

Findings of Persistency of Polycyclic Aromatic Hydrocarbons in Residual Tar Product Sourced from Crude Oil Released during the Deepwater Horizon MC252 Spill of National Significance

James H "Rip" Kirby III,
University of South Florida, Dept of Geology, 4202 E Fowler Ave, SCA 528, Tampa, FL 33620
jkirby@usf.edu

ABSTRACT

Crude oil product washed ashore in the northern Gulf of Mexico (GOM) starting in late April 2010. Field expeditions in May 2010 were conducted to baseline the pristine conditions of the beaches were done prior to arrival of crude oil product. Field work to collect tar product samples for a trend analysis of Polycyclic Aromatic Hydrocarbons (PAH) concentration levels started in late March 2011 and ended in November 2011. Six sample sets were collected approximately at one month intervals and submitted for analysis. A total of 71 samples were tested. Tests for 38 different PAH analytes were done on 48 samples. Oil range organics (ORO) tests were done on 23 samples. Compared to the Immediately Dangerous to Life or Health (IDLH) or carcinogenic exposure limit for PAH analytes listed as coal tar derivatives, 90% of the positively identified analytes exceeded the IDLH limit. The use of ultraviolet light equipment in the field showed distinct fluorescent responses to illumination by a 370nm UV light source. UV light equipment was found to be very efficient in identifying tar product on the beach for evaluating the visual level of contamination on the beach. Fluorescent responses from tar product found in the field and laboratory created tar product were measured by fluorometry equipment. The collection area was between Waveland, MS and Cape San Blas, FL. Most sampling efforts centered on the AL and NW FL Panhandle shorelines.

Keywords: Tar product, Macondo, oil pollution, dispersant, Corexit®, fluorescence, UV light, beach, swash zone, plunge step, contaminated sediment, toxicants, PAH

INTRODUCTION

Shortly after the accidental sinking of the MDV Deepwater Horizon (DWH) and subsequent release of crude oil into the waters of the GOM, the USCG declared the accident a Spill of National Significance (SONS), the first ever declaration for an oil spill. On May 10-11, 2010, the author and a team of geologists conducted a beach front study on behalf of private property owners in Walton County, FL and Destin, FL to determine a baseline for the exact level of any contamination that may have been present prior to

the expected arrival of crude oil from the SONS accident site. Results were conclusive that no contamination was present. This comports with the physical inspections conducted by geologists monitoring the NW Florida panhandle coastline since August 2004 as part of the USF Coastal Research Lab's hurricane impact studies. Prior to the arrival of crude oil along the coastline of the northern GOM in Alabama and NW Florida, no physical signs of oil pollution were encountered.

USCG and other agencies collected crude oil and weathered tar product from the coastal zone. Tests by the EPA and USGS established fingerprint techniques and standards for identifying contaminants as being sourced from the DWH accident site. The samples collected for this study were not fingerprinted for identifying the source of the tar product collected. Samples were collected to determine the level of toxic PAH material contained in those samples. The UV signature of the tar sample was used to visually identify the probability of the sample as having been treated with Corexit® brand dispersants. Determining the toxicity of tar product was the main focus of this research effort. Identification of the provenance of tar product was not part of this sample collection and analysis effort.

The contamination from crude oil and subsequent tar product it created negatively affected the tourism industry and the fishing industry, both economically and environmentally. The determination of the toxicity of tar product remaining in the environment and whether there is any extraordinary affect of Corexit® brand dispersants on the behavior of the resulting tar product provides information that links the economic and environmental aspects together. Tourism in the northern GOM declined sharply following the SONS event. Maritime fishing areas were closed down during the clean up response effort. These industries have begun to recover economically, but the environmental damage from persistently toxic PAH levels in tar product is still being studied and is not fully understood.

Results of current field work show that the swash zone is a major area where tar product is concentrating. Field investigations in the affected area (Figure 1) conducted after crude oil arrived in the coastal zone of the northern GOM showed a pattern of shoreline concentration along the plunge step (Figure 2) that forms during certain wave conditions. Specifically when a plunge step forms at the base of the wave run-up slope, tar product in the form of small flakes to large tar patties, are frequently found mixed into the shell debris at the base of the plunge step. This was observed in several different locations along northern GOM coastal beaches whenever a plunge step formed in the swash zone.

The plunge step area forms in response to low energy, small wave conditions that are continuous over 2-4 tidal cycles. Once formed, the plunge step maintains its geomorphic shape until higher energy, larger waves flatten the swash zone beach face and its attendant plunge step. During the destruction of the plunge step, field investigations did not find tar product to be present in high volumes in the sediment of

the area where the plunge step previously existed. Observations indicate that any weathered tar product sequestered in the plunge step area was remobilized into the long shore swash zone and likely moved landward at high tide to be stranded in the back beach wrack line area.

During the collection time period, which roughly coincided with the annual hurricane season, tar product collected by researchers and trained volunteers was found during daylight and at night. Night operations used UV light sources that would cause the tar product to fluoresce a distinct yellow-orange color (550-630nm wavelength). Clean glass bottles were used to hold the samples until processed for lab analysis. Containers were stored in cold storage at 38°F or less in a dedicated refrigerator while being held for processing. Processing involved examining the samples under controlled conditions using ambient and UV light sources, recording imagery of the fluorescent signature or lack thereof, and documenting the date, time, and location of the collected specimen on a chain of custody receipt. Samples were packed in coolers surrounded by bagged ice and shipped overnight via FedEx to the lab in Baton Rouge, LA.

