013 10:40 | 01/25/2013 16:55 |
| 21301254502 | N-3 (TR) | Water | 01/25/2013 10:55 | 01/25/2013 16:55 |
| 21301254503 | NW-2 (TR) | Water | 01/25/2013 11:00 | 01/25/2013 16:55 |
| 21301254504 | NW-3 (TR) | Water | 01/25/2013 11:10 | 01/25/2013 16:55 |
| 21301254505 | NW-4 (TR) | Water | 01/25/2013 11:15 | 01/25/2013 16:55 |
| 21301254506 | W-2 (TR) | Water | 01/25/2013 11:25 | 01/25/2013 16:55 |
| 21301254507 | W-3 (TR) | Water | 01/25/2013 11:35 | 01/25/2013 16:55 |
| 21301254508 | W-4 (TR) | Water | 01/25/2013 11:45 | 01/25/2013 16:55 |
| 21301254509 | SW-3 (TR) | Water | 01/25/2013 11:55 | 01/25/2013 16:55 |
| 21301254510 | SW-4 (TR) | Water | 01/25/2013 12:05 | 01/25/2013 16:55 |
| 21301254511 | S4 (TR) | Water | 01/25/2013 12:15 | 01/25/2013 16:55 |
| 21301254512 | BG-1 | Water | 01/25/2013 12:30 | 01/25/2013 16:55 |
| 21301254513 | BG-2 | Water | 01/25/2013 12:40 | 01/25/2013 16:55 |

# Summary of Compounds Detected

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254501 | E-3 (TR) | Water | 01/25/2013 10:40 | 01/25/2013 16:55 |

## SM 2540C TDS

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| WET-035 | Total Dissolved Solids(TDS) | 626 | 10.0 | | mg/L |

## SW-846 9056A

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 16887-00-6 | Chloride | 311 | 20.0 | | mg/L |

## SM 4500S H Hydrogen Sulfide

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 1241 | 10 | | umhos/cm |
| Temp | Temperature | 21.0 | | | Deg C |
| pH | pH | 7.52 | 1.00 | | pH unit |

## SM 2510 B Conductivity

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 1241 | 10 | | umhos/cm |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254502 | N-3 (TR) | Water | 01/25/2013 10:55 | 01/25/2013 16:55 |

## SM 4500S H Hydrogen Sulfide

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 168 | 10 | | umhos/cm |
| Temp | Temperature | 21.0 | | | Deg C |
| pH | pH | 7.09 | 1.00 | | pH unit |

## SM 2540C TDS

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| WET-035 | Total Dissolved Solids(TDS) | 131 | 10.0 | | mg/L |

## SW-846 9056A

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 16887-00-6 | Chloride | 19.3 | 1.00 | | mg/L |

# Summary of Compounds Detected (con't)

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254502 | **N-3 (TR)** | Water | 01/25/2013 10:55 | 01/25/2013 16:55 |

## SM 2510 B Conductivity

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 168 | 10 | | umhos/cm |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254503 | **NW-2 (TR)** | Water | 01/25/2013 11:00 | 01/25/2013 16:55 |

## SM 2540C TDS

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| WET-035 | Total Dissolved Solids(TDS) | 74.0 | 10.0 | | mg/L |

## SM 4500S H Hydrogen Sulfide

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 140 | 10 | | umhos/cm |
| Temp | Temperature | 21.0 | | | Deg C |
| pH | pH | 7.06 | 1.00 | | pH unit |

## SW-846 9056A

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 16887-00-6 | Chloride | 7.00 | 0.500 | | mg/L |

## SM 2510 B Conductivity

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 140 | 10 | | umhos/cm |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254504 | **NW-3 (TR)** | Water | 01/25/2013 11:10 | 01/25/2013 16:55 |

## SM 2540C TDS

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| WET-035 | Total Dissolved Solids(TDS) | 113 | 10.0 | | mg/L |

## SW-846 9056A

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 16887-00-6 | Chloride | 8.47 | 0.500 | | mg/L |

# Summary of Compounds Detected (con't)

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254504 | NW-3 (TR) | Water | 01/25/2013 11:10 | 01/25/2013 16:55 |

## SM 4500S H Hydrogen Sulfide

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 139 | 10 | | umhos/cm |
| Temp | Temperature | 21.0 | | | Deg C |
| pH | pH | 7.01 | 1.00 | | pH unit |

## SM 2510 B Conductivity

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 139 | 10 | | umhos/cm |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254505 | NW-4 (TR) | Water | 01/25/2013 11:15 | 01/25/2013 16:55 |

## SW-846 9056A

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 16887-00-6 | Chloride | 6.56 | 0.500 | | mg/L |

## SM 4500S H Hydrogen Sulfide

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 137 | 10 | | umhos/cm |
| Temp | Temperature | 21.0 | | | Deg C |
| pH | pH | 7.07 | 1.00 | | pH unit |

## SM 2540C TDS

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| WET-035 | Total Dissolved Solids(TDS) | 93.0 | 10.0 | | mg/L |

## SM 2510 B Conductivity

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 137 | 10 | | umhos/cm |

# Summary of Compounds Detected (con't)

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254506 | W-2 (TR) | Water | 01/25/2013 11:25 | 01/25/2013 16:55 |

## SM 2540C TDS

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| WET-035 | Total Dissolved Solids(TDS) | 103 | 10.0 | | mg/L |

## SW-846 9056A

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 16887-00-6 | Chloride | 11.7 | 0.500 | | mg/L |

## SM 4500S H Hydrogen Sulfide

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 146 | 10 | | umhos/cm |
| Temp | Temperature | 21.0 | | | Deg C |
| pH | pH | 6.93 | 1.00 | | pH unit |

## SM 2510 B Conductivity

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 146 | 10 | | umhos/cm |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254507 | W-3 (TR) | Water | 01/25/2013 11:35 | 01/25/2013 16:55 |

## SM 4500S H Hydrogen Sulfide

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 137 | 10 | | umhos/cm |
| Temp | Temperature | 21.0 | | | Deg C |
| pH | pH | 6.98 | 1.00 | | pH unit |

## SM 2540C TDS

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| WET-035 | Total Dissolved Solids(TDS) | 79.0 | 10.0 | | mg/L |

## SW-846 9056A

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 16887-00-6 | Chloride | 7.17 | 0.500 | | mg/L |

# Summary of Compounds Detected (con't)

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254507 | W-3 (TR) | Water | 01/25/2013 11:35 | 01/25/2013 16:55 |

## SM 2510 B Conductivity

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 137 | 10 | | umhos/cm |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254508 | W-4 (TR) | Water | 01/25/2013 11:45 | 01/25/2013 16:55 |

## SW-846 9056A

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 16887-00-6 | Chloride | 6.84 | 0.500 | | mg/L |

## SM 4500S H Hydrogen Sulfide

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 137 | 10 | | umhos/cm |
| Temp | Temperature | 21.0 | | | Deg C |
| pH | pH | 6.97 | 1.00 | | pH unit |

## SM 2540C TDS

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| WET-035 | Total Dissolved Solids(TDS) | 94.0 | 10.0 | | mg/L |

## SM 2510 B Conductivity

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 137 | 10 | | umhos/cm |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254509 | SW-3 (TR) | Water | 01/25/2013 11:55 | 01/25/2013 16:55 |

## SW-846 9056A

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 16887-00-6 | Chloride | 21.1 | 1.00 | | mg/L |

## SM 4500S H Hydrogen Sulfide

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 156 | 10 | | umhos/cm |
| Temp | Temperature | 21.0 | | | Deg C |
| pH | pH | 6.92 | 1.00 | | pH unit |

# Summary of Compounds Detected (con't)

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254509 | SW-3 (TR) | Water | 01/25/2013 11:55 | 01/25/2013 16:55 |

## SM 2540C TDS

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| WET-035 | Total Dissolved Solids(TDS) | 105 | 10.0 | | mg/L |

## SM 2510 B Conductivity

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 156 | 10 | | umhos/cm |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254510 | SW-4 (TR) | Water | 01/25/2013 12:05 | 01/25/2013 16:55 |

## SM 2540C TDS

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| WET-035 | Total Dissolved Solids(TDS) | 119 | 10.0 | | mg/L |

## SW-846 9056A

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 16887-00-6 | Chloride | 28.2 | 1.00 | | mg/L |

## SM 4500S H Hydrogen Sulfide

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 252 | 10 | | umhos/cm |
| Temp | Temperature | 21.0 | | | Deg C |
| pH | pH | 7.36 | 1.00 | | pH unit |

## SM 2510 B Conductivity

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 252 | 10 | | umhos/cm |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254511 | S4 (TR) | Water | 01/25/2013 12:15 | 01/25/2013 16:55 |

## SM 2540C TDS

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| WET-035 | Total Dissolved Solids(TDS) | 119 | 10.0 | | mg/L |

# Summary of Compounds Detected (con't)

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254511 | **S4 (TR)** | Water | 01/25/2013 12:15 | 01/25/2013 16:55 |

## SW-846 9056A

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 16887-00-6 | Chloride | 26.1 | 1.00 | | mg/L |

## SM 4500S H Hydrogen Sulfide

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 190 | 10 | | umhos/cm |
| Temp | Temperature | 21.0 | | | Deg C |
| pH | pH | 7.06 | 1.00 | | pH unit |

## SM 2510 B Conductivity

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 190 | 10 | | umhos/cm |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254512 | **BG-1** | Water | 01/25/2013 12:30 | 01/25/2013 16:55 |

## SW-846 9056A

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 16887-00-6 | Chloride | 19.0 | 1.00 | | mg/L |

## SM 2540C TDS

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| WET-035 | Total Dissolved Solids(TDS) | 111 | 10.0 | | mg/L |

## SM 4500S H Hydrogen Sulfide

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 179 | 10 | | umhos/cm |
| Temp | Temperature | 21.0 | | | Deg C |
| pH | pH | 7.05 | 1.00 | | pH unit |

## SM 2510 B Conductivity

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 179 | 10 | | umhos/cm |

# Summary of Compounds Detected (con't)

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254513 | **BG-2** | Water | 01/25/2013 12:40 | 01/25/2013 16:55 |

## SW-846 9056A

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 16887-00-6 | Chloride | 25.3 | 1.00 | | mg/L |

## SM 4500S H Hydrogen Sulfide

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 206 | 10 | | umhos/cm |
| Temp | Temperature | 21.0 | | | Deg C |
| pH | pH | 7.00 | 1.00 | | pH unit |

## SM 2540C TDS

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| WET-035 | Total Dissolved Solids(TDS) | 121 | 10.0 | | mg/L |

## SM 2510 B Conductivity

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| C-011 | Specific Conductance | 206 | 10 | | umhos/cm |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254501 | **E-3 (TR)** | Water | 01/25/2013 10:40 | 01/25/2013 16:55 |

## SW-846 8260B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 02/01/2013 21:28 | JCK | 500121 |

| 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 | .05 | mg/L | 100 | 77 - 127 |
| 2037-26-5 | Toluene d8 | .05 | .049 | mg/L | 98 | 76 - 134 |
| 17060-07-0 | 1,2-Dichloroethane-d4 | .05 | .049 | mg/L | 98 | 71 - 127 |

## TX1006/LA 1006

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/30/2013 13:00 | 499644 | TX 1006/LA 1006 | 1 | 01/31/2013 14:14 | SMH | 500067 |

| 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 | 15 | mg/L | 95 | 60 - 140 |

## SM 2540C TDS

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 13:55 | DJH | 499726 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **WET-035** | **Total Dissolved Solids(TDS)** | **626** | **10.0** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254501 | **E-3 (TR)** | Water | 01/25/2013 10:40 | 01/25/2013 16:55 |

## SM 2510 B Conductivity

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 13:30 | JEM | 499739 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **C-011** | **Specific Conductance** | **1241** | **10** | | **umhos/cm** |

## SM 4500S H Hydrogen Sulfide

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 13:44 | BMC | 499779 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 7783-06-4 | Hydrogen Sulfide, Unionized | ND | 2.00 | | mg S/L |
| **C-011** | **Specific Conductance** | **1241** | **10** | | **umhos/cm** |
| 18496-25-8 | Sulfide | ND | 2.00 | | mg/L |
| **Temp** | **Temperature** | **21.0** | | | **Deg C** |
| **pH** | **pH** | **7.52** | **1.00** | | **pH unit** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 200 | 01/30/2013 13:22 | AEL | 499782 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **16887-00-6** | **Chloride** | **311** | **20.0** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254502 | **N-3 (TR)** | Water | 01/25/2013 10:55 | 01/25/2013 16:55 |

## SW-846 8260B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 22:54 | CLH | 499769 |

| 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 | 98 | 78 - 130 |
| 1868-53-7 | Dibromofluoromethane | .05 | .051 | mg/L | 101 | 77 - 127 |
| 2037-26-5 | Toluene d8 | .05 | .059 | mg/L | 118 | 76 - 134 |
| 17060-07-0 | 1,2-Dichloroethane-d4 | .05 | .05 | mg/L | 100 | 71 - 127 |

## TX1006/LA 1006

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/30/2013 13:00 | 499644 | TX 1006/LA 1006 | 1 | 01/31/2013 14:46 | SMH | 500067 |

| 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 | 18.7 | mg/L | 118 | 60 - 140 |

## SM 2540C TDS

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 13:55 | DJH | 499726 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **WET-035** | **Total Dissolved Solids(TDS)** | **131** | **10.0** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254502 | **N-3 (TR)** | Water | 01/25/2013 10:55 | 01/25/2013 16:55 |

## SM 2510 B Conductivity

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 13:30 | JEM | 499739 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **C-011** | **Specific Conductance** | **168** | **10** | | **umhos/cm** |

## SM 4500S H Hydrogen Sulfide

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 13:44 | BMC | 499779 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 7783-06-4 | Hydrogen Sulfide, Unionized | ND | 2.00 | | mg S/L |
| **C-011** | **Specific Conductance** | **168** | **10** | | **umhos/cm** |
| 18496-25-8 | Sulfide | ND | 2.00 | | mg/L |
| **Temp** | **Temperature** | **21.0** | | | **Deg C** |
| **pH** | **pH** | **7.09** | **1.00** | | **pH unit** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 10 | 01/30/2013 13:39 | AEL | 499782 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **16887-00-6** | **Chloride** | **19.3** | **1.00** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254503 | **NW-2 (TR)** | Water | 01/25/2013 11:00 | 01/25/2013 16:55 |

## SW-846 8260B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 23:14 | CLH | 499769 |

| 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 | .047 | mg/L | 94 | 77 - 127 |
| 2037-26-5 | Toluene d8 | .05 | .057 | mg/L | 113 | 76 - 134 |
| 17060-07-0 | 1,2-Dichloroethane-d4 | .05 | .045 | mg/L | 91 | 71 - 127 |

## TX1006/LA 1006

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/30/2013 13:00 | 499644 | TX 1006/LA 1006 | 1 | 01/31/2013 15:18 | SMH | 500067 |

| 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 | 15.8 | 16.7 | mg/L | 106 | 60 - 140 |

## SM 2540C TDS

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 17:25 | DJH | 499758 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **WET-035** | **Total Dissolved Solids(TDS)** | **74.0** | **10.0** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254503 | **NW-2 (TR)** | Water | 01/25/2013 11:00 | 01/25/2013 16:55 |

## SM 2510 B Conductivity

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 13:30 | JEM | 499739 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **C-011** | **Specific Conductance** | **140** | **10** | | **umhos/cm** |

## SM 4500S H Hydrogen Sulfide

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 13:44 | BMC | 499779 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 7783-06-4 | Hydrogen Sulfide, Unionized | ND | 2.00 | | mg S/L |
| **C-011** | **Specific Conductance** | **140** | **10** | | **umhos/cm** |
| 18496-25-8 | Sulfide | ND | 2.00 | | mg/L |
| **Temp** | **Temperature** | **21.0** | | | **Deg C** |
| **pH** | **pH** | **7.06** | **1.00** | | **pH unit** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 5 | 01/30/2013 13:57 | AEL | 499782 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **16887-00-6** | **Chloride** | **7.00** | **0.500** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254504 | **NW-3 (TR)** | Water | 01/25/2013 11:10 | 01/25/2013 16:55 |

## SW-846 8260B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 23:34 | CLH | 499769 |

| 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 | .056 | mg/L | 112 | 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 |
|---|---|---|---|---|---|---|
| 01/30/2013 13:00 | 499644 | TX 1006/LA 1006 | 1 | 01/31/2013 15:50 | SMH | 500067 |

| 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 | 16.3 | 14.9 | mg/L | 91 | 60 - 140 |

## SM 2540C TDS

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 17:25 | DJH | 499758 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **WET-035** | **Total Dissolved Solids(TDS)** | **113** | **10.0** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254504 | **NW-3 (TR)** | Water | 01/25/2013 11:10 | 01/25/2013 16:55 |

## SM 2510 B Conductivity

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 13:30 | JEM | 499739 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **C-011** | **Specific Conductance** | **139** | **10** | | **umhos/cm** |

## SM 4500S H Hydrogen Sulfide

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 13:44 | BMC | 499779 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 7783-06-4 | Hydrogen Sulfide, Unionized | ND | 2.00 | | mg S/L |
| **C-011** | **Specific Conductance** | **139** | **10** | | **umhos/cm** |
| 18496-25-8 | Sulfide | ND | 2.00 | | mg/L |
| **Temp** | **Temperature** | **21.0** | | | **Deg C** |
| **pH** | **pH** | **7.01** | **1.00** | | **pH unit** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 5 | 01/30/2013 14:15 | AEL | 499782 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **16887-00-6** | **Chloride** | **8.47** | **0.500** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254505 | **NW-4 (TR)** | Water | 01/25/2013 11:15 | 01/25/2013 16:55 |

## SW-846 8260B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 23:54 | CLH | 499769 |

| 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 | .045 | mg/L | 91 | 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 | .052 | mg/L | 104 | 71 - 127 |

## TX1006/LA 1006

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/30/2013 13:00 | 499644 | TX 1006/LA 1006 | 1 | 01/31/2013 16:22 | SMH | 500067 |

| 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 | 14.7 | mg/L | 92 | 60 - 140 |

## SM 2540C TDS

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 17:25 | DJH | 499758 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **WET-035** | **Total Dissolved Solids(TDS)** | **93.0** | **10.0** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254505 | **NW-4 (TR)** | Water | 01/25/2013 11:15 | 01/25/2013 16:55 |

## SM 2510 B Conductivity

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 13:30 | JEM | 499739 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **C-011** | **Specific Conductance** | **137** | **10** | | **umhos/cm** |

## SM 4500S H Hydrogen Sulfide

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 13:44 | BMC | 499779 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 7783-06-4 | Hydrogen Sulfide, Unionized | ND | 2.00 | | mg S/L |
| **C-011** | **Specific Conductance** | **137** | **10** | | **umhos/cm** |
| 18496-25-8 | Sulfide | ND | 2.00 | | mg/L |
| **Temp** | **Temperature** | **21.0** | | | **Deg C** |
| **pH** | **pH** | **7.07** | **1.00** | | **pH unit** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 5 | 01/30/2013 14:32 | AEL | 499782 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **16887-00-6** | **Chloride** | **6.56** | **0.500** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254506 | **W-2 (TR)** | Water | 01/25/2013 11:25 | 01/25/2013 16:55 |

## SW-846 8260B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 22:23 | CEK | 499833 |

| 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 | .05 | mg/L | 99 | 77 - 127 |
| 2037-26-5 | Toluene d8 | .05 | .051 | mg/L | 103 | 76 - 134 |
| 17060-07-0 | 1,2-Dichloroethane-d4 | .05 | .049 | mg/L | 98 | 71 - 127 |

## TX1006/LA 1006

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/30/2013 13:00 | 499644 | TX 1006/LA 1006 | 1 | 01/31/2013 16:53 | SMH | 500067 |

| 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 | 12.1 | mg/L | 76 | 60 - 140 |

## SM 2540C TDS

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 17:25 | DJH | 499758 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **WET-035** | **Total Dissolved Solids(TDS)** | **103** | **10.0** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254506 | **W-2 (TR)** | Water | 01/25/2013 11:25 | 01/25/2013 16:55 |

## SM 2510 B Conductivity

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 13:30 | JEM | 499739 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **C-011** | **Specific Conductance** | **146** | **10** | | **umhos/cm** |

## SM 4500S H Hydrogen Sulfide

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 13:44 | BMC | 499779 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 7783-06-4 | Hydrogen Sulfide, Unionized | ND | 2.00 | | mg S/L |
| **C-011** | **Specific Conductance** | **146** | **10** | | **umhos/cm** |
| 18496-25-8 | Sulfide | ND | 2.00 | | mg/L |
| **Temp** | **Temperature** | **21.0** | | | **Deg C** |
| **pH** | **pH** | **6.93** | **1.00** | | **pH unit** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 5 | 01/30/2013 14:50 | AEL | 499782 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **16887-00-6** | **Chloride** | **11.7** | **0.500** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254507 | **W-3 (TR)** | Water | 01/25/2013 11:35 | 01/25/2013 16:55 |