The lab analyzed the samples for PAH analytes (see lab reports in the appendix) using method SW 8272-Modified by Gulf Coast Analytical Laboratories. Data was reported in both PDF and comma delimited formats. The PDF files are attached in the appendix and represent the official certified reports. The comma-delimited format was used for processing data found in the tables in this report. All the data was processed through a combination of FileMaker Pro v8.5 and MS Excel spreadsheet software programs.

During the research effort, the use of ultraviolet light from handheld equipment allowed weathered tar product to be easily detected at night. The UV light source wavelength was 365-370nm. The same light source was used in the lab to distinguish fluorescent signatures of laboratory created tar product from crude oil and dispersant products supplied to the USF Coastal Research Lab by BP and Nalco.

FINDINGS

1. Tar product is being remobilized along the shorelines of the northern GOM when higher energy wave sets eroded and redeposit beach sediment.
 - a. Field investigations have shown that low energy conditions will create plunge step morphology that effectively concentrates tar product and shell debris at its base. Tar product will adhere to the shell material.
 - b. Low energy wave conditions that help create plunge step morphology result from what is generally regarded as “good weather” for recreational activities on the beach. In response to such conditions, visitors to the beach tend to increase in

number. More people at the beach means a higher probability of human contact with tar product found in the plunge step area.

2. Weathered tar product sourced from crude oil dispersed with Corexit® brand chemical dispersants were found to have PAH concentrations consistently in excess of the IDLH limits (80mg / m³) as stated in the *NIOSH/OSHA Occupational Health Guidelines for Chemical Hazards* and published in the NIOSH Pocket Guide to Chemical Hazards, 2007 (third printing).
 - a. From March to November, 2011, weathered tar product samples were collected for analysis. The collection area ranged from Cape San Blas, FL to Waveland, MS. There were 26 primary sample collection sites (Table 1). When primary sites displayed wider contamination levels, sub-sampling was done at that primary site. An additional 6 sub-sampling variations occurred to make a total of 32 sample locations. Most samples were collected along beaches in Alabama and NW Florida counties of Escambia and Walton. Of the 32 collection sites, only 3 were found to be free of PAH contamination. Of those 32 collection sites, 26 had contamination levels in excess of the IDLH for PAH analytes (Table 2).
 - b. Seventy one samples were collected at roughly one month intervals and sent to Gulf Coast Analytical Laboratory, a certified analytical lab in Baton Rouge, LA. Twenty three were ORO tests and 48 were PAH tests. The analytical reports are included in the appendix. Of the 48 samples submitted for PAH analysis, 90% of these returned detection values of PAH analytes at concentration levels that exceeded the IDLH (Table 3).
3. Published scientific documentation shows that microbial degradation (biodegradation) of crude oil is the natural and primary remediation path for crude oil that can't be physically or chemically removed from the environment.
 - a. The life cycle of weathered tar product created from crude oil sources that pollute shorelines downdrift of oil spill incident locations is well known. Wilcock et al, (1996) reported:
 - i. The main influence on PAH persistence is biological degradation by bacteria, fungi and physical weathering
 - ii. Biodegradation of PAHs with fewer than four rings readily occurred in the first month. Compounds with higher molecular weights persisted much longer, in some cases greater than 200 weeks.

- iii. Total concentrations of PAH mass rapidly declined during the first few days after application with a reported 38% loss during the first tidal cycle. After that, levels declined slowly and consistently finally yielding an approximate half-life of 200 ± 100 days.
 - b. The data reported by Wilcock et al, (1996) did not mirror the reported data on the samples collected for analysis along the northern GOM coast. The high concentration levels of PAH analytes remained consistent throughout the sample collection time period. The only difference between the two situations was that PAH compounds studied by Wilcock et al, (1996) had not been treated with Corexit® dispersant.
 - c. The study by Wilcock et al, (1996) is one of many that support the concept of biological degradation of weathered crude oil product in coastal zone environments as a primary mechanism for the remediation of crude oil pollutants that contaminate shorelines. They also reported that areas with higher levels of pollution from more frequent incidents of spills likely have “microbial adaption” evident that result in more rapid biological degradation of the hydrocarbon pollutants from those more frequent incidents. Given the lack of oil spill impacts on the coastlines of NW Florida and the rare oil spill frequency on Alabama beaches, it is doubtful that any natural selection favoring bacteria that are more tolerant of toxic oil concentrations and more aggressive in consumption capabilities has occurred.
4. Corexit® dispersant is toxic to the two main species of bacteria known to biodegrade crude oil in situ.
- a. Hamden and Fulmer (2011) of the US Naval Research Laboratory in Washington DC, published an article titled the *Effects of Corexit® EC9500A on bacteria from a beach oiled by the Deepwater Horizon spill*. Their results found that, at concentrations that did not pose a significant hazard to adult test organisms, “...dispersants may be highly toxic to communities directly involved in natural hydrocarbon bioremediation.” They concluded that “The results of the current study demonstrate that microbial populations are susceptible to toxicity from the use of COREXIT® EC9500A when applied at prescribed concentrations.”
 - b. Given the estimate by Wilcock et al, of less than a year for microbial degradation to remove crude oil with low molecular weights from the environment in warm water environments, the persistency of toxic PAH levels supports the conclusion by Hamden and Fulmer on the negative impact of Corexit® on microbial populations that biodegrade oil product in situ. In addition, large tar product

remobilization events now occur along the affected coastline. If microbial degradation were occurring on the schedule and scale that was predicted by Wilcock et al., these remobilization events would be decreasing in severity and volume instead of continuing at a fairly constant level.