## SW-846 8260B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 00:36 | CLH | 499769 |

| 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 | .059 | mg/L | 118 | 78 - 130 |
| 1868-53-7 | Dibromofluoromethane | .05 | .052 | mg/L | 103 | 77 - 127 |
| 2037-26-5 | Toluene d8 | .05 | .068 | mg/L | **136*** | 76 - 134 |
| 17060-07-0 | 1,2-Dichloroethane-d4 | .05 | .052 | mg/L | 103 | 71 - 127 |

## TX1006/LA 1006

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/30/2013 13:00 | 499644 | TX 1006/LA 1006 | 1 | 01/31/2013 17:25 | SMH | 500067 |

| 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 | 13 | mg/L | 82 | 60 - 140 |

## SM 2540C TDS

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 14:00 | DJH | 499803 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **WET-035** | **Total Dissolved Solids(TDS)** | **79.0** | **10.0** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254507 | **W-3 (TR)** | Water | 01/25/2013 11:35 | 01/25/2013 16:55 |

## SM 2510 B Conductivity

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 13:30 | JEM | 499739 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **C-011** | **Specific Conductance** | **137** | **10** | | **umhos/cm** |

## SM 4500S H Hydrogen Sulfide

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 13:44 | BMC | 499779 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 7783-06-4 | Hydrogen Sulfide, Unionized | ND | 2.00 | | mg S/L |
| **C-011** | **Specific Conductance** | **137** | **10** | | **umhos/cm** |
| 18496-25-8 | Sulfide | ND | 2.00 | | mg/L |
| **Temp** | **Temperature** | **21.0** | | | **Deg C** |
| **pH** | **pH** | **6.98** | **1.00** | | **pH unit** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 5 | 01/30/2013 15:25 | AEL | 499782 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **16887-00-6** | **Chloride** | **7.17** | **0.500** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254508 | **W-4 (TR)** | Water | 01/25/2013 11:45 | 01/25/2013 16:55 |

## SW-846 8260B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 00:56 | CLH | 499769 |

| 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 | 104 | 77 - 127 |
| 2037-26-5 | Toluene d8 | .05 | .057 | mg/L | 113 | 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 |
|---|---|---|---|---|---|---|
| 01/30/2013 13:00 | 499644 | TX 1006/LA 1006 | 1 | 01/31/2013 18:57 | SMH | 500067 |

| 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 | 15.8 | 16.9 | mg/L | 107 | 60 - 140 |

## SM 2540C TDS

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 14:00 | DJH | 499803 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **WET-035** | **Total Dissolved Solids(TDS)** | **94.0** | **10.0** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254508 | **W-4 (TR)** | Water | 01/25/2013 11:45 | 01/25/2013 16:55 |

## SM 2510 B Conductivity

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 13:30 | JEM | 499739 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **C-011** | **Specific Conductance** | **137** | **10** | | **umhos/cm** |

## SM 4500S H Hydrogen Sulfide

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 13:44 | BMC | 499779 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 7783-06-4 | Hydrogen Sulfide, Unionized | ND | 2.00 | | mg S/L |
| **C-011** | **Specific Conductance** | **137** | **10** | | **umhos/cm** |
| 18496-25-8 | Sulfide | ND | 2.00 | | mg/L |
| **Temp** | **Temperature** | **21.0** | | | **Deg C** |
| **pH** | **pH** | **6.97** | **1.00** | | **pH unit** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 5 | 01/30/2013 15:43 | AEL | 499782 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **16887-00-6** | **Chloride** | **6.84** | **0.500** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254509 | **SW-3 (TR)** | Water | 01/25/2013 11:55 | 01/25/2013 16:55 |

## SW-846 8260B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 01:16 | CLH | 499769 |

| 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 | .051 | mg/L | 103 | 77 - 127 |
| 2037-26-5 | Toluene d8 | .05 | .059 | mg/L | 117 | 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 |
|---|---|---|---|---|---|---|
| 01/30/2013 13:00 | 499644 | TX 1006/LA 1006 | 1 | 01/31/2013 19:28 | SMH | 500067 |

| 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 | 16.1 | 15 | mg/L | 93 | 60 - 140 |

## SM 2540C TDS

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 14:00 | DJH | 499803 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **WET-035** | **Total Dissolved Solids(TDS)** | **105** | **10.0** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254509 | **SW-3 (TR)** | Water | 01/25/2013 11:55 | 01/25/2013 16:55 |

## SM 2510 B Conductivity

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 13:30 | JEM | 499739 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **C-011** | **Specific Conductance** | **156** | **10** | | **umhos/cm** |

## SM 4500S H Hydrogen Sulfide

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 13:44 | BMC | 499779 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 7783-06-4 | Hydrogen Sulfide, Unionized | ND | 2.00 | | mg S/L |
| **C-011** | **Specific Conductance** | **156** | **10** | | **umhos/cm** |
| 18496-25-8 | Sulfide | ND | 2.00 | | mg/L |
| **Temp** | **Temperature** | **21.0** | | | **Deg C** |
| **pH** | **pH** | **6.92** | **1.00** | | **pH unit** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 10 | 01/30/2013 16:00 | AEL | 499782 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **16887-00-6** | **Chloride** | **21.1** | **1.00** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254510 | **SW-4 (TR)** | Water | 01/25/2013 12:05 | 01/25/2013 16:55 |

## SW-846 8260B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 01:36 | CLH | 499769 |

| 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 | .051 | mg/L | 102 | 77 - 127 |
| 2037-26-5 | Toluene d8 | .05 | .056 | mg/L | 112 | 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 |
|---|---|---|---|---|---|---|
| 01/30/2013 13:00 | 499644 | TX 1006/LA 1006 | 1 | 01/31/2013 19:58 | SMH | 500067 |

| 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 | 11.9 | mg/L | 75 | 60 - 140 |

## SM 2540C TDS

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 14:00 | DJH | 499803 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **WET-035** | **Total Dissolved Solids(TDS)** | **119** | **10.0** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254510 | **SW-4 (TR)** | Water | 01/25/2013 12:05 | 01/25/2013 16:55 |

## SM 2510 B Conductivity

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 13:30 | JEM | 499739 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **C-011** | **Specific Conductance** | **252** | **10** | | **umhos/cm** |

## SM 4500S H Hydrogen Sulfide

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 13:44 | BMC | 499779 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 7783-06-4 | Hydrogen Sulfide, Unionized | ND | 2.00 | | mg S/L |
| **C-011** | **Specific Conductance** | **252** | **10** | | **umhos/cm** |
| 18496-25-8 | Sulfide | ND | 2.00 | | mg/L |
| **Temp** | **Temperature** | **21.0** | | | **Deg C** |
| **pH** | **pH** | **7.36** | **1.00** | | **pH unit** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 10 | 01/30/2013 16:53 | AEL | 499782 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **16887-00-6** | **Chloride** | **28.2** | **1.00** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254511 | **S4 (TR)** | Water | 01/25/2013 12:15 | 01/25/2013 16:55 |

## SW-846 8260B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 22:43 | CEK | 499833 |

| 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 | .049 | mg/L | 99 | 77 - 127 |
| 2037-26-5 | Toluene d8 | .05 | .051 | mg/L | 102 | 76 - 134 |
| 17060-07-0 | 1,2-Dichloroethane-d4 | .05 | .049 | mg/L | 98 | 71 - 127 |

## TX1006/LA 1006

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/30/2013 13:00 | 499644 | TX 1006/LA 1006 | 1 | 01/31/2013 20:28 | SMH | 500067 |

| 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 | 16.1 | 14.7 | mg/L | 91 | 60 - 140 |

## SM 2540C TDS

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 14:00 | DJH | 499803 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **WET-035** | **Total Dissolved Solids(TDS)** | **119** | **10.0** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254511 | **S4 (TR)** | Water | 01/25/2013 12:15 | 01/25/2013 16:55 |

## SM 2510 B Conductivity

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 13:30 | JEM | 499739 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **C-011** | **Specific Conductance** | **190** | **10** | | **umhos/cm** |

## SM 4500S H Hydrogen Sulfide

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 13:44 | BMC | 499779 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 7783-06-4 | Hydrogen Sulfide, Unionized | ND | 2.00 | | mg S/L |
| **C-011** | **Specific Conductance** | **190** | **10** | | **umhos/cm** |
| 18496-25-8 | Sulfide | ND | 2.00 | | mg/L |
| **Temp** | **Temperature** | **21.0** | | | **Deg C** |
| **pH** | **pH** | **7.06** | **1.00** | | **pH unit** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 10 | 01/30/2013 17:11 | AEL | 499782 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **16887-00-6** | **Chloride** | **26.1** | **1.00** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254512 | **BG-1** | Water | 01/25/2013 12:30 | 01/25/2013 16:55 |

## SW-846 8260B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 23:02 | CEK | 499833 |

| 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 | .05 | mg/L | 99 | 77 - 127 |
| 2037-26-5 | Toluene d8 | .05 | .051 | mg/L | 102 | 76 - 134 |
| 17060-07-0 | 1,2-Dichloroethane-d4 | .05 | .05 | mg/L | 99 | 71 - 127 |

## TX1006/LA 1006

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/30/2013 13:00 | 499644 | TX 1006/LA 1006 | 1 | 01/31/2013 20:58 | SMH | 500067 |

| 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 | 15.8 | 14.3 | mg/L | 91 | 60 - 140 |

## SM 2540C TDS

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 14:00 | DJH | 499803 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **WET-035** | **Total Dissolved Solids(TDS)** | **111** | **10.0** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254512 | **BG-1** | Water | 01/25/2013 12:30 | 01/25/2013 16:55 |

## SM 2510 B Conductivity

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 13:30 | JEM | 499739 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **C-011** | **Specific Conductance** | **179** | **10** | | **umhos/cm** |

## SM 4500S H Hydrogen Sulfide

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 13:44 | BMC | 499779 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 7783-06-4 | Hydrogen Sulfide, Unionized | ND | 2.00 | | mg S/L |
| **C-011** | **Specific Conductance** | **179** | **10** | | **umhos/cm** |
| 18496-25-8 | Sulfide | ND | 2.00 | | mg/L |
| **Temp** | **Temperature** | **21.0** | | | **Deg C** |
| **pH** | **pH** | **7.05** | **1.00** | | **pH unit** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 10 | 01/30/2013 17:29 | AEL | 499782 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **16887-00-6** | **Chloride** | **19.0** | **1.00** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254513 | **BG-2** | Water | 01/25/2013 12:40 | 01/25/2013 16:55 |

## SW-846 8260B

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 23:22 | CEK | 499833 |

| 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 | .05 | mg/L | 99 | 77 - 127 |
| 2037-26-5 | Toluene d8 | .05 | .052 | mg/L | 103 | 76 - 134 |
| 17060-07-0 | 1,2-Dichloroethane-d4 | .05 | .05 | mg/L | 99 | 71 - 127 |

## TX1006/LA 1006

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| 01/30/2013 13:00 | 499644 | TX 1006/LA 1006 | 1 | 01/31/2013 21:28 | SMH | 500067 |

| 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 | 15.9 | mg/L | 100 | 60 - 140 |

## SM 2540C TDS

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 14:00 | DJH | 499803 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **WET-035** | **Total Dissolved Solids(TDS)** | **121** | **10.0** | | **mg/L** |

| GCAL ID | Client ID | Matrix | Collect Date/Time | Receive Date/Time |
|---|---|---|---|---|
| 21301254513 | **BG-2** | Water | 01/25/2013 12:40 | 01/25/2013 16:55 |

## SM 2510 B Conductivity

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/28/2013 13:30 | JEM | 499739 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **C-011** | **Specific Conductance** | **206** | **10** | | **umhos/cm** |

## SM 4500S H Hydrogen Sulfide

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 1 | 01/29/2013 13:44 | BMC | 499779 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| 7783-06-4 | Hydrogen Sulfide, Unionized | ND | 2.00 | | mg S/L |
| **C-011** | **Specific Conductance** | **206** | **10** | | **umhos/cm** |
| 18496-25-8 | Sulfide | ND | 2.00 | | mg/L |
| **Temp** | **Temperature** | **21.0** | | | **Deg C** |
| **pH** | **pH** | **7.00** | **1.00** | | **pH unit** |

## SW-846 9056A

| Prep Date | Prep Batch | Prep Method | Dilution | Analyzed | By | Analytical Batch |
|---|---|---|---|---|---|---|
| | | | 10 | 01/30/2013 18:21 | AEL | 499782 |

| CAS# | Parameter | Result | RDL | REG LIMIT | Units |
|---|---|---|---|---|---|
| **16887-00-6** | **Chloride** | **25.3** | **1.00** | | **mg/L** |

# GC/MS Volatiles Quality Control Summary

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Analytical Batch** 499769 | | **Client ID** | MB499769 | | | LCS499769 | | | LCSD499769 | | |
| **Prep Batch** N/A | | **GCAL ID** | 1154246 | | | 1154247 | | | 1154248 | | |
| | | **Sample Type** | Method Blank | | | LCS | | | LCSD | | |
| | | **Analytical Date** | 01/28/2013 21:54 | | | 01/28/2013 21:14 | | | 01/28/2013 21:34 | | |
| | | **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 | 0.067 | **134*** | 74 - 126 | 0.047 | 95 | **35*** | 30 |
| 1330-20-7 | Xylene (total) | ND | 0.015 | 0.150 | 0.179 | 119 | 74 - 127 | 0.118 | 79 | **41*** | 30 |
| 75-35-4 | 1,1-Dichloroethene | ND | 0.00500 | 0.050 | 0.056 | 113 | 69 - 129 | 0.042 | 84 | **29*** | 20 |
| 71-43-2 | Benzene | ND | 0.00500 | 0.050 | 0.050 | 100 | 70 - 129 | 0.047 | 94 | 6 | 20 |
| 79-01-6 | Trichloroethene | ND | 0.00500 | 0.050 | 0.049 | 98 | 76 - 129 | 0.044 | 88 | 11 | 20 |
| 108-88-3 | Toluene | ND | 0.00500 | 0.050 | 0.052 | 105 | 72 - 120 | 0.039 | 77 | **29*** | 20 |
| 108-90-7 | Chlorobenzene | ND | 0.00500 | 0.050 | 0.060 | 119 | 74 - 123 | 0.047 | 93 | **24*** | 20 |
| **Surrogate** | | | | | | | | | | | |
| 460-00-4 | 4-Bromofluorobenzene | 48 | 96 | 50 | 62.3 | 125 | 78 - 130 | 51.1 | 102 | | |
| 1868-53-7 | Dibromofluoromethane | 50.2 | 100 | 50 | 53.2 | 106 | 77 - 127 | 45.1 | 90 | | |
| 2037-26-5 | Toluene d8 | 57.3 | 115 | 50 | 53.9 | 108 | 76 - 134 | 43.8 | 88 | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 51.5 | 103 | 50 | 49.9 | 100 | 71 - 127 | 49.3 | 99 | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Analytical Batch** 499833 | | **Client ID** | MB499833 | | | LCS499833 | | | LCSD499833 | | |
| **Prep Batch** N/A | | **GCAL ID** | 1154534 | | | 1154535 | | | 1154536 | | |
| | | **Sample Type** | Method Blank | | | LCS | | | LCSD | | |
| | | **Analytical Date** | 01/29/2013 22:03 | | | 01/29/2013 21:01 | | | 01/29/2013 21:21 | | |
| | | **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 | 0.056 | 113 | 74 - 126 | 0.055 | 110 | 2 | 30 |
| 1330-20-7 | Xylene (total) | ND | 0.015 | 0.150 | 0.171 | 114 | 74 - 127 | 0.169 | 113 | 1 | 30 |
| 75-35-4 | 1,1-Dichloroethene | ND | 0.00500 | 0.050 | 0.054 | 108 | 69 - 129 | 0.053 | 106 | 2 | 20 |
| 71-43-2 | Benzene | ND | 0.00500 | 0.050 | 0.053 | 106 | 70 - 129 | 0.052 | 105 | 2 | 20 |
| 79-01-6 | Trichloroethene | ND | 0.00500 | 0.050 | 0.056 | 111 | 76 - 129 | 0.054 | 109 | 4 | 20 |
| 108-88-3 | Toluene | ND | 0.00500 | 0.050 | 0.052 | 104 | 72 - 120 | 0.053 | 105 | 2 | 20 |
| 108-90-7 | Chlorobenzene | ND | 0.00500 | 0.050 | 0.052 | 103 | 74 - 123 | 0.052 | 103 | 0 | 20 |
| **Surrogate** | | | | | | | | | | | |
| 460-00-4 | 4-Bromofluorobenzene | 49.3 | 99 | 50 | 51.5 | 103 | 78 - 130 | 51.6 | 103 | | |
| 1868-53-7 | Dibromofluoromethane | 48.4 | 97 | 50 | 50.1 | 100 | 77 - 127 | 50.4 | 101 | | |
| 2037-26-5 | Toluene d8 | 51 | 102 | 50 | 49.7 | 99 | 76 - 134 | 49.9 | 100 | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 48.1 | 96 | 50 | 49.5 | 99 | 71 - 127 | 50.1 | 100 | | |

# GC/MS Volatiles Quality Control Summary

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Analytical Batch** | 499833 | **Client ID** | ROLL-OFF DUMPSTER | | | 1153333MS | | | 1153333MSD | | |
| **Prep Batch** | N/A | **GCAL ID** | 21301251701 | | | 1154537 | | | 1154538 | | |
| | | **Sample Type** | SAMPLE | | | MS | | | MSD | | |
| | | **Analytical Date** | 01/30/2013 00:05 | | | 01/30/2013 00:24 | | | 01/30/2013 00:44 | | |
| | | **Matrix** | Solid | | | Solid | | | Solid | | |
| **SW-846 8260B** | | **Units** | **Result** | mg/L **RDL** | **Spike Added** | **Result** | **% R** | **Control Limits % R** | **Result** | **% R** | **RPD** | **RPD Limit** |
| 75-35-4 | 1,1-Dichloroethene | | 0.00 | 0.200 | 2.00 | 2.16 | 108 | 68 - 129 | 2.19 | 110 | 1 | 22 |
| 71-43-2 | Benzene | | 0.00 | 0.200 | 2.00 | 2.10 | 105 | 73 - 128 | 2.14 | 107 | 2 | 21 |
| 79-01-6 | Trichloroethene | | 0.00 | 0.200 | 2.00 | 2.16 | 108 | 78 - 127 | 2.18 | 109 | 0.9 | 24 |
| 108-90-7 | Chlorobenzene | | 0.00 | 0.200 | 2.00 | 2.04 | 102 | 75 - 121 | 2.09 | 105 | 2 | 21 |
| **Surrogate** | | | | | | | | | | | | |
| 460-00-4 | 4-Bromofluorobenzene | | | | 2000 | 2050 | 103 | 62 - 127 | 2080 | 104 | | |
| 1868-53-7 | Dibromofluoromethane | | | | 2000 | 2020 | 101 | 65 - 130 | 1960 | 98 | | |
| 2037-26-5 | Toluene d8 | | | | 2000 | 2010 | 101 | 71 - 132 | 2010 | 101 | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | | | | 2000 | 1940 | 97 | 62 - 125 | 1900 | 95 | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Analytical Batch** | 499833 | **Client ID** | TANK 2 | | | 1153334MS | | |
| **Prep Batch** | N/A | **GCAL ID** | 21301251702 | | | 1154539 | | |
| | | **Sample Type** | SAMPLE | | | MS | | |
| | | **Analytical Date** | 01/30/2013 03:06 | | | 01/30/2013 01:04 | | |
| | | **Matrix** | Water | | | Water | | |
| **SW-846 8260B** | | **Units** | **Result** | mg/L **RDL** | **Spike Added** | **Result** | **% R** | **Control Limits % R** |
| 75-35-4 | 1,1-Dichloroethene | | 0.00 | 0.200 | 2.00 | 2.20 | 110 | 69 - 129 |
| 71-43-2 | Benzene | | 0.00 | 0.200 | 2.00 | 2.14 | 107 | 70 - 129 |
| 79-01-6 | Trichloroethene | | 0.00 | 0.200 | 2.00 | 2.23 | 112 | 76 - 129 |
| 108-90-7 | Chlorobenzene | | 0.00 | 0.200 | 2.00 | 2.08 | 104 | 74 - 123 |
| **Surrogate** | | | | | | | | |
| 460-00-4 | 4-Bromofluorobenzene | | | | 2000 | 2110 | 106 | 78 - 130 |
| 1868-53-7 | Dibromofluoromethane | | | | 2000 | 2000 | 100 | 77 - 127 |
| 2037-26-5 | Toluene d8 | | | | 2000 | 2020 | 101 | 76 - 134 |
| 17060-07-0 | 1,2-Dichloroethane-d4 | | | | 2000 | 1910 | 96 | 71 - 127 |