5. Corexit® brand dispersants used in the oil spill clean up response create a discernible fluorescent signature when illuminated by 370nm UV light.
 - a. The author confirmed that field work showing different levels of fluorescent response from weathered tar product was created by the presence, or lack, of Corexit® brand dispersants, specifically Corexit® 9500A and Corexit® 9527A (Figure 3). In laboratory experiments, a red shift was confirmed in crude oil product that had been exposed to Corexit® brand dispersants and allowed to weather in controlled conditions. By positively identifying residual tar product as containing Corexit® dispersant through the correlation of its fluorescent response to illumination by UV light and its relative ratio of Corexit® brand dispersant to crude oil, the author provides a tool for identifying tar product as having high probabilities of toxic levels of PAH compounds that need physical removal.
 - b. Field use of the UV light showed that it was an effective tool to identify tar product when used in low ambient light conditions such as early evening and night operations. It easily allowed identification of tar product without additional special equipment.
6. Corexit® brand dispersants used in the oil spill clean up response could provide a mechanism for leaching of PAH compounds found in weathered tar product into lower layers of beach sediment. The probable mechanism is the hydrophilic property of the dispersant that is attracted to water percolating through a sediment layer containing contaminants affected by Corexit® brand dispersants. Supporting this hypothesis is a Gas Chromatography Mass Spectrometric result from a field analysis of contaminated sediment in samples recovered from trenches on the beach of Orange Beach, AL. It showed the presence of the same PAH compounds in upper and lower layers of sediment. The lower layer was supposedly clean and free from contamination.
 - a. In October 2010, the author identified highly contaminated layers of beach sediment (Figure 4) that included oil coated sand grains and surface residual tar product. These layers were identified using UV light to create a fluorescent response that matched previous samples of contaminated sediment found at locations reported by the USCG to contain crude oil product from the DWH spill. Characteristics of the depositional layering of the oil coated sand grains indicate

eolian transport and deposition in the upper 20cm of the active surface in the back beach area. Eolian deposition is the most reasonable deposition conclusion where wave run up does not occur unless storm conditions are present. Larger, residual tar product was likely buried in this layer by vehicular and beach cleaning equipment.

- b. The presence of Corexit® dispersant in the tar product was confirmed by positive fluorescent signatures produced by the contaminated sediment when illuminated by a 370nm wavelength high intensity UV lamp (Horizon 1 in Figure 4). However, the lower, contaminated layer (Horizon 2 in Figure 4) did not provide a fluorescent signature as did the overlying, contaminated layer. This lack of visual fluorescent response initially led to classification of the lower layers as “visually free of contamination.” Later, the presence of the oil related hydrocarbon compounds in Horizons 1 and 2 was confirmed by Gas Chromatography Mass Spectrometric methods (Figure 5). The implication is that while the presence of contamination can be visually confirmed with UV light methods, the lack of a fluorescent signature does not guarantee a contaminant-free surface or sub-surface layer that is being illuminated by UV light. It is unknown as to why this difference in fluorescence exists.

7. Corexit® brand dispersants used in the oil spill clean up response increased the penetration of PAH compounds into the beach sediment which could lead to the contamination of groundwater sources.

- a. In 2012, Zuijdgeest et al, while investigating the effect on groundwater contamination from leached hydrocarbons treated with Corexit® brand dispersants, concluded that “the application of dispersants to oil slicks near shores with sandy beaches can increase the penetration of PAHs into the beach, which could lead to the contamination of groundwater if concentrations are sufficiently high.”
- b. The conclusions of Zuijdgeest et al, comport with the Gas Chromatography Mass Spectrometric data of the author on the presence of hydrocarbons in lower layers of beach sediment at Orange Beach, AL and physical observations in the field.
- c. Physical observations from the field included the “sniff” test. When crude oil contaminants first arrived on shore, trenching operations at Orange Beach, AL conducted to find buried tar product and oil released vapors from the buried contaminants. At times, the odor was strong enough to warrant the use of appropriate PPE filter masks to avoid inhaling fumes. Even though no visual

evidence of contamination was present in the lower layers of these trenches, the odor released from lower layers was obvious as trench sediment was removed.

8. Field observations show that wet skin dermal contact with tar product created from weathered dispersed crude oil results in immediate absorption into the skin. In this regard, tar product derived from weathered crude oil dispersed with Corexit® brand dispersants behaves as though it contains a built-in absorption accelerant. The dermal absorption is not visible under ambient light conditions, but will show up as a fluorescent signature in response to 370nm UV light illumination of the skin surface.

a. In August 2011, the author found that wet skin contact with residual tar product created from dispersed crude oil resulted in immediate dermal absorption of the fluorescing material directly into wet skin. This was not adherence to the skin, it was absorption. No tar product was found stuck to the skin surface and nothing was able to be wiped off the skin onto another material, such as a paper towel or rag. Figure 6 shows the area of skin where fluorescing material absorbed under ambient light conditions. Figure 7 shows the same scene under UV light conditions. Each fluorescing spot represents an individual absorption event. Contamination via dermal absorption while in contact with submerged sediments in the swash zone (Figure 8) had been discounted as highly improbable by the Florida DOH early in the health threat assessment efforts. It is obvious from visual evidence in Figures 6 and 7 that wet skin dermal absorption is not only possible, but rapid and highly efficient. It is important to emphasize these points.

- i. No tar product was seen attached to the legs of the subject during field work.
- ii. All contact was done while kneeling on the bottom in shallow water in front of the plunge step while gathering sediment samples for analysis.
- iii. No residue could be removed by wiping a secondary material on the skin surface. Nothing was adhering to the skin that could be physically detected.
- iv. No skin samples or biopsies were collected. The only evidence of possible contamination is the visual detection using UV light to fluoresce material that was absorbed into the skin.

b. Moody, et al, (1995) found that detergents and strong soaps will create additional forcing mechanisms for the absorption of benzo[a]pyrene across a dermal boundary. Essentially, the dispersant bound to the hydrocarbon operates like a detergent by accelerating wet skin dermal absorption rates.

- c. The exact level of toxicity in the fluorescing material of the toxic tar product is unknown. However, it is known that the tar product encountered during this wet skin dermal absorption event included PAH concentration levels that exceeded the IDLH limits listed on page 74 of the NIOSH Pocket Guide To Chemical Hazards (2007). For PAH compounds, these factors ranged from 110% to 2,863% of the 80mg/m³ carcinogenic limit listed therein.
- d. Because of this event, the author contacted two highly qualified toxicology researchers and the FL DOH state toxicologist to obtain expert opinions on the likelihood of this absorption mechanism representing a human health risk. Both independent experts recommended a toxicology study be conducted to determine what level of enhanced absorption might result from the presence of Corexit® dispersant bound to hydrocarbon molecules in tar product found in coastal beach sediments. The FL DOH state toxicologist reviewed the information provided and decided the current model was adequate to assess risk and took no further action.
- e. As noted by the various health agencies, avoiding contact with tar product is the best way to prevent contamination. In the case of workers who are involved in collecting samples or cleaning beaches, appropriate safety precautions to minimize and preclude direct contact with tar product should be taken. People who have been trained in HAZWOPR safety classes should be alerted to the fact that tar product sourced from crude oil treated with Corexit® brand dispersant will rapidly absorb through a wet skin dermal boundary. Wet skin is not simply created from swimming, but the use of protective gloves also prevents perspiration from evaporating. This situation creates wet skin and during the removal of gloves, inadvertent contact with tar product affected by Corexit® brand dispersant could easily result in an absorptive event. Risk reduction from this chronic exposure scenario should be included for HAZWOPR training.

IMPLICATIONS OF THIS RESEARCH

The presence of Corexit® brand dispersant in tar product found on beaches in the northern GOM is no longer in doubt. Use of Corexit® brand dispersants should be halted immediately for any and all open water applications. The results of using Corexit® dispersant are simply unknown at the present time and their effects on the environment are clearly more widespread in the Gulf of Mexico than previously thought. Other non-toxic dispersants are on the approved National Contingency Plan (NCP) list for use in clean up operations and, based on laboratory testing to date by the author, are more effective than Corexit® at creating non-toxic dispersed oil. Moreover, models for dermal toxicity assessment using hydrocarbon product treated with dispersant have not yet been evaluated or made known to the scientific community and

the effects of exposure over the long term are yet to be determined. Given the unknown toxicity and potential for dermal absorption of tar product created from crude oil dispersed with Corexit® brand dispersants, it is highly recommended that an immediate examination of this rapid absorption contamination vector through wet skin be started. Because toxicology studies are beyond the scope of this research effort, it is hoped by the author that this early release of findings will prompt such an effort to occur sooner rather than later.

CONCLUSION

The presence of Corexit® brand dispersant treated crude oil as provenance for weathered tar product can be determined by examining its fluorescent response to 370nm wavelength UV light. The fluorescent response, or signature, of the tar product shifts toward red as the amount of dispersant increases. Thus, higher ratios of dispersant to crude oil used during clean up operations can be subjectively determined. Published research confirms that microbial degradation of tar product is inhibited by the presence of Corexit® dispersant still bound to its molecular structure. Finding tar product using UV light is a proven solution to improving physical removal methods. In addition, removal of tar product weathered from crude oil dispersed with Corexit® dispersants would lower the number of contact events and thus reduce human health and safety risks for recreational water activities at beaches. Toxicology studies to determine effects of Corexit® dispersant on dermal absorption rates of carcinogenic PAHs through wet skin are needed to assess risk to human health and safety.

ACKNOWLEDGEMENTS

This research was funded primarily by the Surfrider Foundation from financial support by Patagonia, O'Neill, Norcross Foundation, and individual donors. The USF Coastal Research Lab provided assistance and equipment. ARA/Vertek provided equipment and expertise. The numerous volunteers supporting this ongoing project are gratefully acknowledged and three of them, Jane Kirby, Michael Sturdivant, and Susan Forsyth, deserve individual honors for going above and beyond the call of duty in supporting the author's research. BP P.L.C. and Ecolab-Nalco are acknowledged for providing crude oil and dispersant product to conduct the research. Congressman Jeff Miller (FL-1) and his staff helped to expedite the receipt of necessary products from BP P.L.C. and Ecolab-Nalco.