# GC/MS Volatiles Quality Control Summary

| | | | | |
|---|---|---|---|---|
| **Analytical Batch** 499833 | **Client ID** | SLUDGE FROM WV-302 SAMPLE #28 | | 1153135MS |
| **Prep Batch** N/A | **GCAL ID** | 21301244201 | | 1154546 |
| | **Sample Type** | SAMPLE | | MS |
| | **Analytical Date** | 01/30/2013 03:26 | | 01/30/2013 02:04 |
| | **Matrix** | Solid | | Solid |

| **SW-846 8260B** | | **Units** | mg/L | **Spike** | **Result** | | **Control** |
|---|---|---|---|---|---|---|---|
| | | **Result** | **RDL** | **Added** | | **% R** | **Limits % R** |
| 75-35-4 | 1,1-Dichloroethene | 0.00 | 0.500 | 5.00 | 5.61 | 112 | 68 - 129 |
| 71-43-2 | Benzene | 0.321 | 0.500 | 5.00 | 5.56 | 105 | 73 - 128 |
| 79-01-6 | Trichloroethene | 0.00 | 0.500 | 5.00 | 5.67 | 113 | 78 - 127 |
| 108-90-7 | Chlorobenzene | 0.294 | 0.500 | 5.00 | 5.31 | 100 | 75 - 121 |
| **Surrogate** | | | | | | | |
| 460-00-4 | 4-Bromofluorobenzene | | | 5000 | 5120 | 102 | 62 - 127 |
| 1868-53-7 | Dibromofluoromethane | | | 5000 | 4990 | 100 | 65 - 130 |
| 2037-26-5 | Toluene d8 | | | 5000 | 4920 | 98 | 71 - 132 |
| 17060-07-0 | 1,2-Dichloroethane-d4 | | | 5000 | 4750 | 95 | 62 - 125 |

| | | | | |
|---|---|---|---|---|
| **Analytical Batch** 499833 | **Client ID** | 5F-693 (TCLP) | | 1153276MS |
| **Prep Batch** N/A | **GCAL ID** | 21301251301 | | 1154638 |
| | **Sample Type** | SAMPLE | | MS |
| | **Analytical Date** | 01/30/2013 04:45 | | 01/30/2013 01:24 |
| | **Matrix** | Solid | | Solid |

| **SW-846 8260B** | | **Units** | mg/L | **Spike** | **Result** | | **Control** |
|---|---|---|---|---|---|---|---|
| | | **Result** | **RDL** | **Added** | | **% R** | **Limits % R** |
| 75-35-4 | 1,1-Dichloroethene | 0.00 | 0.200 | 2.00 | 2.13 | 107 | 68 - 129 |
| 71-43-2 | Benzene | 0.00 | 0.200 | 2.00 | 2.09 | 105 | 73 - 128 |
| 79-01-6 | Trichloroethene | 0.00 | 0.200 | 2.00 | 2.15 | 108 | 78 - 127 |
| 108-90-7 | Chlorobenzene | 0.00 | 0.200 | 2.00 | 2.04 | 102 | 75 - 121 |
| **Surrogate** | | | | | | | |
| 460-00-4 | 4-Bromofluorobenzene | | | 2000 | 2050 | 103 | 62 - 127 |
| 1868-53-7 | Dibromofluoromethane | | | 2000 | 1990 | 100 | 65 - 130 |
| 2037-26-5 | Toluene d8 | | | 2000 | 2010 | 101 | 71 - 132 |
| 17060-07-0 | 1,2-Dichloroethane-d4 | | | 2000 | 1910 | 96 | 62 - 125 |

# GC/MS Volatiles Quality Control Summary

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Analytical Batch** | 499833 | **Client ID** | 5F-669 (TCLP) | | 1153278MS | | |
| **Prep Batch** | N/A | **GCAL ID** | 21301251303 | | 1154639 | | |
| | | **Sample Type** | SAMPLE | | MS | | |
| | | **Analytical Date** | 01/30/2013 05:05 | | 01/30/2013 01:44 | | |
| | | **Matrix** | Solid | | Solid | | |

| **SW-846 8260B** | | **Units** | mg/L | **Spike** | **Result** | | **Control** |
|---|---|---|---|---|---|---|---|
| | | **Result** | **RDL** | **Added** | | **% R** | **Limits % R** |
| 75-35-4 | 1,1-Dichloroethene | 0.00 | 0.200 | 2.00 | 2.21 | 111 | 68 - 129 |
| 71-43-2 | Benzene | 0.151 | 0.200 | 2.00 | 2.26 | 105 | 73 - 128 |
| 79-01-6 | Trichloroethene | 0.00 | 0.200 | 2.00 | 2.17 | 109 | 78 - 127 |
| 108-90-7 | Chlorobenzene | 0.00 | 0.200 | 2.00 | 2.09 | 105 | 75 - 121 |
| **Surrogate** | | | | | | | |
| 460-00-4 | 4-Bromofluorobenzene | | | 2000 | 2080 | 104 | 62 - 127 |
| 1868-53-7 | Dibromofluoromethane | | | 2000 | 2000 | 100 | 65 - 130 |
| 2037-26-5 | Toluene d8 | | | 2000 | 1990 | 100 | 71 - 132 |
| 17060-07-0 | 1,2-Dichloroethane-d4 | | | 2000 | 1870 | 94 | 62 - 125 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Analytical Batch** | 500121 | **Client ID** | MB500121 | LCS500121 | | LCSD500121 | | |
| **Prep Batch** | N/A | **GCAL ID** | 1156048 | 1156049 | | 1156050 | | |
| | | **Sample Type** | Method Blank | LCS | | LCSD | | |
| | | **Analytical Date** | 02/01/2013 20:38 | 02/01/2013 19:09 | | 02/01/2013 19:28 | | |
| | | **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 | 0.053 | 107 | 74 - 126 | 0.052 | 103 | 2 | 30 |
| 1330-20-7 | Xylene (total) | ND | 0.015 | 0.150 | 0.159 | 106 | 74 - 127 | 0.155 | 103 | 3 | 30 |
| 75-35-4 | 1,1-Dichloroethene | ND | 0.00500 | 0.050 | 0.056 | 112 | 69 - 129 | 0.054 | 107 | 4 | 20 |
| 71-43-2 | Benzene | ND | 0.00500 | 0.050 | 0.054 | 107 | 70 - 129 | 0.051 | 103 | 6 | 20 |
| 79-01-6 | Trichloroethene | ND | 0.00500 | 0.050 | 0.055 | 110 | 76 - 129 | 0.053 | 106 | 4 | 20 |
| 108-88-3 | Toluene | ND | 0.00500 | 0.050 | 0.049 | 98 | 72 - 120 | 0.048 | 95 | 2 | 20 |
| 108-90-7 | Chlorobenzene | ND | 0.00500 | 0.050 | 0.048 | 95 | 74 - 123 | 0.047 | 93 | 2 | 20 |
| **Surrogate** | | | | | | | | | | | |
| 460-00-4 | 4-Bromofluorobenzene | 48.4 | 97 | 50 | 49.6 | 99 | 78 - 130 | 50.6 | 101 | | |
| 1868-53-7 | Dibromofluoromethane | 49.2 | 98 | 50 | 50.4 | 101 | 77 - 127 | 49.6 | 99 | | |
| 2037-26-5 | Toluene d8 | 49.5 | 99 | 50 | 48 | 96 | 76 - 134 | 48.3 | 97 | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 48.4 | 97 | 50 | 50.3 | 101 | 71 - 127 | 48.7 | 97 | | |

# General Chromatography Quality Control Summary

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Analytical Batch** | 500067 | **Client ID** | MB499644 | | | LCS499644 | | | LCSD499644 | | | |
| **Prep Batch** | 499644 | **GCAL ID** | 1153724 | | | 1153725 | | | 1153726 | | | |
| **Prep Method** | TX 1006/LA 1006 | **Sample Type** | Method Blank | | | LCS | | | LCSD | | | |
| | | **Prep Date** | 01/30/2013 13:00 | | | 01/30/2013 13:00 | | | 01/30/2013 13:00 | | | |
| | | **Analytical Date** | 01/31/2013 12:40 | | | 01/31/2013 13:11 | | | 01/31/2013 13:43 | | | |
| | | **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 | 62.1 | 50.5 | 81 | 60 - 140 | 54.6 | 88 | 8 | 20 |
| **Surrogate** | | | | | | | | | | | | |
| 84-15-1 | o-Terphenyl | | 17500 | 114 | 15500 | 16100 | 104 | 60 - 140 | 14700 | 95 | | |

# General Chemistry Quality Control Summary

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Analytical Batch** 499726 | **Client ID** | MB499726 | | | LCS499726 | | |
| **Prep Batch** N/A | **GCAL ID** | 1154022 | | | 1154023 | | |
| | **Sample Type** | Method Blank | | | LCS | | |
| | **Analytical Date** | 01/28/2013 13:55 | | | 01/28/2013 13:55 | | |
| | **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 | 955 | 95.5 | 80 - 120 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Analytical Batch** 499726 | **Client ID** | OXY #1 | | 1153755DUP | | |
| **Prep Batch** N/A | **GCAL ID** | 21301260401 | | 1154024 | | |
| | **Sample Type** | SAMPLE | | DUP | | |
| | **Analytical Date** | 01/28/2013 13:55 | | 01/28/2013 13:55 | | |
| | **Matrix** | Water | | Water | | |
| **SM 2540C TDS** | | **Units** | mg/L | **Result** | | **RPD** |
| | | **Result** | **RDL** | | **RPD** | **Limit** |
| WET-035 | Total Dissolved Solids(TDS) | 5490 | 10.0 | 5360 | 2.4 | 5 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Analytical Batch** 499758 | **Client ID** | MB499758 | | | LCS499758 | | |
| **Prep Batch** N/A | **GCAL ID** | 1154206 | | | 1154207 | | |
| | **Sample Type** | Method Blank | | | LCS | | |
| | **Analytical Date** | 01/28/2013 17:25 | | | 01/28/2013 17:25 | | |
| | **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 | 998 | 99.8 | 80 - 120 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Analytical Batch** 499758 | **Client ID** | DEEPWELL SAMPLING | | 1154181DUP | | |
| **Prep Batch** N/A | **GCAL ID** | 21301283001 | | 1154208 | | |
| | **Sample Type** | SAMPLE | | DUP | | |
| | **Analytical Date** | 01/28/2013 17:25 | | 01/28/2013 17:25 | | |
| | **Matrix** | Water | | Water | | |
| **SM 2540C TDS** | | **Units** | mg/L | **Result** | | **RPD** |
| | | **Result** | **RDL** | | **RPD** | **Limit** |
| WET-035 | Total Dissolved Solids(TDS) | 10500 | 10.0 | 10000 | 4.9 | 5 |

# General Chemistry Quality Control Summary

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Analytical Batch** 499803 | **Client ID** | MB499803 | | | LCS499803 | | |
| **Prep Batch** N/A | **GCAL ID** | 1154370 | | | 1154371 | | |
| | **Sample Type** | Method Blank | | | LCS | | |
| | **Analytical Date** | 01/29/2013 14:00 | | | 01/29/2013 14:00 | | |
| | **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 | 919 | 91.9 | 80 - 120 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Analytical Batch** 499803 | **Client ID** | W-3 (TR) | | 1153640DUP | | |
| **Prep Batch** N/A | **GCAL ID** | 21301254507 | | 1154372 | | |
| | **Sample Type** | SAMPLE | | DUP | | |
| | **Analytical Date** | 01/29/2013 14:00 | | 01/29/2013 14:00 | | |
| | **Matrix** | Water | | Water | | |
| **SM 2540C TDS** | | **Units** | mg/L | **Result** | | **RPD** |
| | | **Result** | **RDL** | | **RPD** | **Limit** |
| WET-035 | Total Dissolved Solids(TDS) | 79.0 | 10.0 | 82.0 | 3.7 | 5 |

# General Chemistry Quality Control Summary

| | | | | | | |
|---|---|---|---|---|---|---|
| **Analytical Batch** 499739 | **Client ID** | E-3 (TR) | | 1153634DUP | | |
| **Prep Batch** N/A | **GCAL ID** | 21301254501 | | 1154101 | | |
| | **Sample Type** | SAMPLE | | DUP | | |
| | **Analytical Date** | 01/28/2013 13:30 | | 01/28/2013 13:30 | | |
| | **Matrix** | Water | | Water | | |
| **SM 2510 B Conductivity** | | **Units** | umhos/cm | **Result** | | **RPD** |
| | | **Result** | **RDL** | | **RPD** | **Limit** |
| C-011 | Specific Conductance | 1241 | 10 | 1240 | 0.08 | 10 |

# General Chemistry Quality Control Summary

| | | | | |
|---|---|---|---|---|
| **Analytical Batch** 499779 | **Client ID** | 007-095-012513 | 1153631DUP | |
| **Prep Batch** N/A | **GCAL ID** | 21301254301 | 1154265 | |
| | **Sample Type** | SAMPLE | DUP | |
| | **Analytical Date** | 01/29/2013 13:44 | 01/29/2013 13:44 | |
| | **Matrix** | Water | Water | |

| **SM 4500S H Hydrogen Sulfide** | | **Units** | pH unit | **Result** | | **RPD** |
|---|---|---|---|---|---|---|
| | | **Result** | **RDL** | | **RPD** | **Limit** |
| pH | pH | 7.45 | 1.00 | 7.46 | 0.1 | 6 |
| 18496-25-8 | Sulfide | 0.000 | 2.00 | 0.000 | 0 | 25 |
| C-011 | Specific Conductance | 8400 | 10 | 8400 | 0 | 25 |
| Temp | Temperature | 21.0 | | 21.0 | 0.00 | |
| 7783-06-4 | Hydrogen Sulfide, Unionized | 0.000 | 2.00 | 0.000 | 0 | 25 |

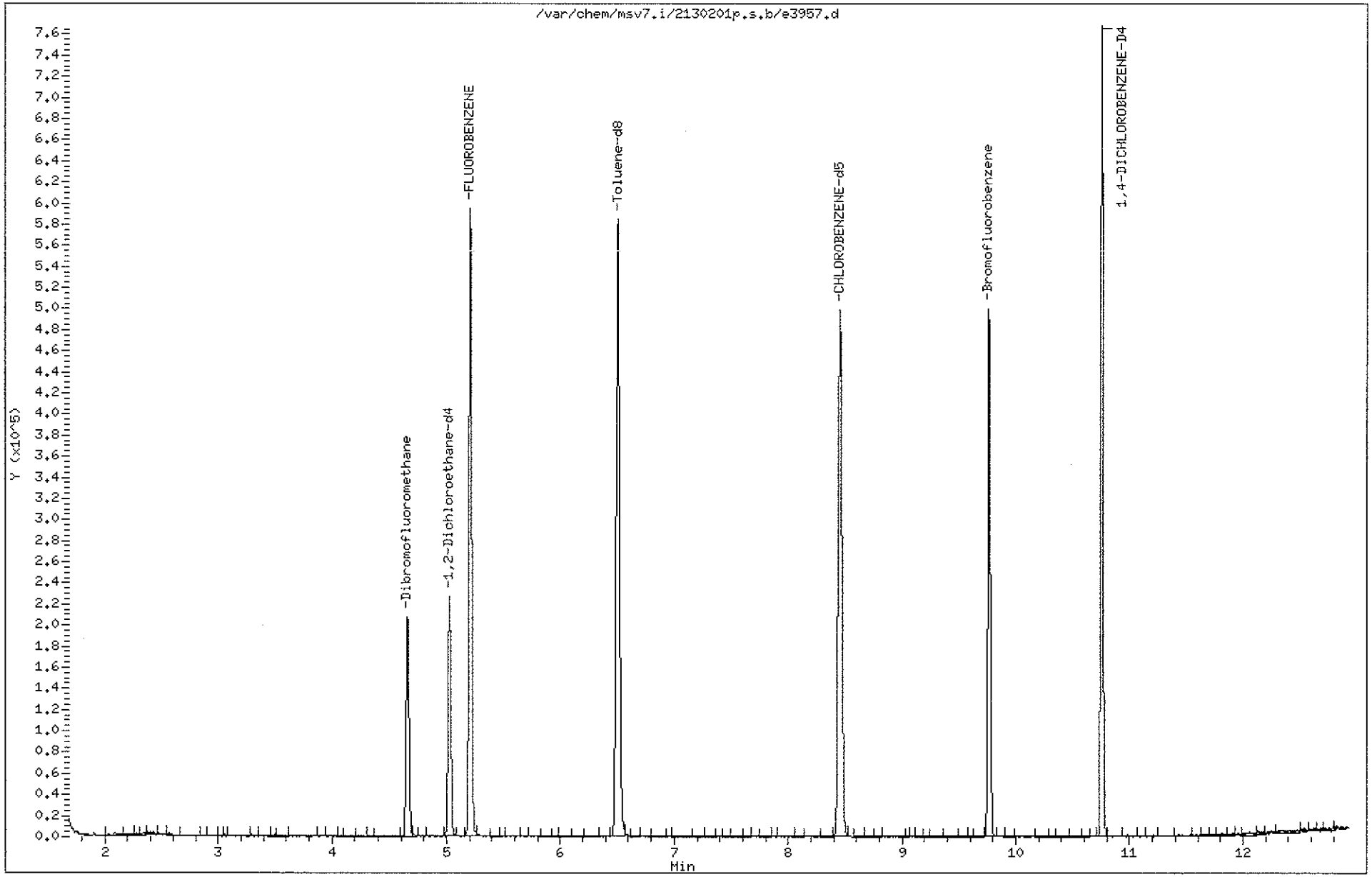
# General Chemistry Quality Control Summary

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Analytical Batch** 499782 | **Client ID** | MB499782 | | | LCS499782 | | |
| **Prep Batch** N/A | **GCAL ID** | 1154283 | | | 1154284 | | |
| | **Sample Type** | Method Blank | | | LCS | | |
| | **Analytical Date** | 01/30/2013 09:51 | | | 01/30/2013 10:08 | | |
| | **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 | 2.55 | 102 | 80 - 120 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Analytical Batch** 499782 | **Client ID** | BG-1 | | | 1153645MS | | | 1153645MSD | | | |
| **Prep Batch** N/A | **GCAL ID** | 21301254512 | | | 1154287 | | | 1154288 | | | |
| | **Sample Type** | SAMPLE | | | MS | | | MSD | | | |
| | **Analytical Date** | 01/30/2013 17:29 | | | 01/30/2013 17:46 | | | 01/30/2013 18:04 | | | |
| | **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 | | 19.0 | 1.00 | 25.0 | 44.2 | 101 | 75 - 125 | 43.9 | 99.8 | 0.68 | 15 |

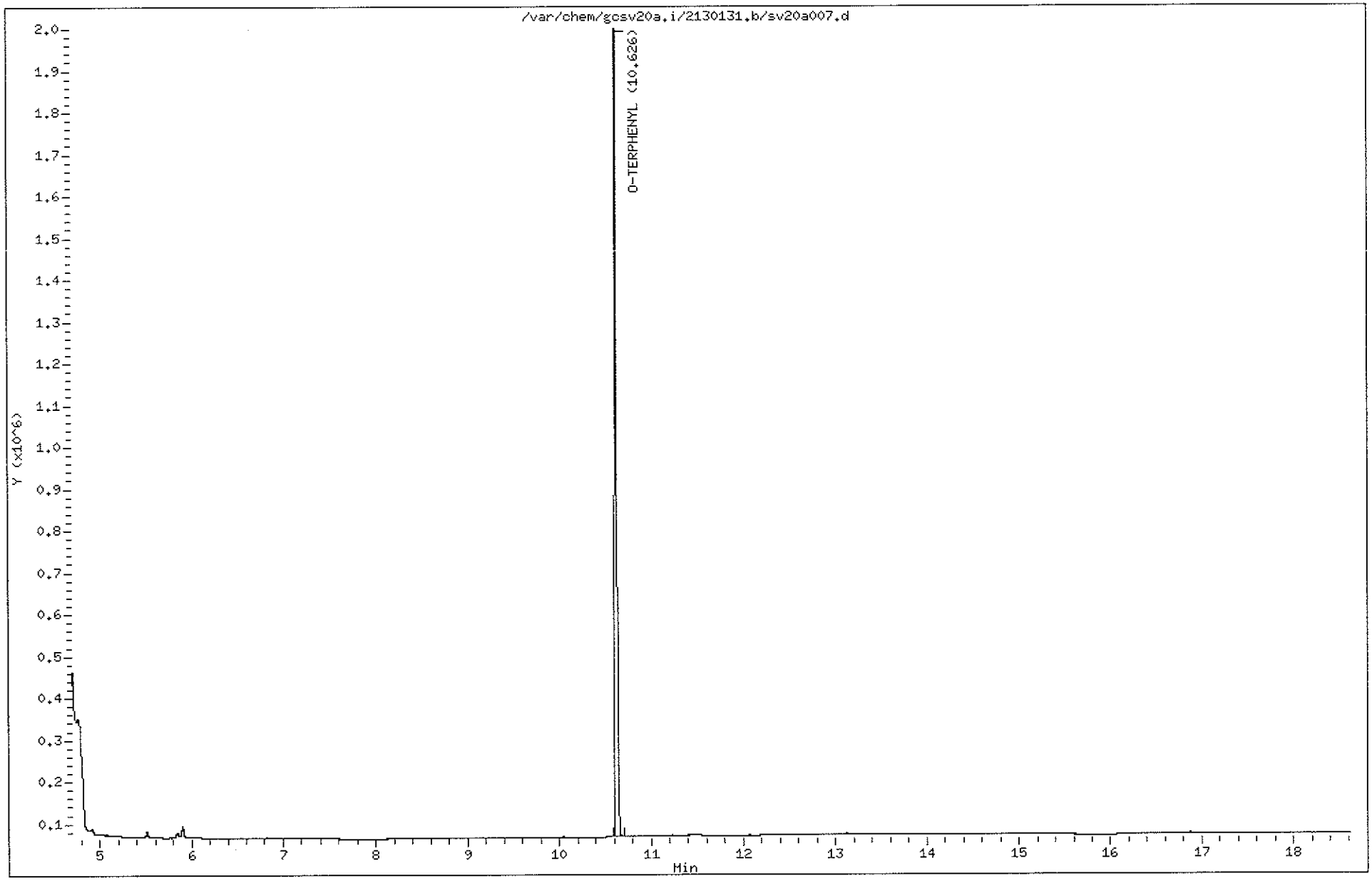
Data File: /var/chem/msv7.i/2130201p.s.b/e3957.d
Date : 01-FEB-2013 21:28
Client ID: 21301254501
Sample Info: 21301254501*
Purge Volume: 5.0
Column phase: RTX-VMS-30M