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FIGURES AND TABLES



Figure 1. Area of operations ranged from Cape San Blas, FL to Waveland, MS. The predominant areas observed were in Orange Beach, AL, Pensacola Beach, FL, Navarre Beach, FL, along with various beaches in Okaloosa County and Walton County, FL. Graphic adapted from Google Earth.

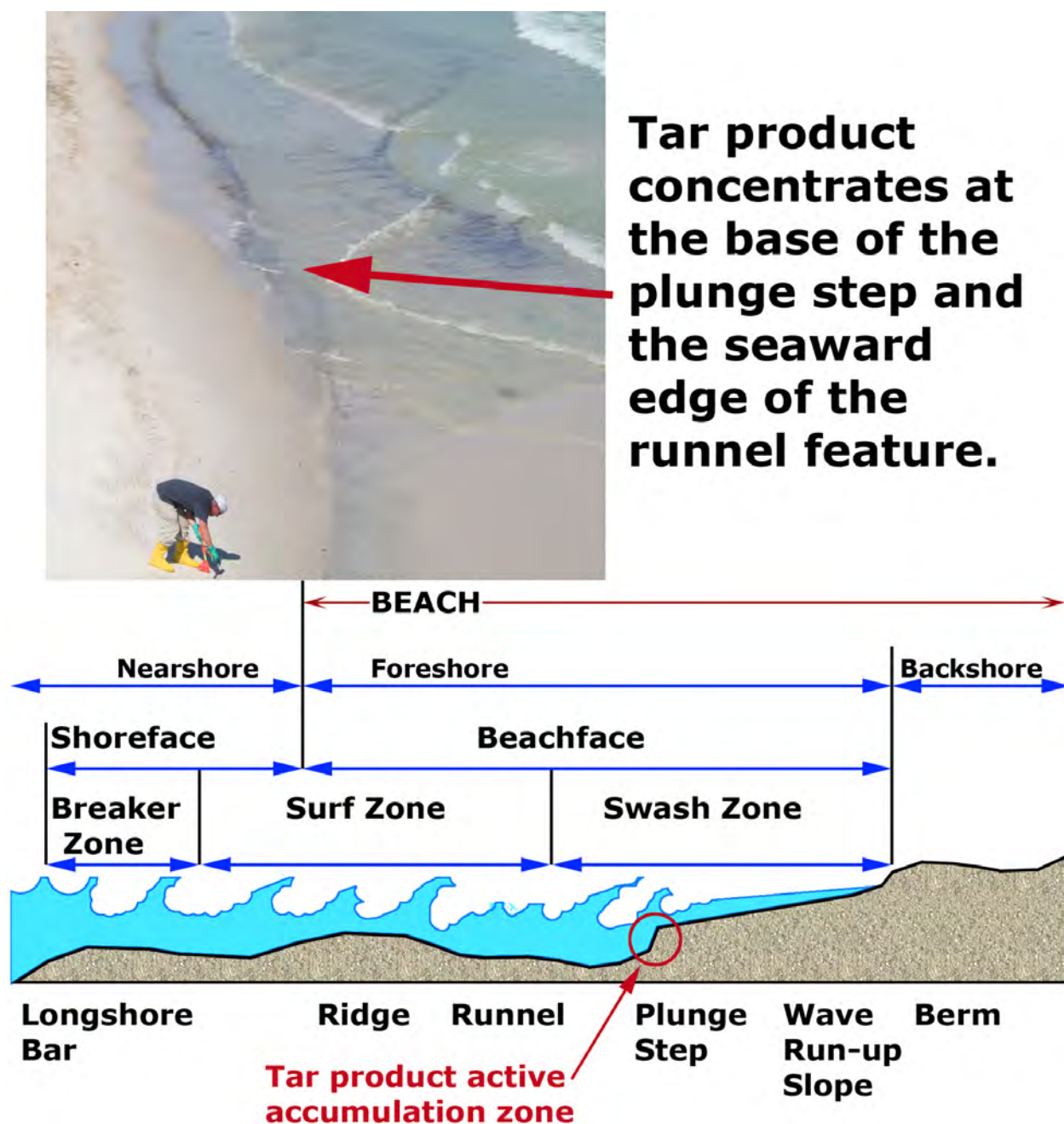


Figure 2. The plunge step is a feature located at the base of the wave run-up slope and is generally formed in response to low energy wave conditions that continue over 2-4 tidal cycles. During this formation period, the increasing slope and height of the plunge step causes slightly negatively buoyant material to accumulate at the base until a higher energy wave arrives with enough force to lift the material onto the wave run-up slope. Tar product is negatively buoyant enough to be trapped at the base of the plunge step along with shell material and other beach debris. Graphic adapted from Encyclopedia of Coastal Science, 2005, p. 145, Figure B22.

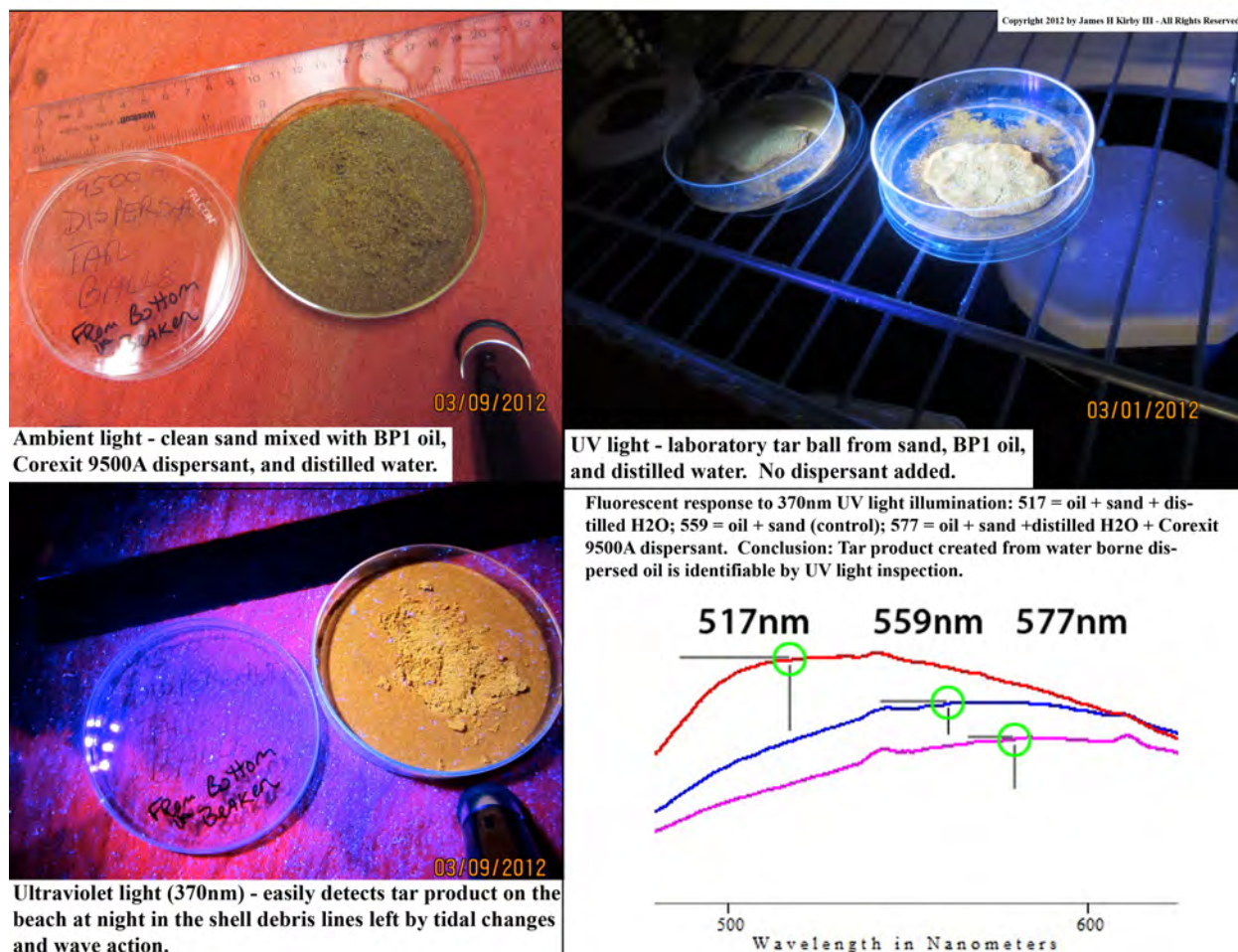


Figure 3. Crude oil treated with dispersant and allowed to weather in laboratory controlled conditions displayed a red shift of 60nm when illuminated by a 370nm UV light source. This red shift is easily discerned by the human eye. Field use of the UV light showed that operations conducted after the sun sets allowed the UV light to effectively fluoresce tar product without confusion with other materials that, under ambient light conditions, could easily be mistaken for tar product. Inspections conducted after clean up efforts also proved that beaches cleaned during daylight operations did not remove all the tar product present that could be easily removed.