Instrument: msv7.i
Operator: JCK
Column diameter: 0.25



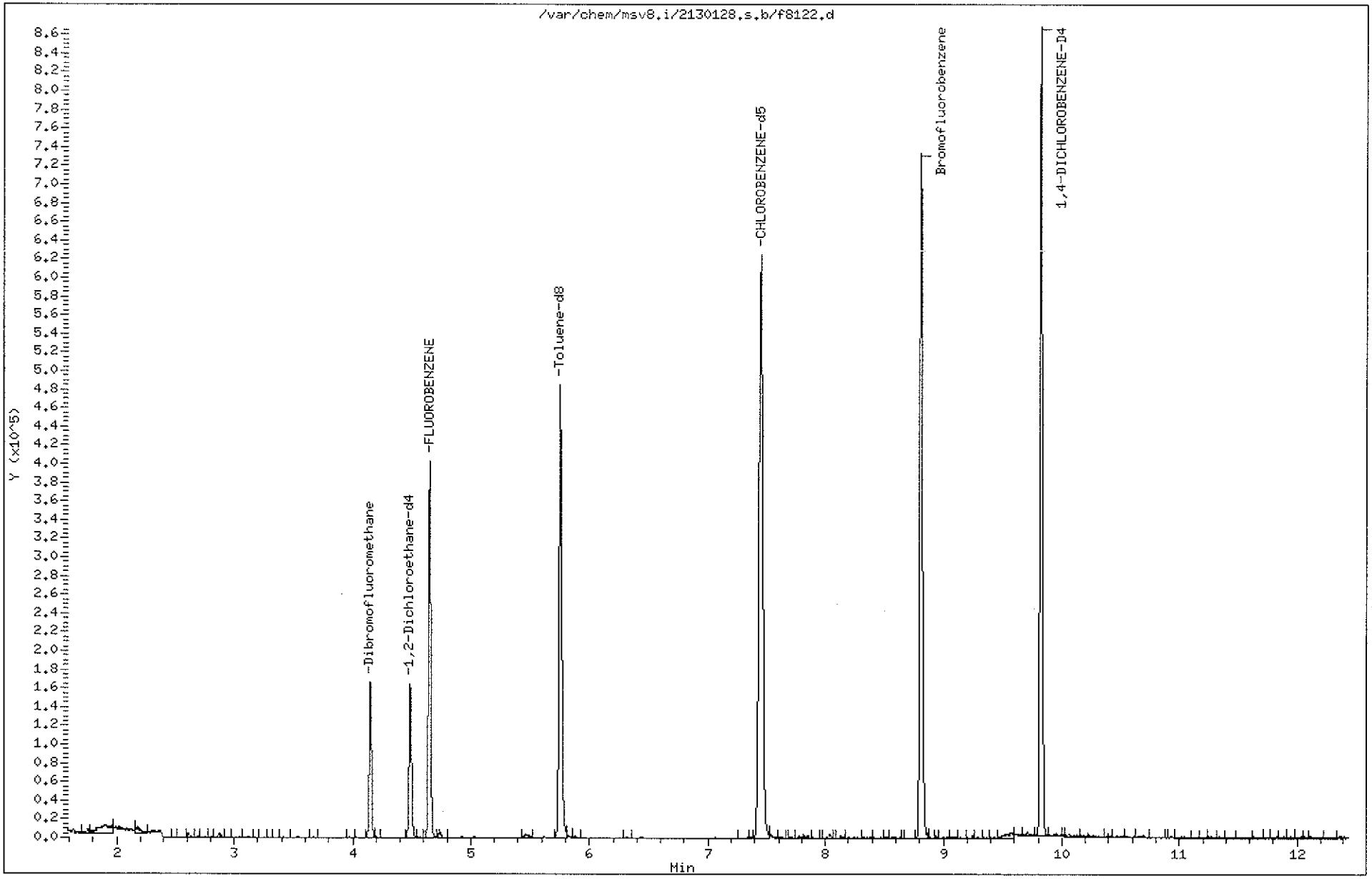
Data File: /var/chem/gcsv20a.i/2130131.b/sv20a007.d
Date : 31-JAN-2013 14:14
Client ID:
Sample Info: 21301254501*1
Volume Injected (uL): 1.0
Column phase: DB-5MS-30M

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



Data File: /var/chem/msv8.i/2130128.s.b/f8122.d
Date : 28-JAN-2013 22:54
Client ID:
Sample Info: 21301254502
Purge Volume: 5.0
Column phase: RTX-VMS-30M

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



Data File: /var/chem/gcsv20a.i/2130131.b/sv20a008.d



Date : 31-JAN-2013 14:46

Client ID:

Instrument: gcsv20a.i

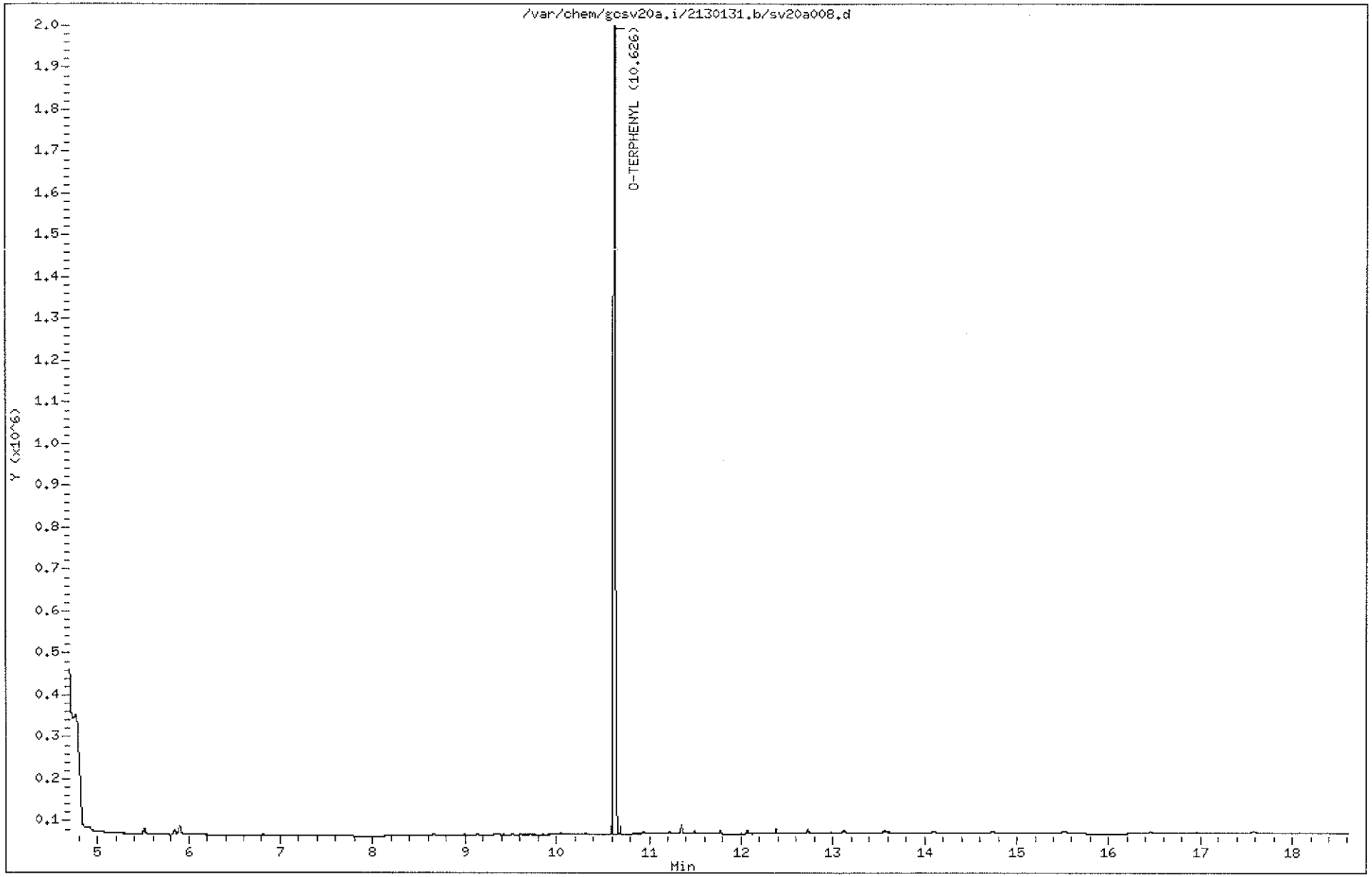
Sample Info: 21301254502*1

Volume Injected (uL): 1.0

Operator: smh

Column phase: DB-5MS-30M

Column diameter: 0.25



Data File: /var/chem/msv8.i/2130128.s.b/f8123.d



Date : 28-JAN-2013 23:14

Client ID:

Instrument: msv8.i

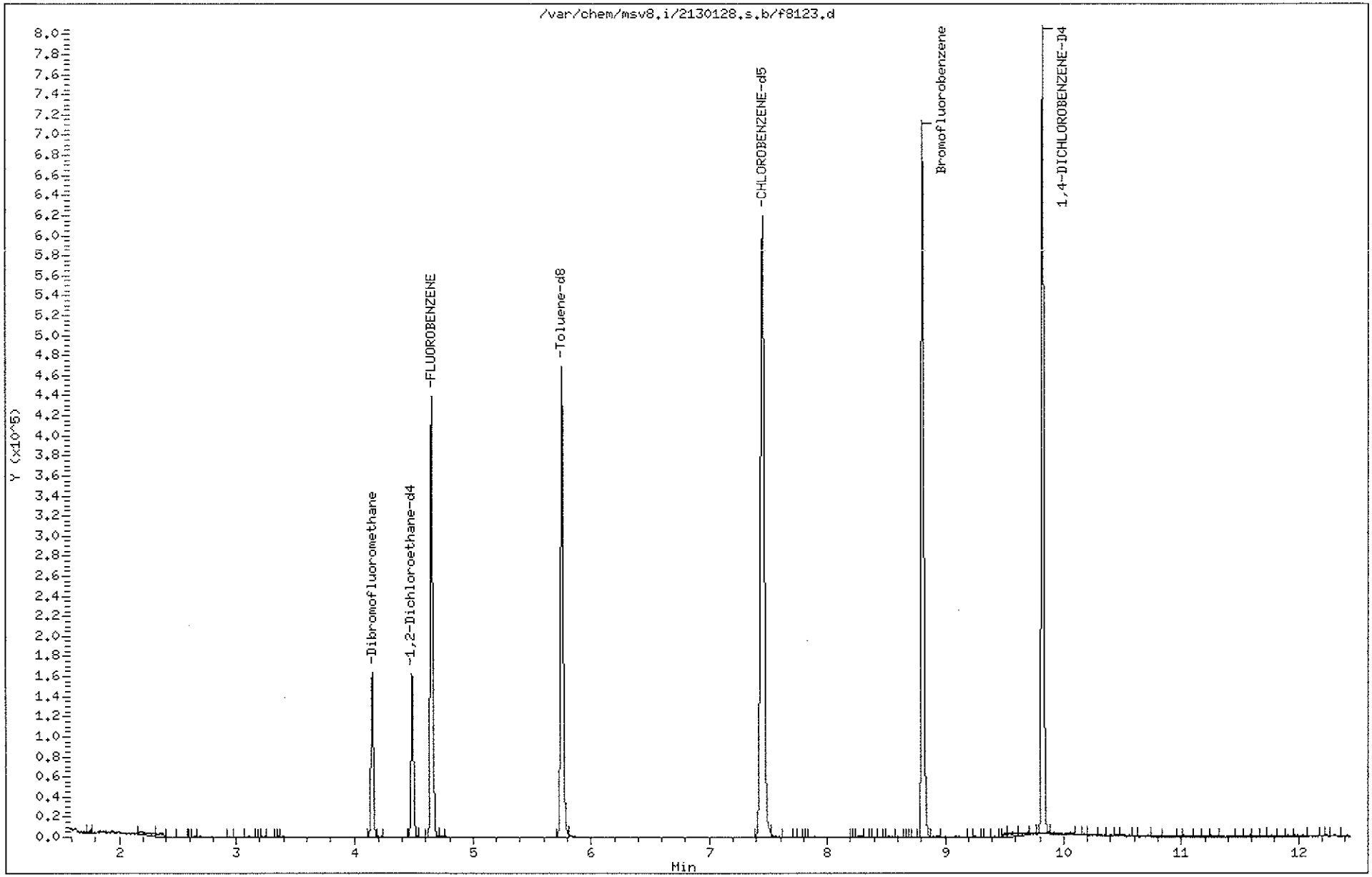
Sample Info: 21301254503×

Purge Volume: 5.0

Operator: CLH

Column phase: RTX-VMS-30M

Column diameter: 0.25



Data File: /var/chem/gcsv20a.i/2130131.b/sv20a009.d



Date : 31-JAN-2013 15:18

Client ID:

Instrument: gcsv20a.i

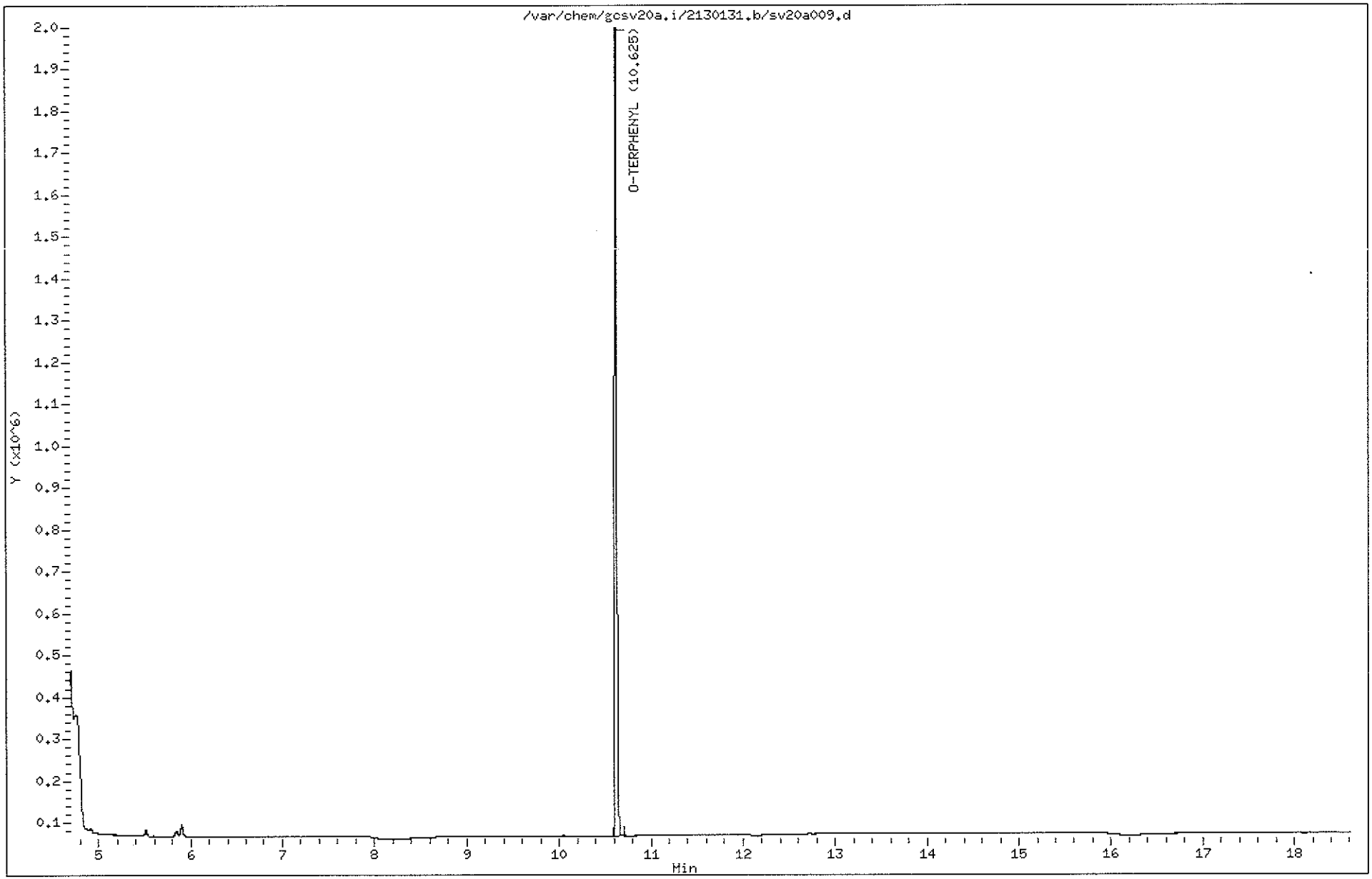
Sample Info: 21301254503*1

Volume Injected (uL): 1.0

Operator: smh

Column phase: DB-5MS-30M

Column diameter: 0.25



Data File: /var/chem/msv8.i/2130128.s.b/f8124.d



Date : 28-JAN-2013 23:34

Client ID:

Instrument: msv8.i

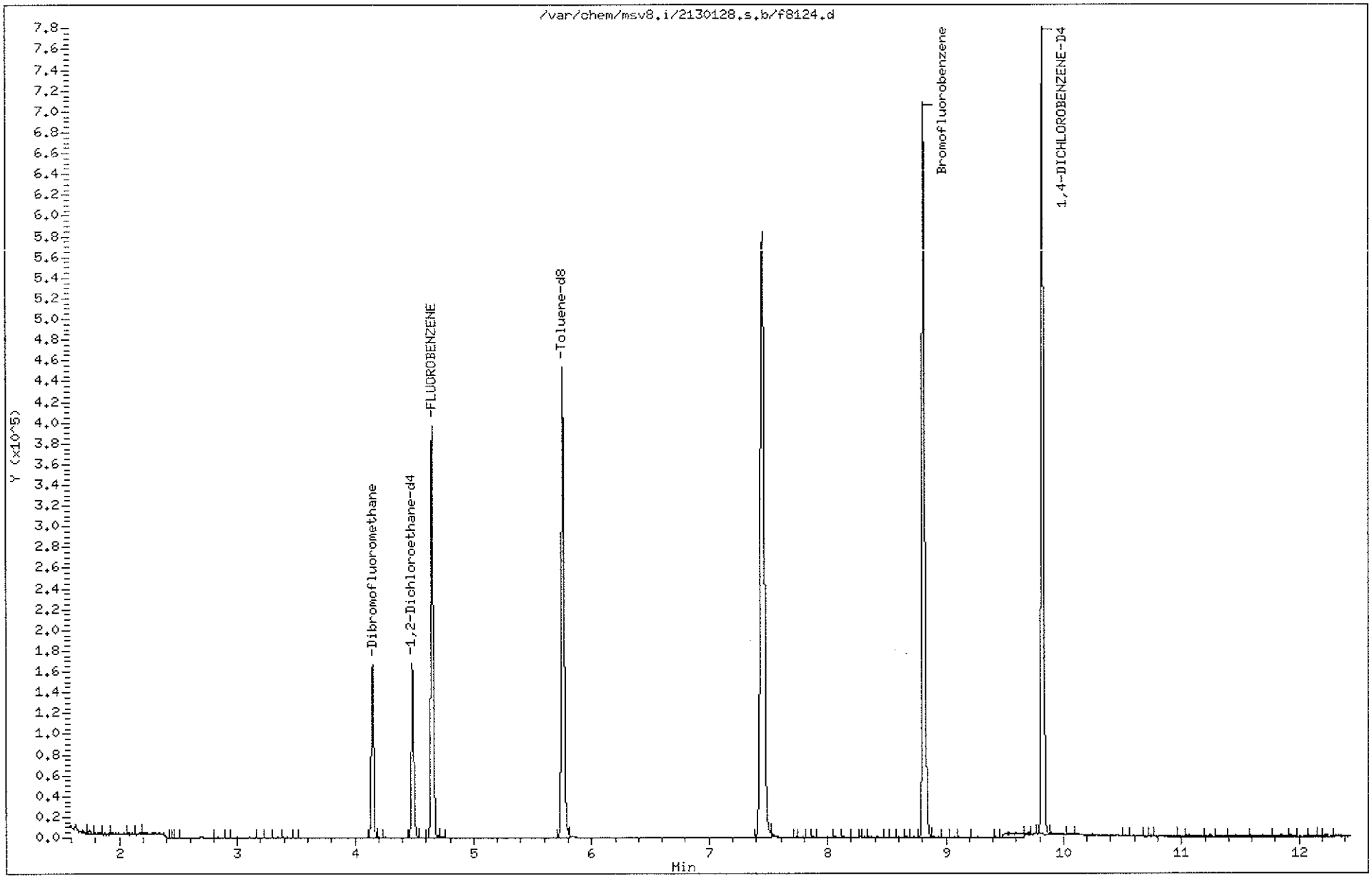
Sample Info: 21301254504*

Purge Volume: 5.0

Operator: CLH

Column phase: RTX-VMS-30M

Column diameter: 0.25



Data File: /var/chem/gcsv20a.i/2130131.b/sv20a010.d



Date : 31-JAN-2013 15:50

Client ID:

Instrument: gcsv20a.i

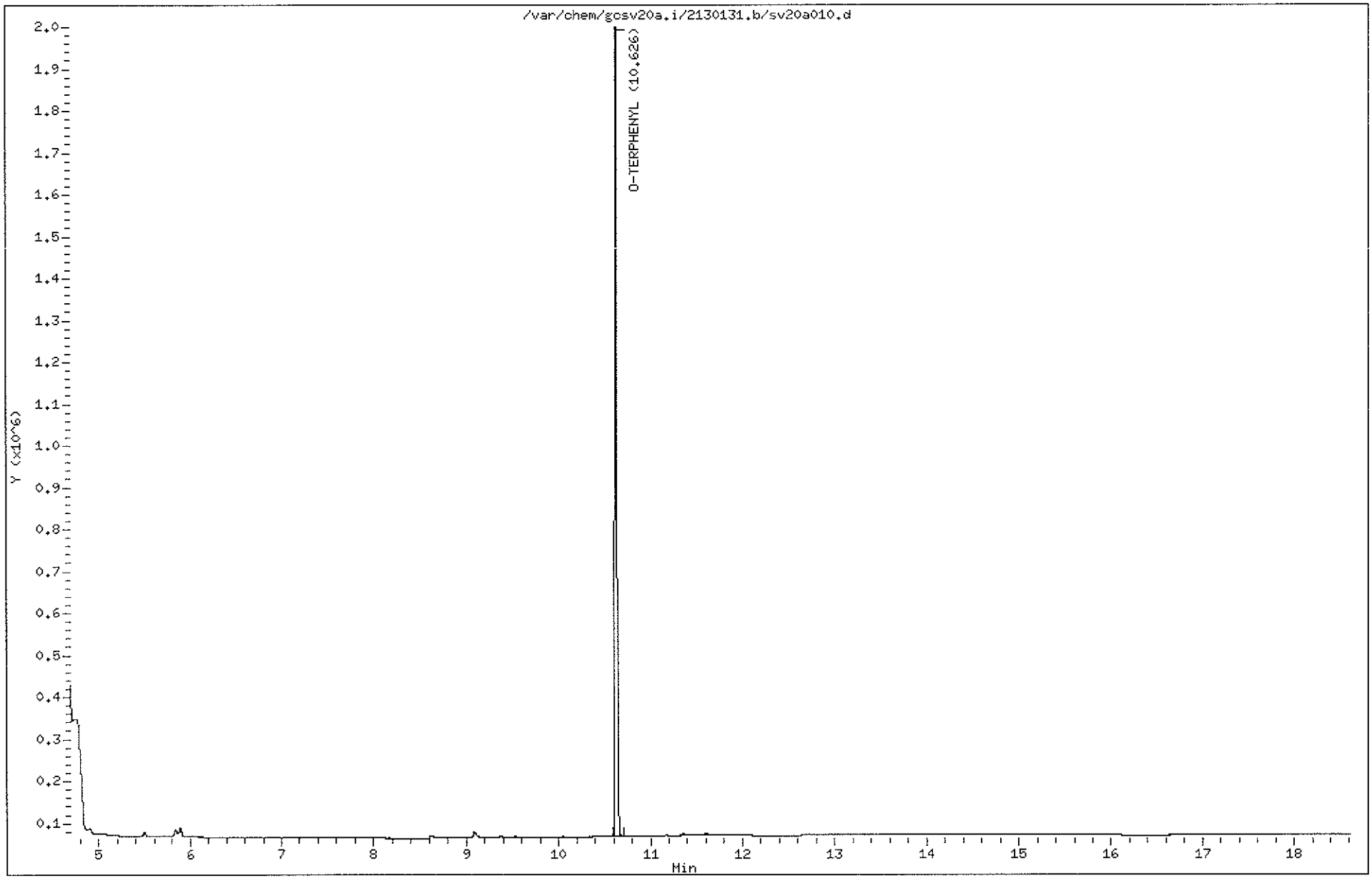
Sample Info: 21301254504x1

Volume Injected (uL): 1.0

Operator: smh

Column phase: DB-5MS-30M

Column diameter: 0.25



Data File: /var/chem/msv8.i/2130128.s.b/f8125.d



Date : 28-JAN-2013 23:54

Client ID:

Instrument: msv8.i

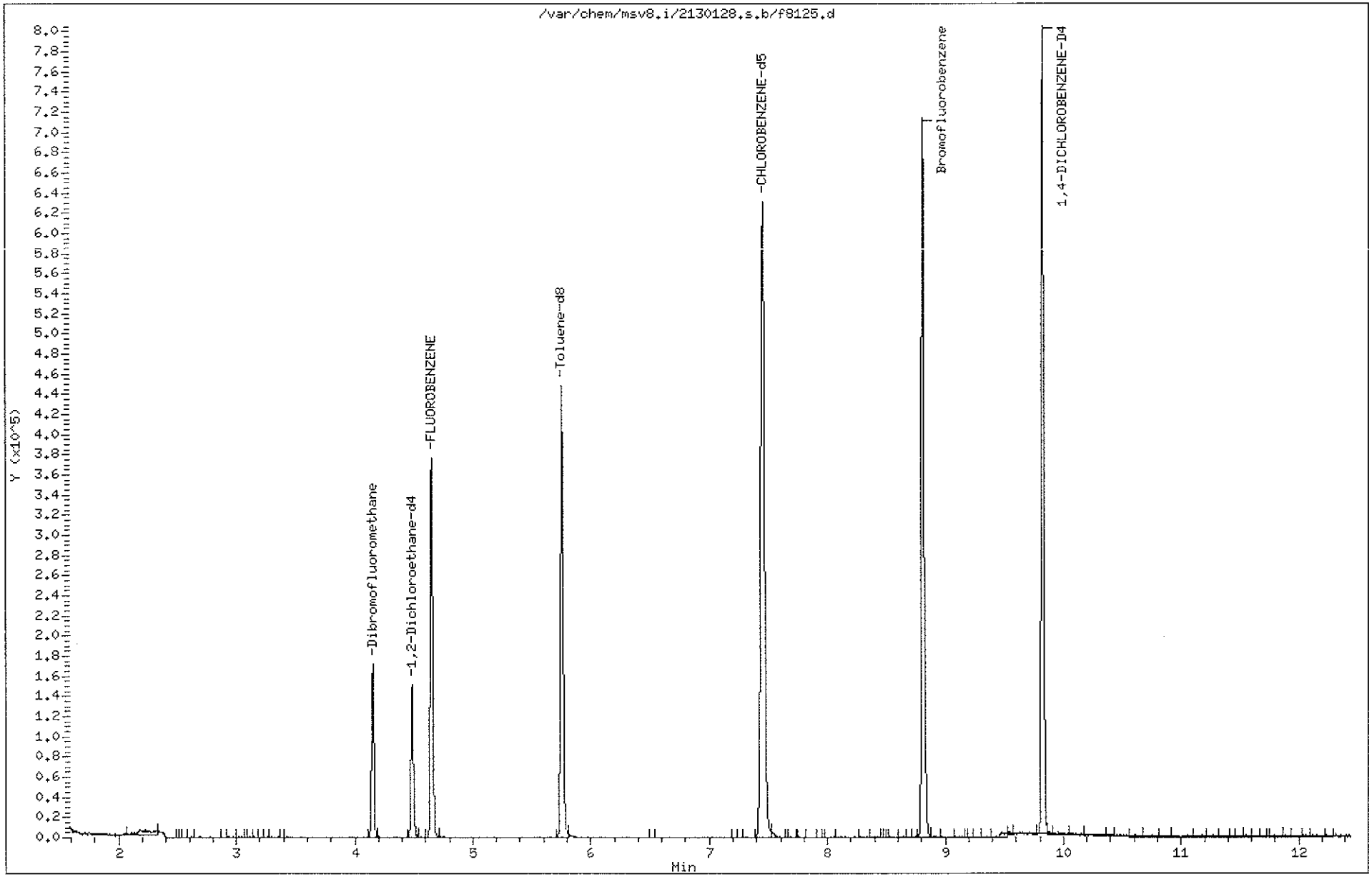
Sample Info: 21301254505*

Purge Volume: 5.0

Operator: CLH

Column phase: RTX-VMS-30M

Column diameter: 0.25



Data File: /var/chem/gcsv20a.i/2130131.b/sv20a011.d



Date : 31-JAN-2013 16:22

Client ID:

Instrument: gcsv20a.i

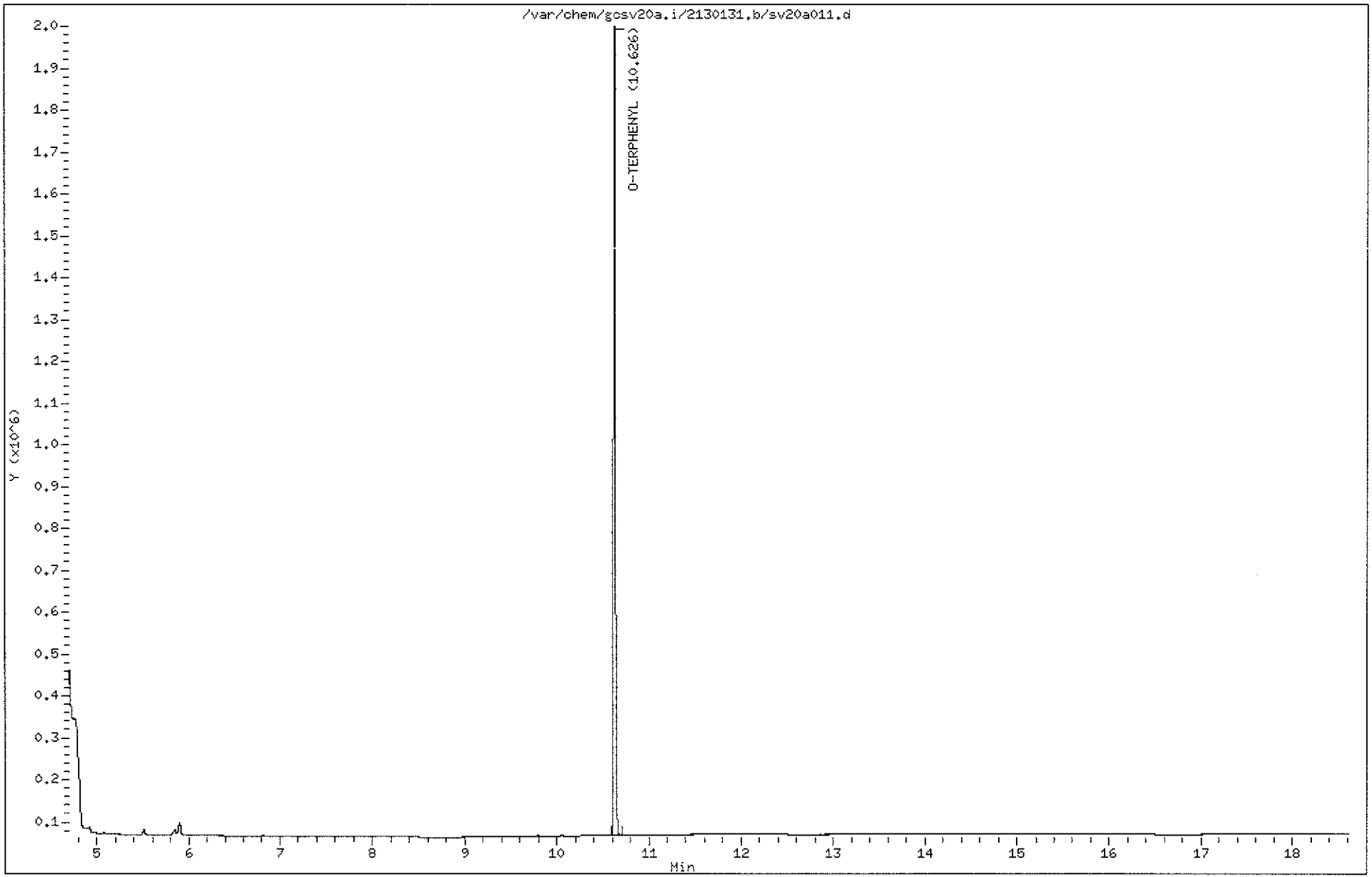
Sample Info: 21301254505*1

Volume Injected (uL): 1.0

Operator: smh

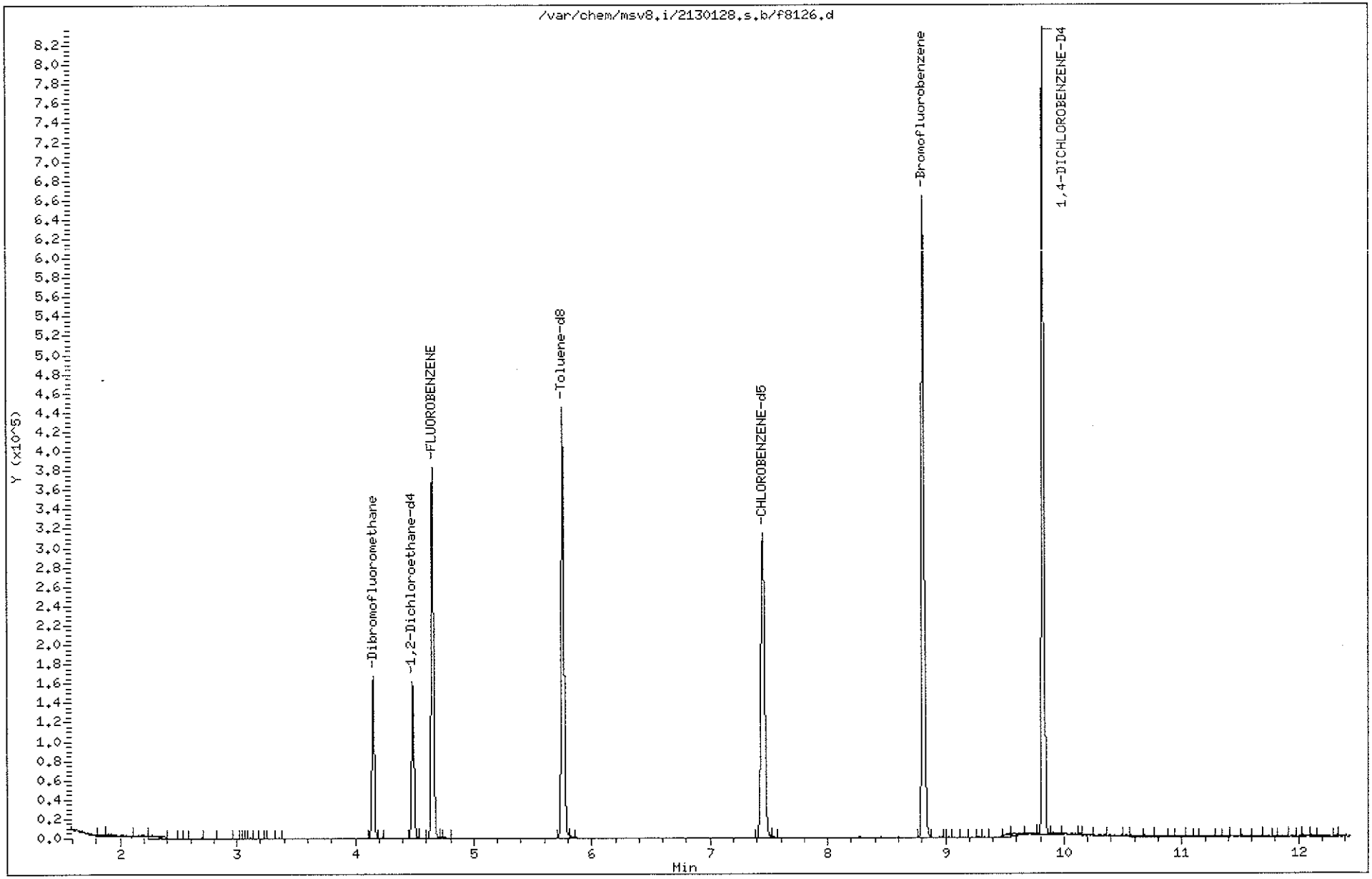
Column phase: DB-5MS-30M

Column diameter: 0.25



Data File: /var/chem/msv8.i/2130128.s.b/f8126.d
Date : 29-JAN-2013 00:16
Client ID:
Sample Info: 21301254506*
Purge Volume: 5.0
Column phase: RTX-VMS-30M

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



Data File: /var/chem/gcsv20a.i/2130131.b/sv20a012.d



Date : 31-JAN-2013 16:53

Client ID:

Instrument: gcsv20a.i

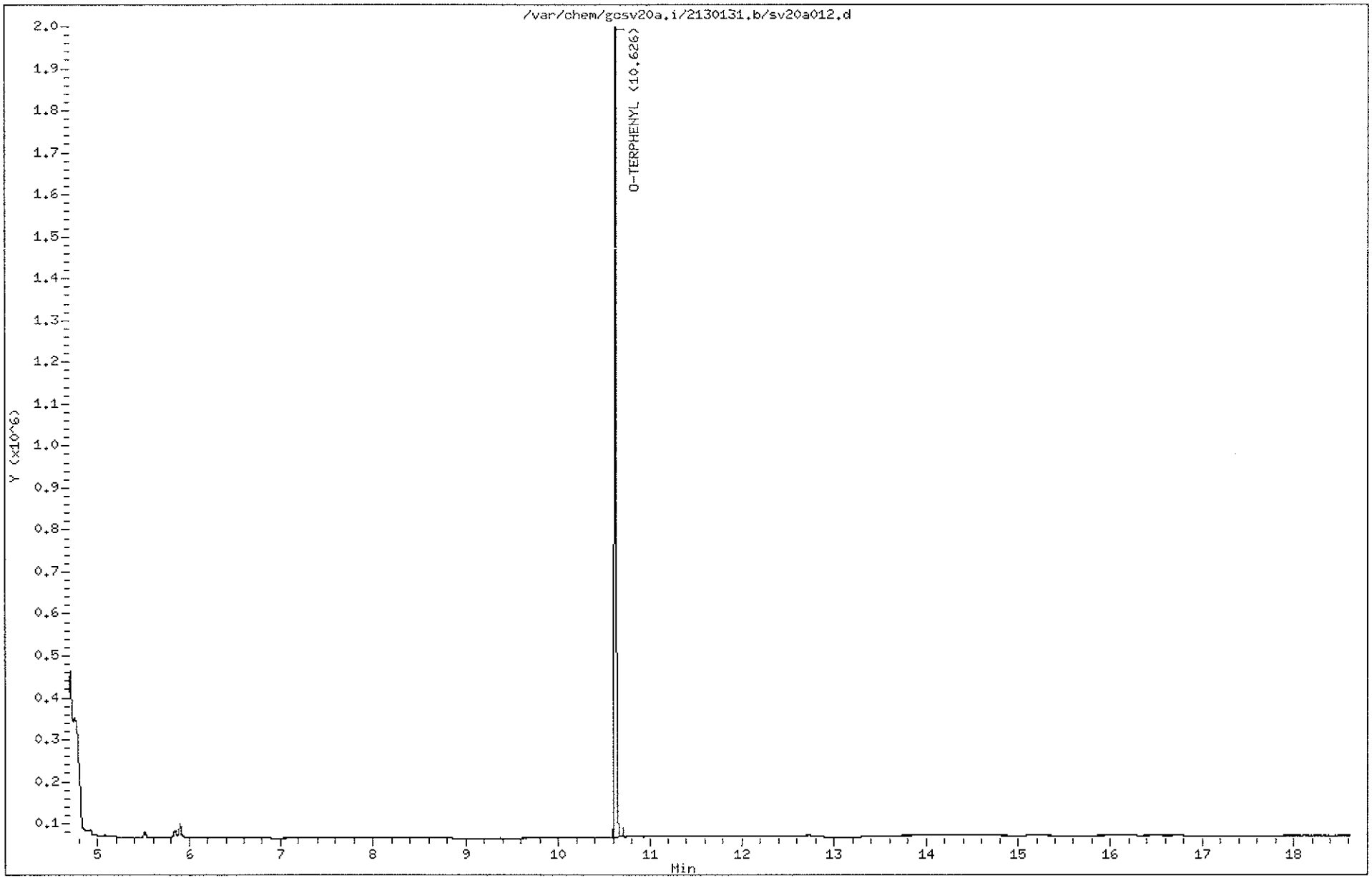
Sample Info: 21301254506*1

Volume Injected (uL): 1.0

Operator: smh

Column phase: DB-5MS-30M

Column diameter: 0.25



Data File: /var/chem/msv8.i/2130128.s.b/f8127.d



Date : 29-JAN-2013 00:36

Client ID:

Instrument: msv8.i

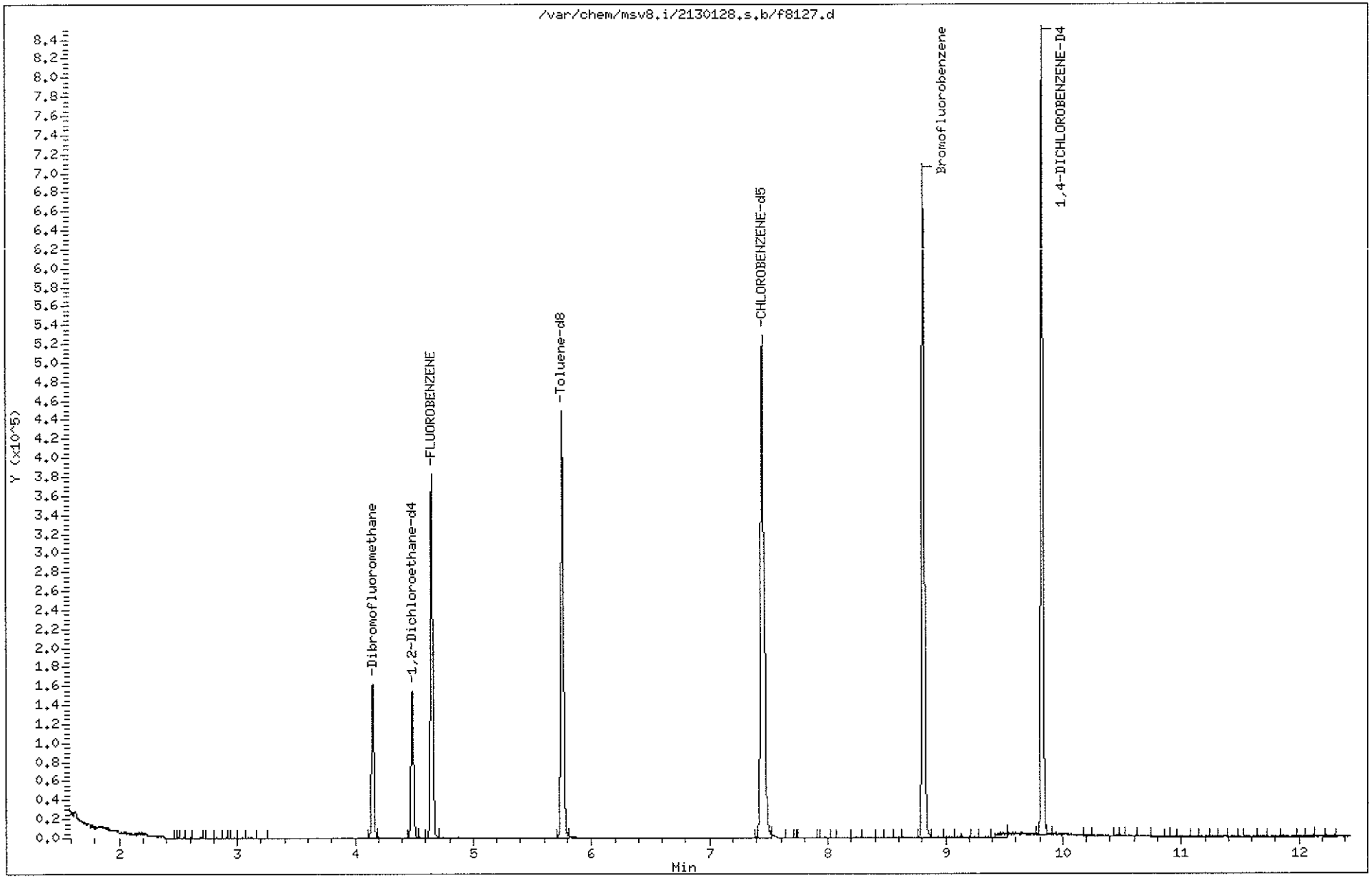
Sample Info: 21301254507*

Purge Volume: 5.0

Operator: CLH

Column phase: RTX-VMS-30M

Column diameter: 0.25



Data File: /var/chem/gcsv20a.i/2130131.b/sv20a013.d



Date : 31-JAN-2013 17:25

Client ID:

Instrument: gcsv20a.i

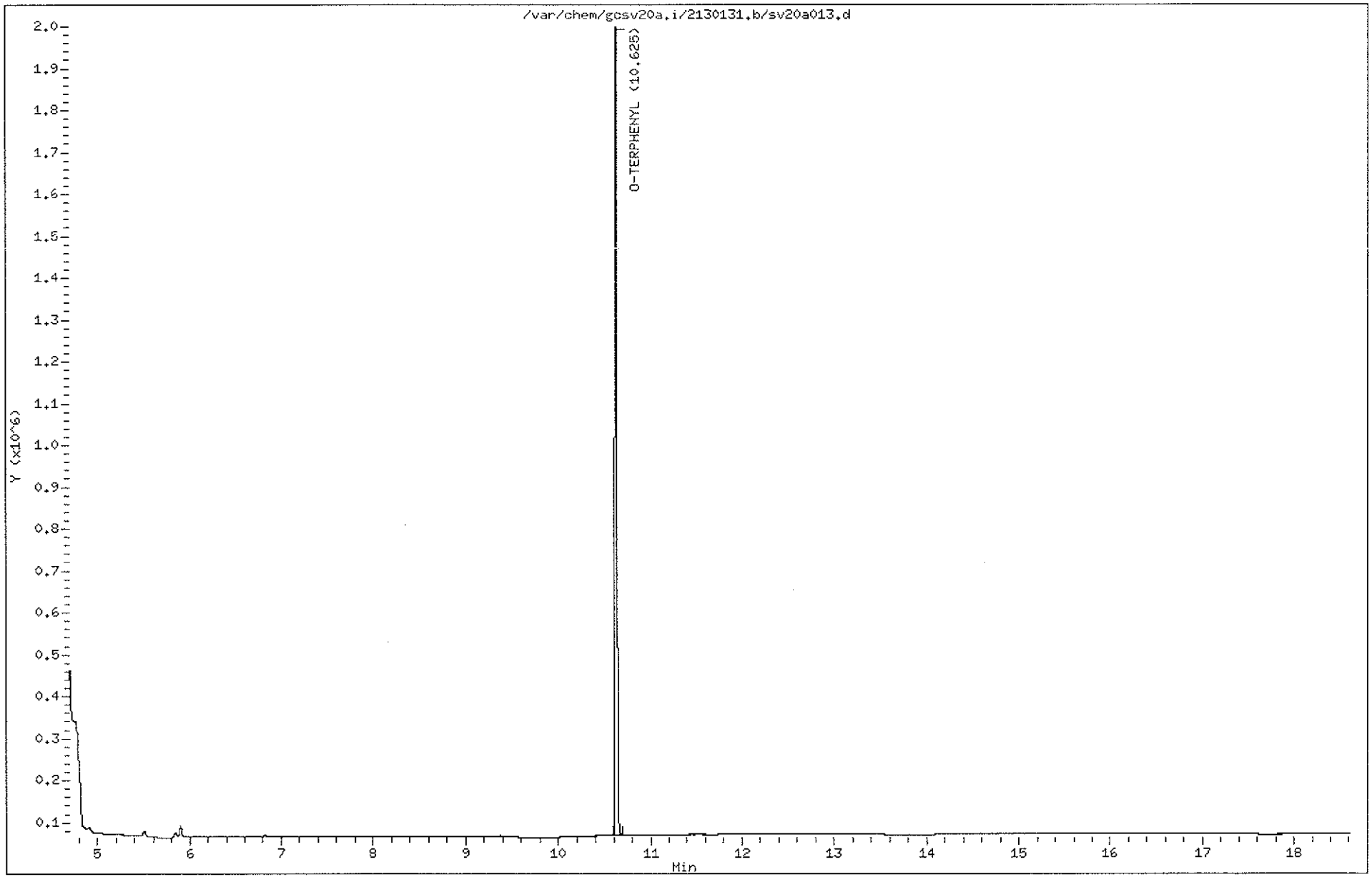
Sample Info: 21301254507*1

Volume Injected (uL): 1.0

Operator: smh

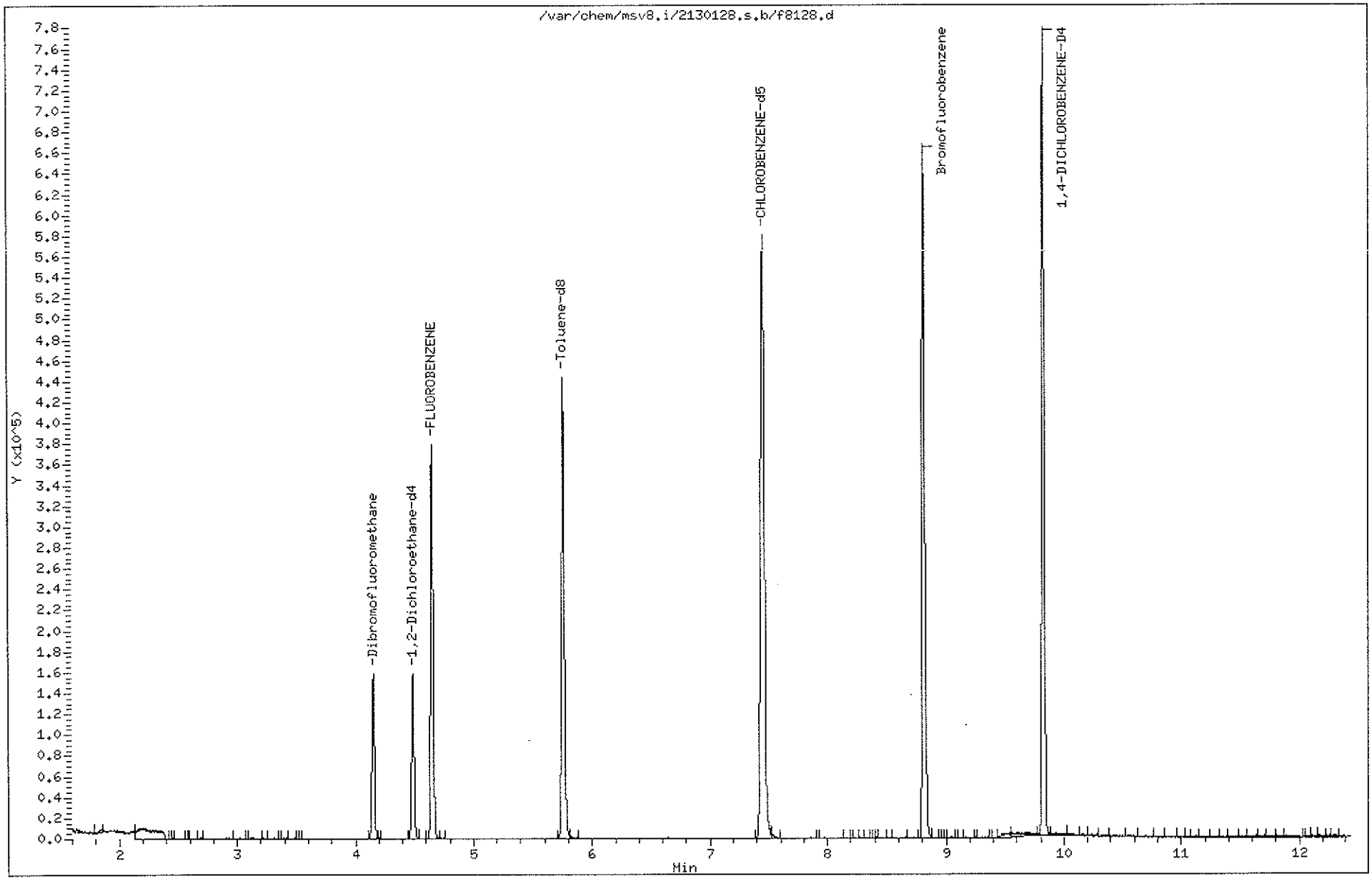
Column phase: DB-5MS-30M

Column diameter: 0.25



Data File: /var/chem/msv8.i/2130128.s.b/f8128.d
Date : 29-JAN-2013 00:56
Client ID:
Sample Info: 21301254508x
Purge Volume: 5.0
Column phase: RTX-VMS-30M

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



Data File: /var/chem/gcsv20a.i/2130131.b/sv20a016.d



Date : 31-JAN-2013 18:57

Client ID:

Instrument: gcsv20a.i

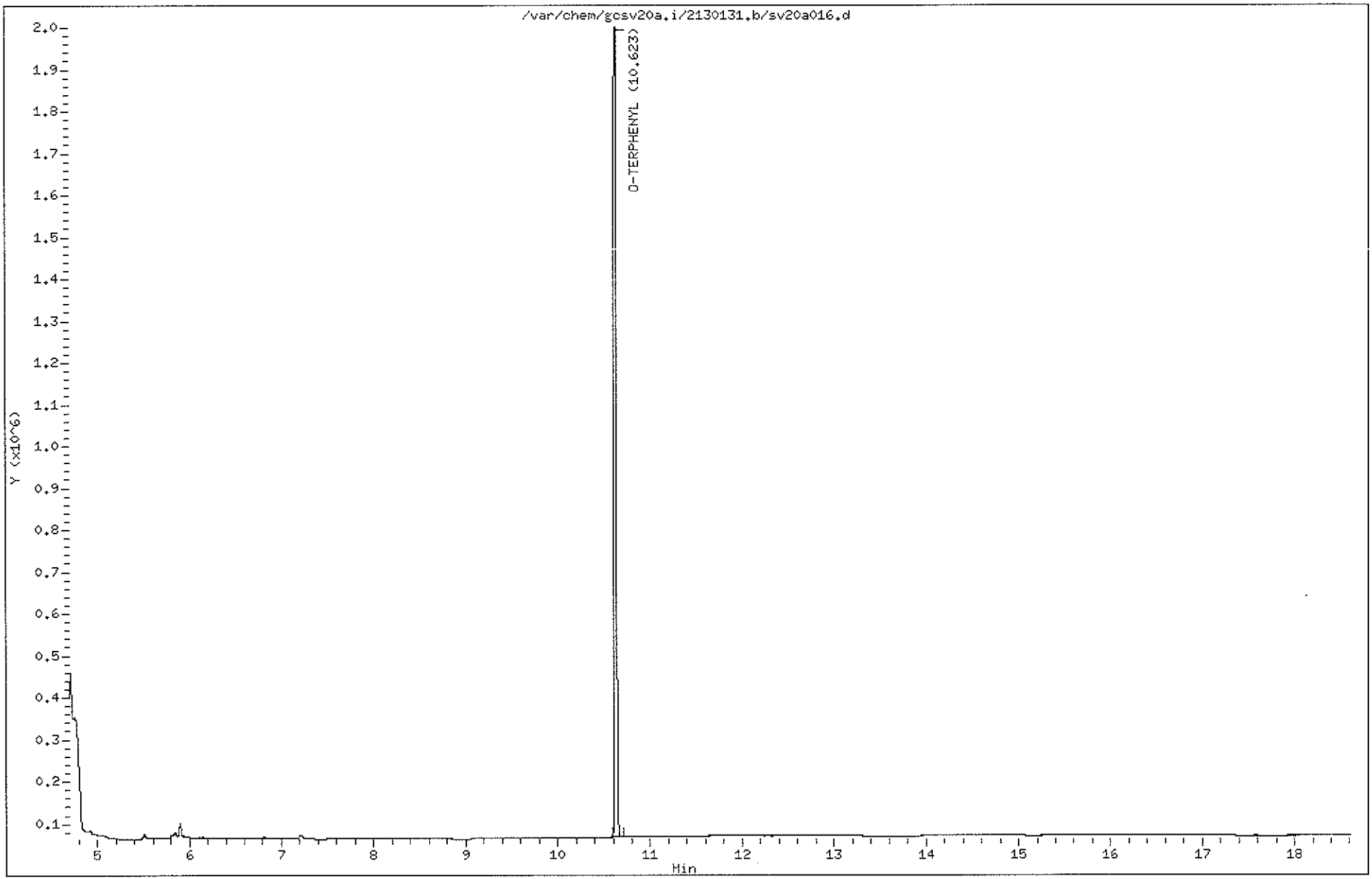
Sample Info: 21301254508*1

Volume Injected (uL): 1.0

Operator: smh

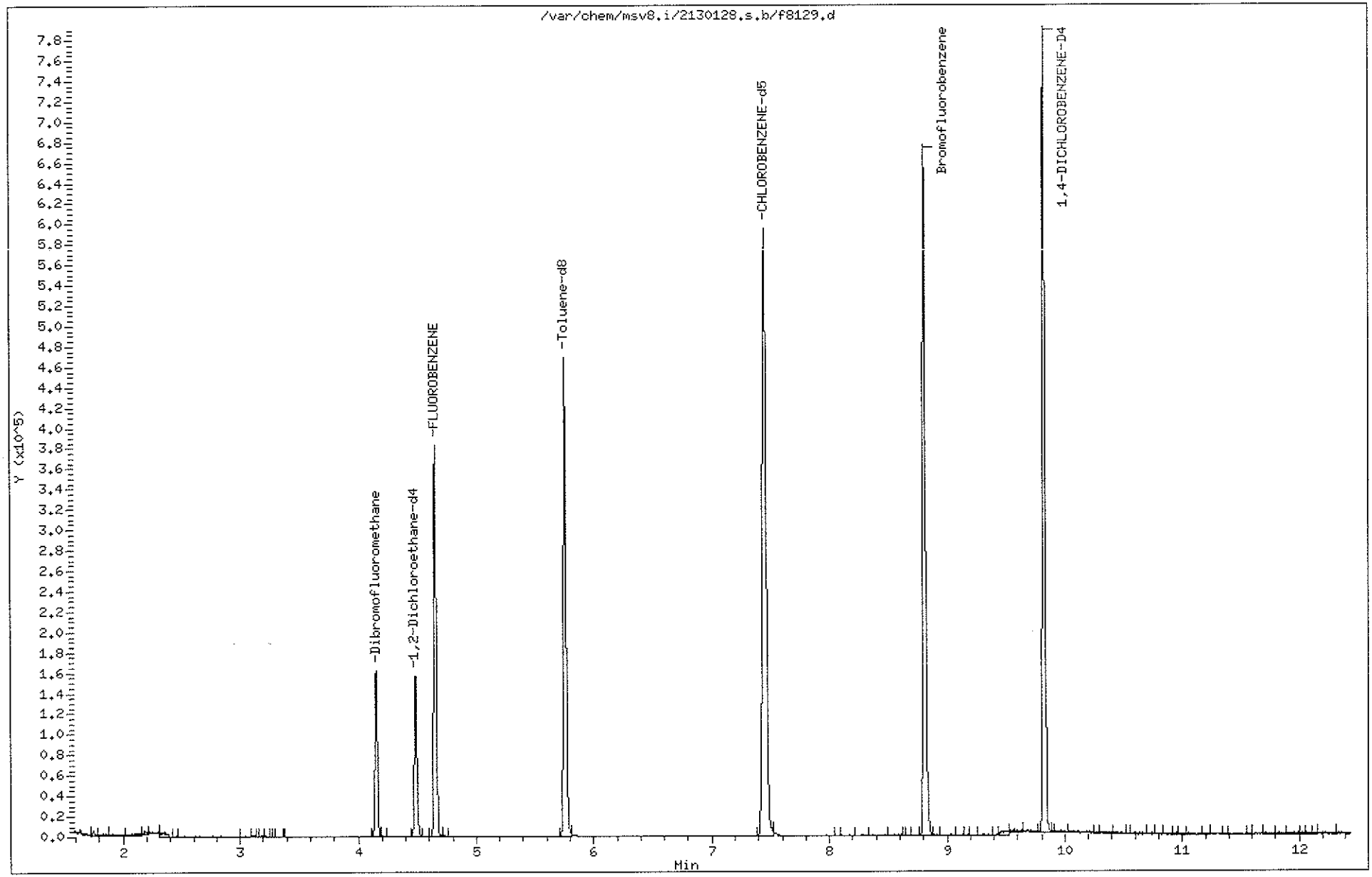
Column phase: DB-5MS-30M

Column diameter: 0.25



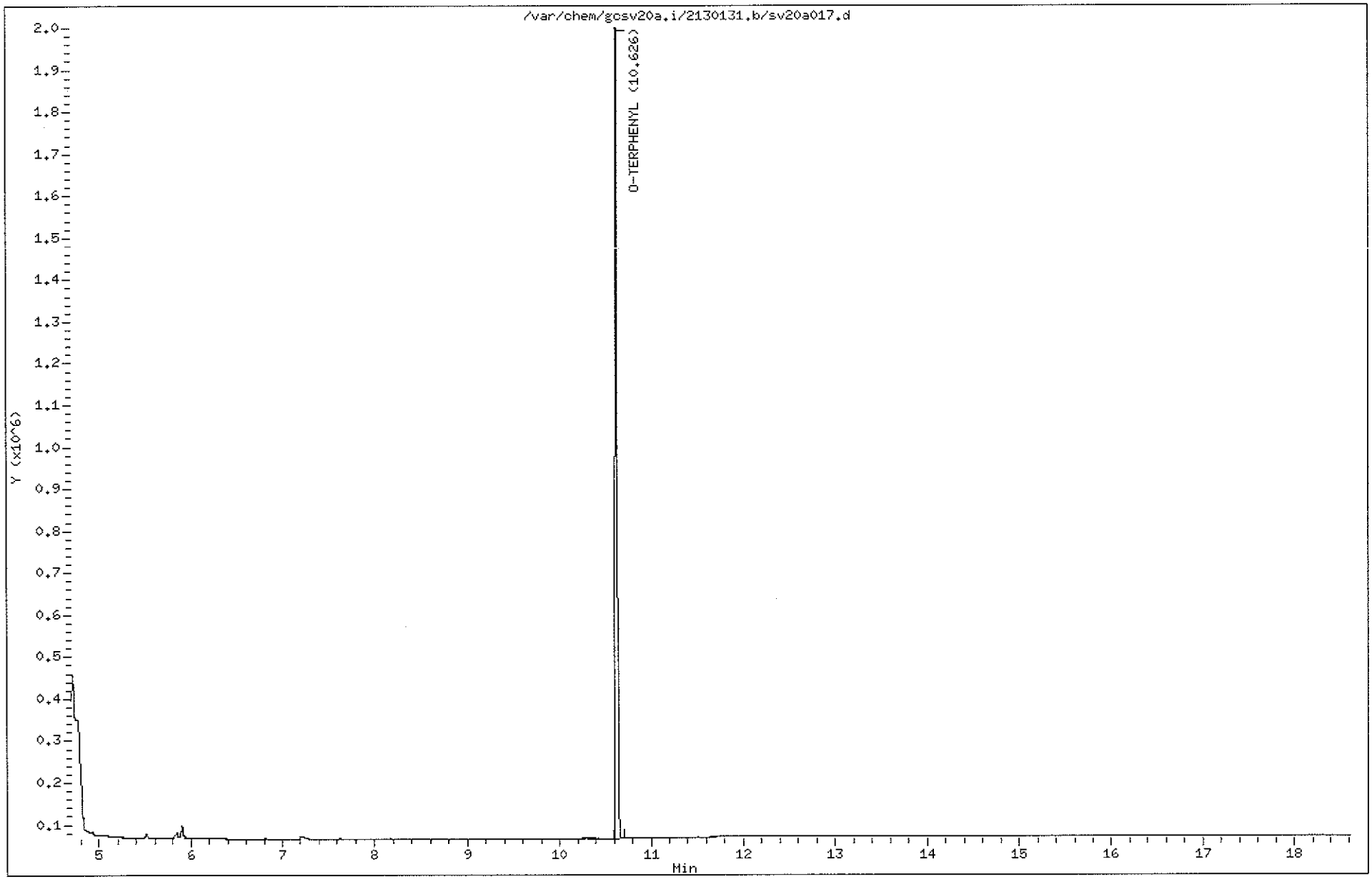
Data File: /var/chem/msv8.i/2130128.s.b/f8129.d
Date : 29-JAN-2013 01:16
Client ID:
Sample Info: 21301254509*
Purge Volume: 5.0
Column phase: RTX-VMS-30M

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



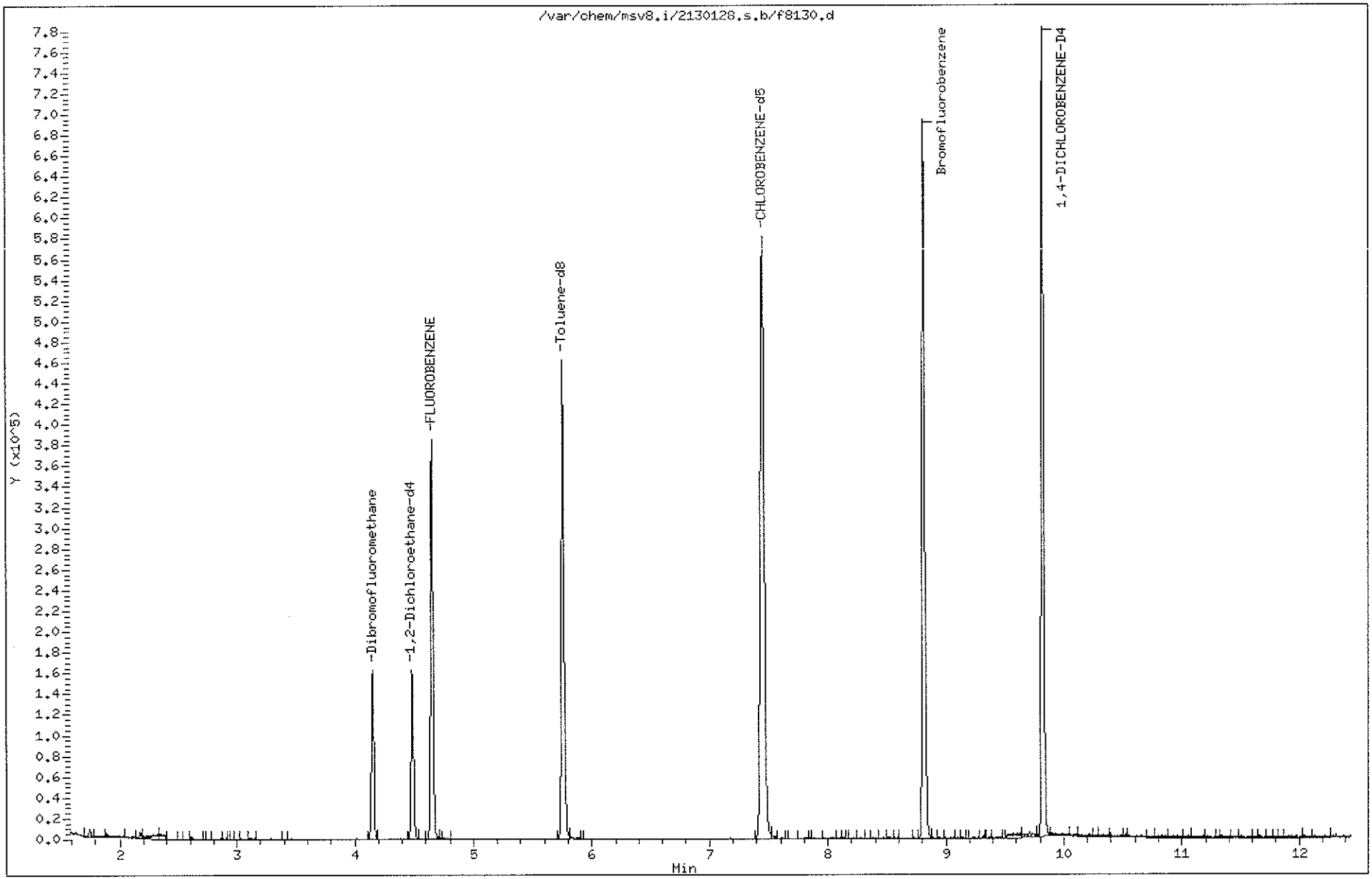
Data File: /var/chem/gcsv20a.i/2130131.b/sv20a017.d
Date : 31-JAN-2013 19:28
Client ID:
Sample Info: 21301254509*1
Volume Injected (uL): 1.0
Column phase: DB-5MS-30M

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



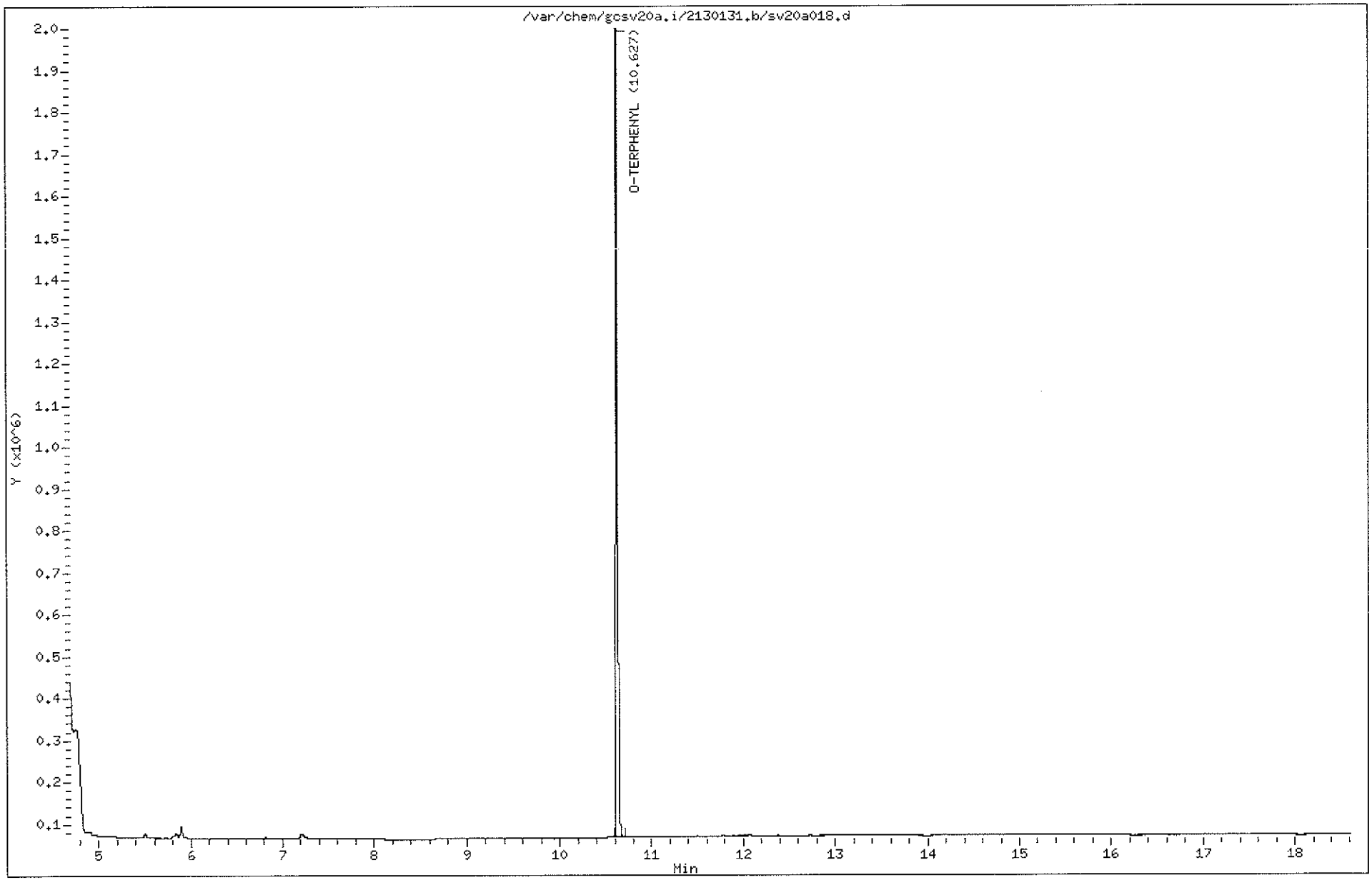
Data File: /var/chem/msv8.i/2130128.s.b/f8130.d
Date : 29-JAN-2013 01:36
Client ID:
Sample Info: 21301254510*
Purge Volume: 5.0
Column phase: RTX-VMS-30M

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

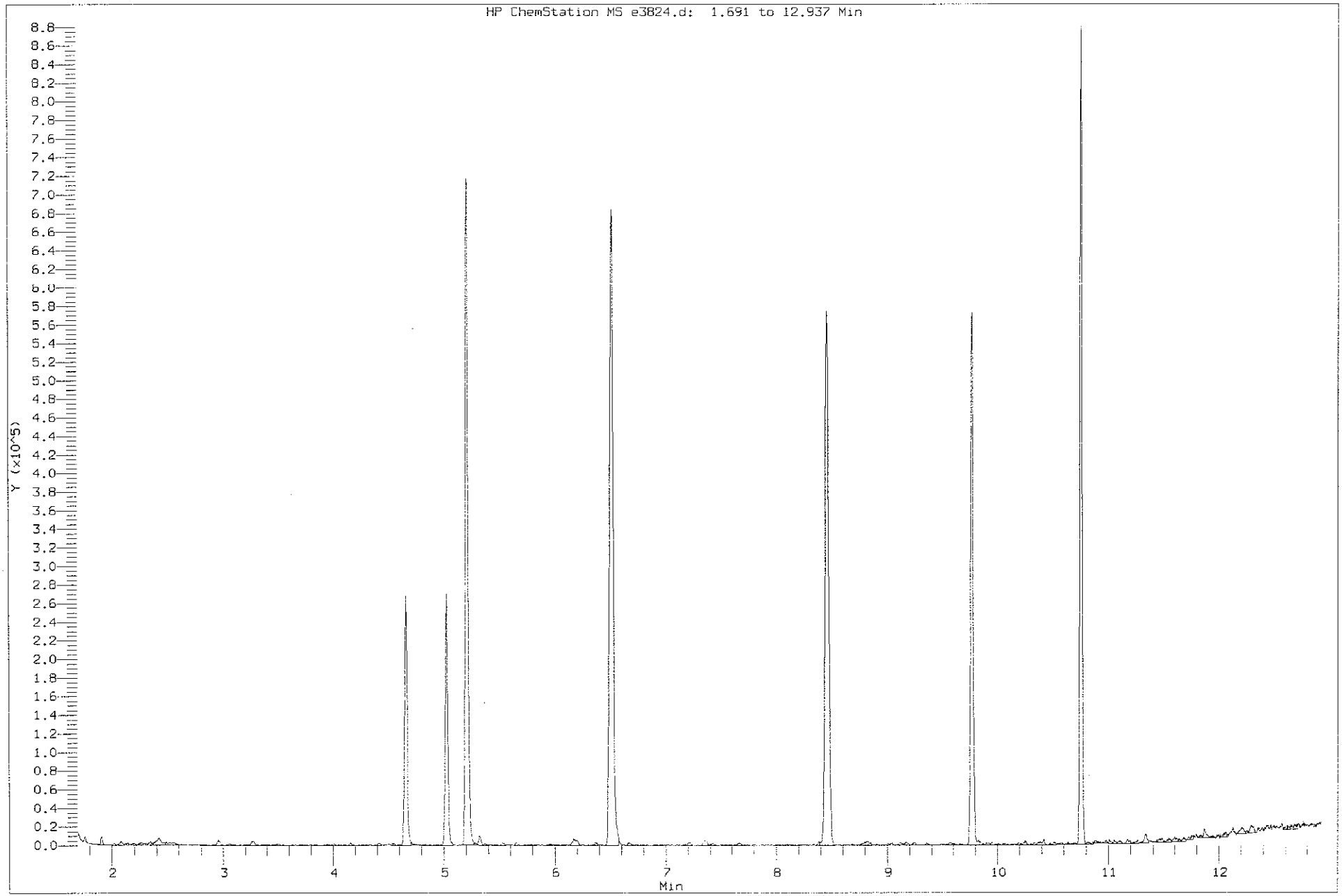


Data File: /var/chem/gcsv20a.i/2130131.b/sv20a018.d
Date : 31-JAN-2013 19:58
Client ID:
Sample Info: 21301254510*1
Volume Injected (uL): 1.0
Column phase: DB-5MS-30M

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



Data File: /var/chem/msv7.i/2130129p.s.b/e3824.d
Injection Date: 29-JAN-2013 22:43
Instrument: msv7.i
Client Sample ID: 21301254511



Data File: /var/chem/gcsv20a.i/2130131.b/sv20a019.d



Date : 31-JAN-2013 20:28

Client ID:

Instrument: gcsv20a.i

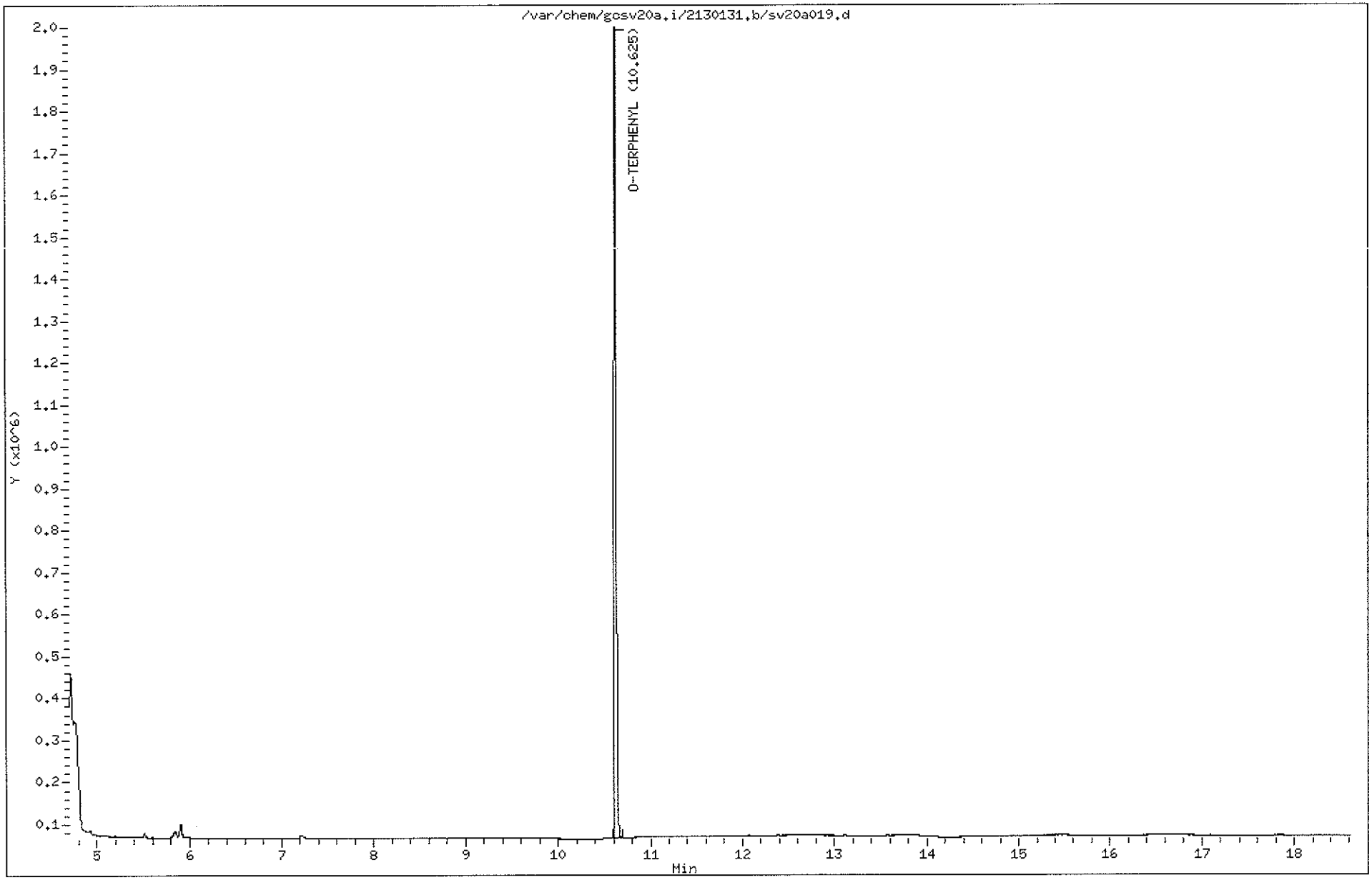
Sample Info: 21301254511×1

Volume Injected (uL): 1.0

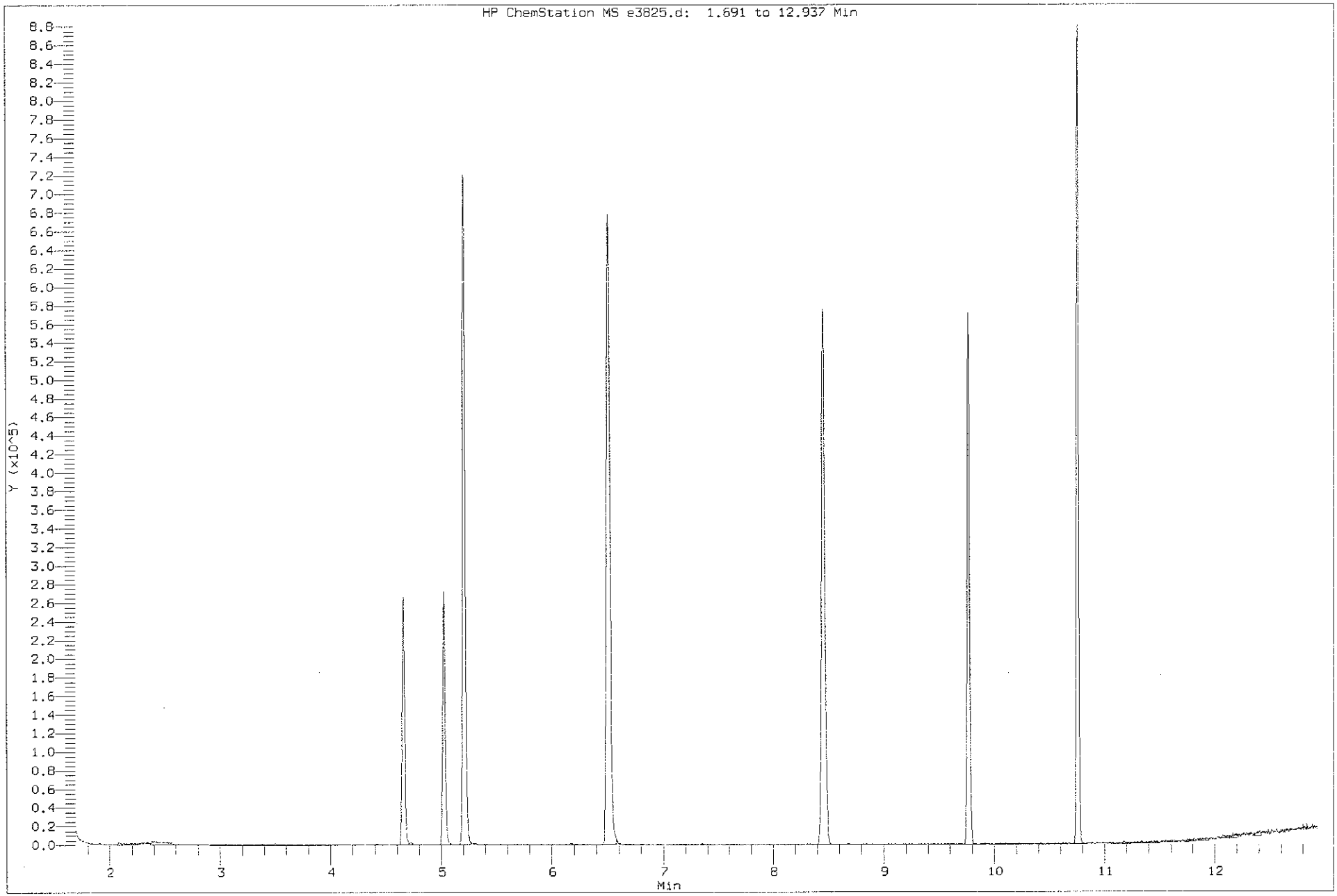
Operator: smh

Column phase: DB-5MS-30M

Column diameter: 0.25



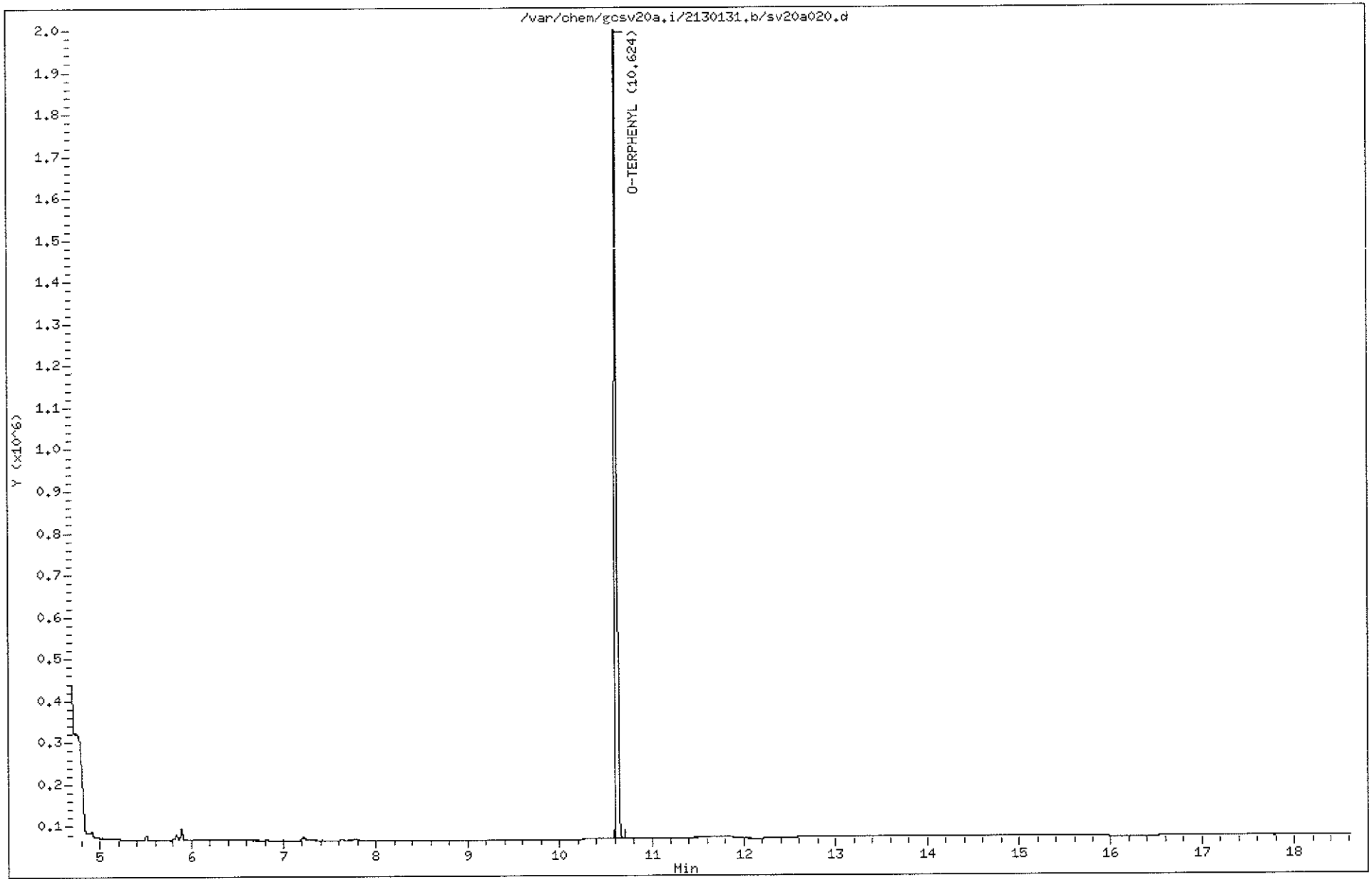
Data File: /var/chem/msv7.i/2130129p.s.b/e3825.d
Injection Date: 29-JAN-2013 23:02
Instrument: msv7.i
Client Sample ID: 21301254512



Data File: /var/chem/gcsv20a.i/2130131.b/sv20a020.d
Date : 31-JAN-2013 20:58
Client ID:
Sample Info: 21301254512*1
Volume Injected (uL): 1.0
Column phase: DB-5MS-30M

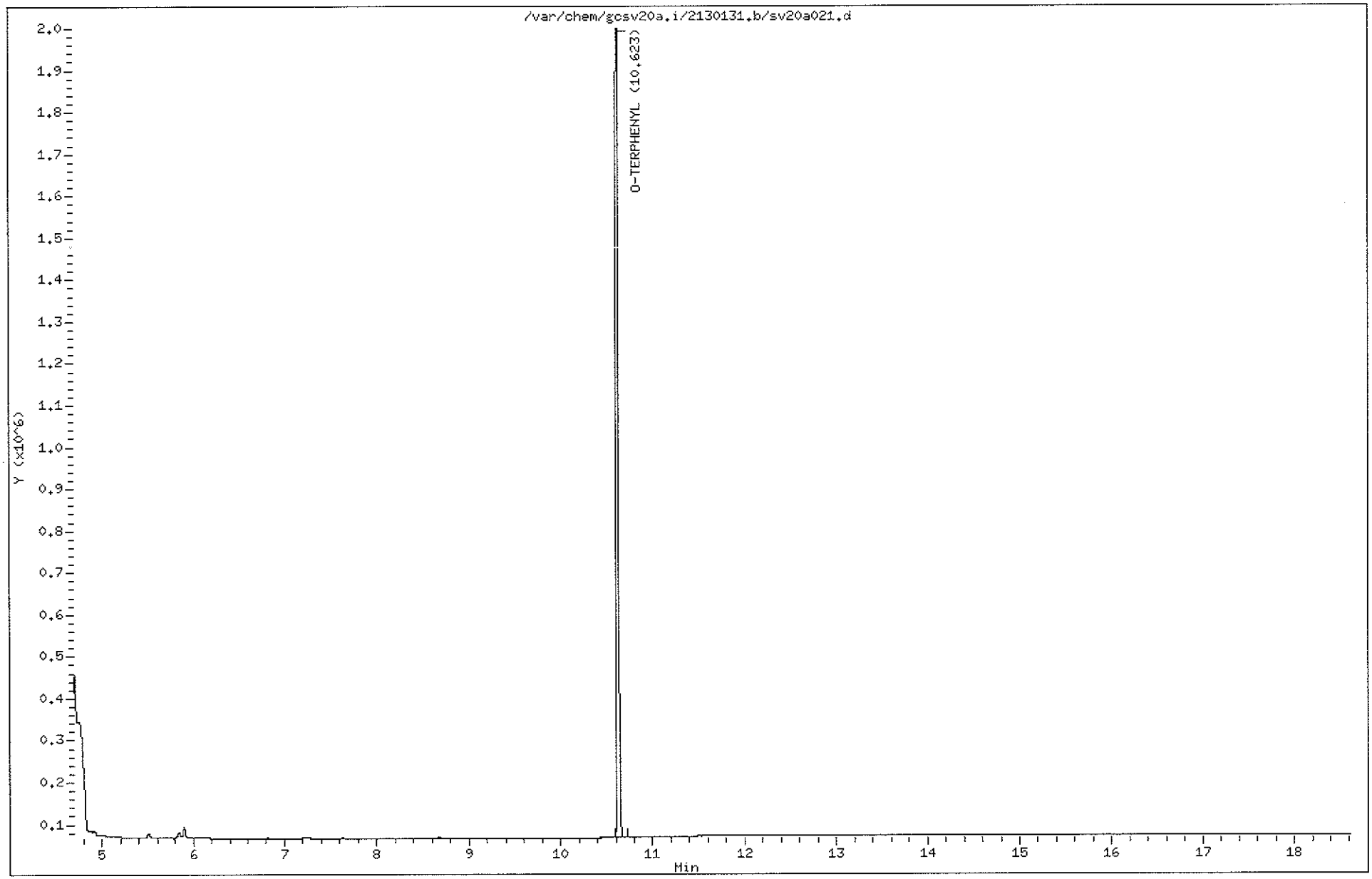
Instrument: gcsv20a.i

Operator: smh
Column diameter: 0.25



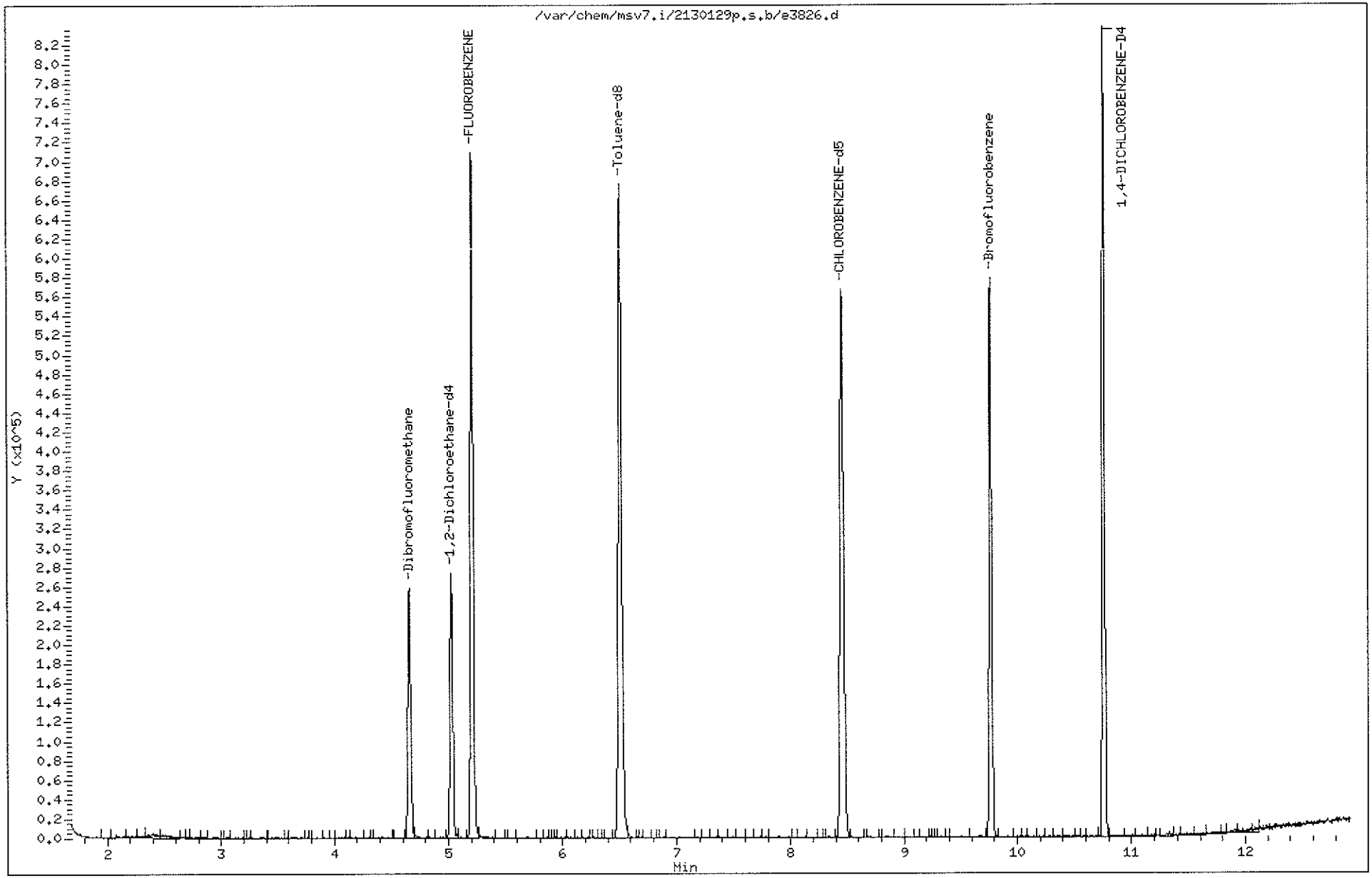
Data File: /var/chem/gcsv20a.i/2130131.b/sv20a021.d
Date : 31-JAN-2013 21:28
Client ID:
Sample Info: 21301254513M1
Volume Injected (uL): 1.0
Column phase: DB-5MS-30M

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



Data File: /var/chem/msv7.i/2130129p.s.b/e3826.d
Date : 29-JAN-2013 23:22
Client ID:
Sample Info: 21301254513*
Purge Volume: 5.0
Column phase: RTX-VMS-30M

Instrument: msv7.i
Operator: CEK
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 & Associates | 4271 | 213012545 | 2/5/13 |

**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: PVR

Analytical Requests & Method: Cl, TDS, Cond; TPH Frac, BTEX; Hydrogen Sulfide

Lab use only:
Custody Seal used ☐ yes ☑ no
intact ☐ yes ☐ no
Temperature °C 3.8, 4.6, 3.0

| Matrix[1] | Date | Time (2400) | Comp | Grab | Sample Description | Preservatives | No Containers | Cl, TDS, Cond | TPH Frac, BTEX | Hydrogen Sulfide | Remarks: | Lab ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | 1/25 |
| W | 1-25-13 | 1040 | | X | E-3 (TR) | HCl | 7 | X | X | X | | 1 |
| | | 1055 | | | N-3 (TR) | | | X | X | X | | 2 |
| | | 1100 | | | NW-2 (TR) | | | X | X | X | | 3 |
| | | 1110 | | | NW-3 (TR) | | | X | X | X | | 4 |
| | | 1115 | | | NW-4 (TR) | | | X | X | X | | 5 |
| | | 1125 | | | W-2 (TR) | | | X | X | X | | 6 |
| | | 1135 | | | W-3 (TR) | | | X | X | X | | 7 |
| | | 1145 | | | W-4 (TR) | | | X | X | X | | 8 |
| | | 1155 | | | SW-3 (TR) | | | X | X | X | | 9 |
| | | 1205 | | | SW-4 (TR) | | | X | X | X | | 10 |
| | | 1215 | | | S-1 (TR) | | | X | X | X | | 11 |
| | | 1230 | | | BG-1 | | | X | X | X | | 12 |
| W | 1-25-13 | 1240 | | X | BG-2 | HCl | 7 | X | X | X | | 13 |

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

| Relinquished by: (Signature) | Received by: (Signature) | Date: | Time: |
|---|---|---|---|
| [signature] | [signature] | 1/25/13 | 1655 |
| 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

*213012545*

| SAMPLE DELIVERY GROUP | 213012545 |
|---|---|
| **Client**<br>4271 - Michael Pisani & Associates | **Transport Method**<br>CUST |
| **Profile**<br>233926 - 80-05 Assumption Parish Sinkhole | **Received By**<br>Pfeifer, Ben J. |
| **Line Item(s)**<br>2 - Waters - BTEX | **Receive Date(s)**<br>01/25/13 |

| 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) |
|---|---|
| | 3.8 |
| | 4.6 |
| | 3.0 |

## DISCREPANCIES

None

## LABORATORY PRESERVATIONS

None

## NOTES

~~GCAL~~ ISOTECH

# CHAIN OF CUSTODY RECORD

7979 GSRI Avenue, Baton Rouge, Louisiana 70820-7402
Phone 225.769.4900 • Fax 225.767.5717

Lab use only

| Client Name | Client # | Workorder # | Due Date |
|---|---|---|---|
| | | | |

**Report to:**

Client: Michael Pisani & Assoc
Address: 1100 Poydras St. Suite 1800
New Orleans, LA 70163
Contact: Dave Angle
Phone: 281-242-5700
Fax: dangle@mpisani.com

**Bill to:**

Client: Texas Brine Co
Address:
Contact:
Phone:
Fax:

P.O. Number: 80-05

Project Name/Number: Assumption Parish Sinkhole

Sampled By: PMR

Analytical Requests & Method: 26-3

**Lab use only:**

Custody Seal
used ☐ yes ☐ no
intact ☐ yes ☐ no

Temperature °C

| Matrix[1] | Date | Time (2400) | Comp | Grab | Sample Description | Preservatives | No Containers | 26-3 | Remarks: | Lab ID |
|---|---|---|---|---|---|---|---|---|---|---|
| W | 1-25-13 | 1510 | | X | GP-3 | | 1 | X | | / |

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

| Relinquished by: (Signature) | Received by: (Signature) | Date: | Time: |
|---|---|---|---|
| [signature] | [signature] | 1/31/13 | 0900 |
| 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

ISOTECH
ISOTECH LABORATORIES INC

# ANALYSIS REPORT

| | | | | |
|---|---|---|---|---|
| Lab #: | 332143 | Job #: | 20563 | IS-62167 |
| Sample Name/Number: | GP-3 | | | |
| Company: | Texas Brine Company, LLC | | | |
| Date Sampled: | 1/25/2013 | | | |
| Container: | IsoBag | | | |
| Field/Site Name: | Assumption Parish Sinkhole | | | |
| Location: | | | | |
| Formation/Depth: | | | | |
| Sampling Point: | | | | |
| Date Received: | 1/31/2013 | Date Reported: | 2/06/2013 | |

| Component | Chemical mol. % | $\delta^{13}C$ ‰ | $\delta D$ ‰ | $\delta^{18}O$ ‰ |
|---|---|---|---|---|
| Carbon Monoxide | nd | | | |
| Hydrogen Sulfide | na | | | |
| Helium | 0.0047 | | | |
| Hydrogen | nd | | | |
| Argon | 0.575 | | | |
| Oxygen | 12.17 | | | |
| Nitrogen | 47.46 | | | |
| Carbon Dioxide | 8.29 | | | |
| Methane | 31.44 | -67.01 | -207.3 | |
| Ethane | 0.0436 | -25.7 | | |
| Ethylene | nd | | | |
| Propane | 0.0101 | | | |
| Propylene | nd | | | |
| Iso-butane | 0.0021 | | | |
| N-butane | 0.0003 | | | |
| Iso-pentane | nd | | | |
| N-pentane | nd | | | |
| Hexanes + | 0.0001 | | | |

Remarks:
** Ethane isotopes obtained online via GC-C-IRMS

nd = not detected. na = not analyzed. Isotopic composition of hydrogen is relative to VSMOW. Isotopic composition of carbon is relative to VPDB. Isotopic composition of oxygen is relative to VSMOW, except for carbon dioxide which is relative to VPDB. Calculations for BTU and specific gravity per ASTM D3588. Chemical compositions are normalized to 100%. Mol. % is approximately equal to vol. %.