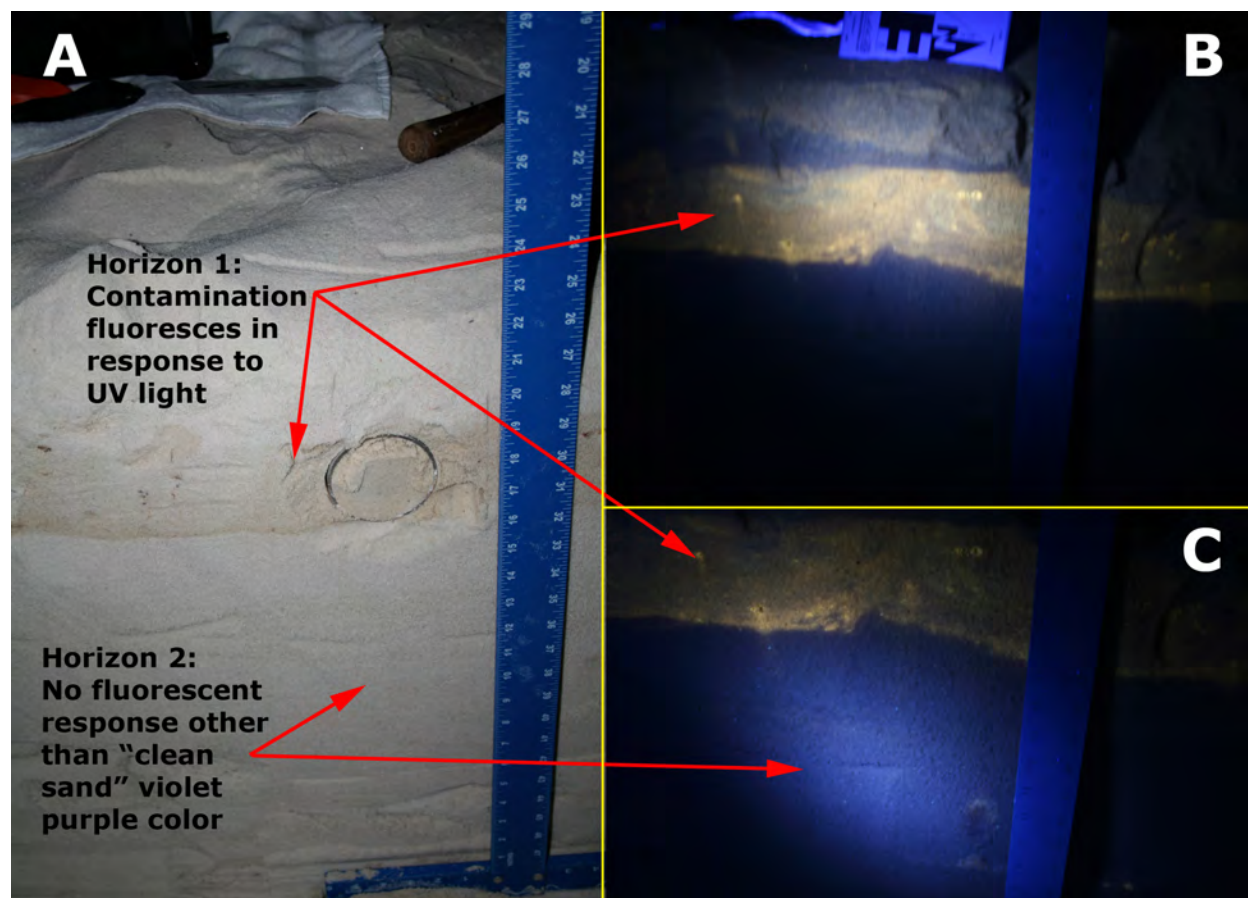


Figure 4. Panel "A" - Ambient light imagery of a trench wall dug to 75cm below grade. The tan layer is the contaminated layer that is fluorescing in Panels "B" and "C". The orange and yellow fluorescent signature (Horizon 1) indicates contamination by weathered crude oil likely mixed with some unknown amount of Corexit® brand dispersant during the clean up response. Panel "C" shows the expected fluorescent response color (violet-purple) of supposedly uncontaminated sand (Horizon 2) below the contaminated layer. As the GCMS results show in Figure 5, the same contamination in the upper layer is present in the lower sediments that did not fluoresce.

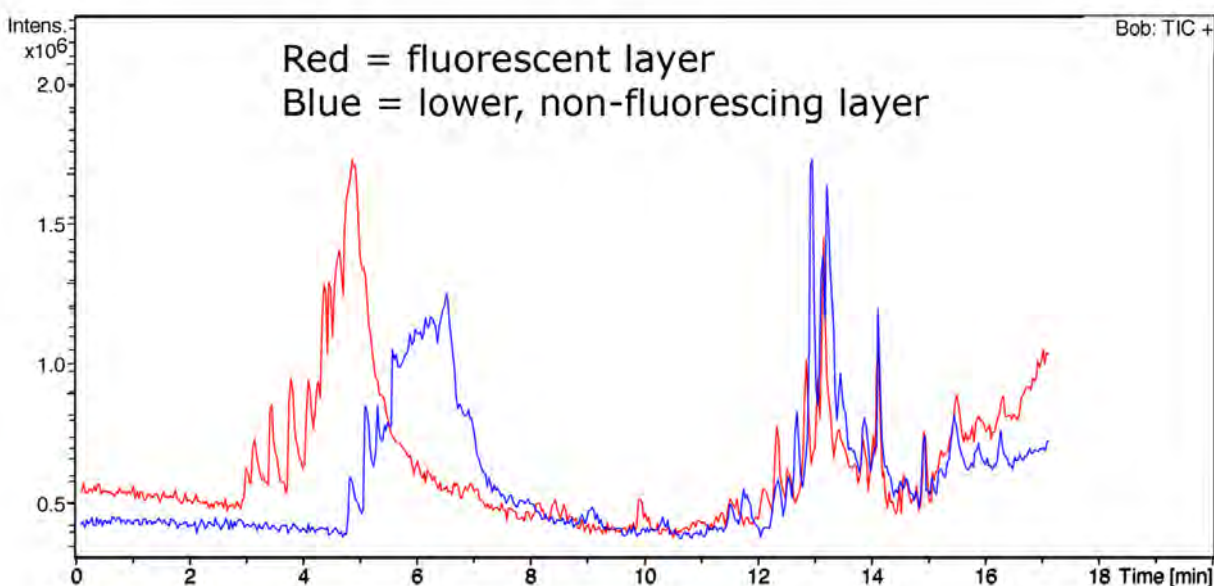


Figure 5. Fluorescent signatures indicated contaminated sediment. Sediment below the contaminated layer did not fluoresce. However, when examined by GCMS equipment, contamination signatures matched. This indicated that PAH compounds were leaching from the higher layers into the lower layers. Given the fluorescent color of the contaminated layer, it was highly likely that the crude oil product had been mixed or treated with Corexit® dispersants prior to making landfall and weathering on the beach. The presence of dispersant bound to the crude oil would make it easier for water percolating downward to attach and create a micelle that could be moved more easily through the water saturated sediment pore spaces during times of heavy rainfall.



Figure 6. Ambient light shows no sign of contaminated skin.



Figure 7. UV light shows numerous spots of contamination absorbed in skin.



Figure 8. Working conditions where the contamination occurred at the west end area of Pensacola Beach. Bottom contact was constant, but generally less than a minute at any single spot as the sampling team worked along 200m of shoreline.

Location Number	Google Earth Latitude (°N)	Google Earth Longitude (°W)	Location Description and Remarks
1	30.260800	89.403783	Waveland MS - pocket beach; 30° 15.648'N 89° 24.227'W
2	30.241866	87.721753	Gulf Shores, AL - 30.241866°N 087.721753° W
3	30.308912	87.372325	PERDIDO KEY - GINS, Johnson Beach; CSM R46 - fore beach high water line - tar balls stranded in sand at the end of the wave run up line
4	30.309523	87.369237	PERDIDO KEY - GINS, Johnson Beach; CSM R47 - mid beach shell debris wrack line
5	30.310774	87.363065	PERDIDO KEY - GINS, Johnson Beach; CSM R49 - fore beach shell debris line
6	30.311425	87.359986	PERDIDO KEY - GINS, Johnson Beach; CSM R50 - high water wrack line; tar balls with embedded shell debris
7	30.313324	87.350726	PERDIDO KEY - GINS, Johnson Beach; CSM R53 - back beach wrack line
8	30.315202	87.341468	PERDIDO KEY - GINS, Johnson Beach; CSM R56 - back beach wrack line tar balls
9	30.316452	87.335294	PERDIDO KEY - GINS, Johnson Beach; CSM R58 - back beach tar balls
10	30.324810	87.313411	PERDIDO KEY - GINS, Johnson Beach; CSM R66 - swash zone and plunge step tar balls
11	28.047300	87.216367	N 28° 2.838' W 87° 12.982' - Offshore, approx 11 miles NE of DWH accident site-surface oil
12	30.324767	87.183300	FT PICKENS - EAST END, FL; PUBLIC BEACH ACCESS AREA - 30° 19.486'N 87° 10.998'W"
13	30.795833	87.166667	WEST END OF P'COLA BEACH, FL - 30° 19' 28.75" N 87° 10' 53.08"W
14	30.330489	87.141441	Pcola Bch, FL (Casino Beach due south of the water tower) -N 30.330489° W 087.141441°
17	30.371807	86.913659	N 30° 22'21" W 86°54'50" - Navarre Beach - west end public access at unpaved prkng lot
15	30.377267	86.875550	N 30° 22.636' W 86° 52.533' - NAVARRE BEACH, FL; PUBLIC BEACH ACCESS AREA
16	30.379957	86.860358	N 30° 22'49" W 86° 51' 45" - Navarre Pier - east side beach area due south of picnic lanai area
18	30.391050	86.634317	OK Island - near shore bottom sampling site - due south of the Eglin-western OK Island boundary
19	30.403983	86.618017	N 30° 24.239' W 86° 37.081' - The Boat Marina (oily debris in ICW)
20	30.383550	86.451683	N 30° 23.013' W 86° 27.101' - Henderson Beach SP
21	30.368167	86.324467	EAST END OF SAN DESTIN BEACH; boundary with Topsail Hill SP; N 30° 22.090' W 86° 19.468'
22	30.355541	86.265623	Stallworth Lake outfall -30.354632° 086.263097°
23	30.354583	86.261050	N 30° 21.275' W 086° 15.663' - Stallworth area beach samples
24	30.352150	86.251167	DUNE ALLEN BEACH, FL; PUBLIC BEACH ACCESS AREA - 30° 21.129' N 86° 15.070' W
25	30.329581	86.172940	West end of Grayton Beach, FL - 30° 19' 38"N 86° 10' 26"W
26	29.724380	84.980860	N 29.72438° W 84.98086° - Appalachicola Bay area

Table 1. Summary of primary collection sites for tar product samples. In addition to these 26 primary sites, 6 sites adjacent to the most contaminated sites were sampled when conditions warranted. Google Earth was used as a universal geocoord reference generator. The local description and remarks are copied from the Chain of Custody forms and show the wide variety of GPS settings used by volunteer workers.

Line No.	Google Earth Latitude (°N)	Google Earth Longitude (°W)	Location Description and Remarks - 26 Sites with Positive Detects	ORO hits	PAH hits	No. Hits > IDLH
1	30.260800	89.403783	Waveland MS - pocket beach; 30° 15.648'N 89° 24.227'W	0	10	10
2	30.241866	87.721753	Gulf Shores, AL - 30.241866°N 087.721753° W	0	6	6
3	30.309523	87.369237	PERDIDO KEY - GINS, Johnson Beach; CSM R47 - mid beach shell debris wrack line	0	2	2
4	30.310774	87.363065	PERDIDO KEY - GINS, Johnson Beach; CSM R49 - fore beach shell debris line	0	2	2
5	30.313324	87.350726	PERDIDO KEY - GINS, Johnson Beach; CSM R53 - back beach wrack line	0	2	2
6	30.315202	87.341468	PERDIDO KEY - GINS, Johnson Beach; CSM R56 - back beach wrack line tar balls	0	2	2
7	30.316452	87.335294	PERDIDO KEY - GINS, Johnson Beach; CSM R58 - back beach tar balls	0	2	2
8	30.324810	87.313411	PERDIDO KEY - GINS, Johnson Beach; CSM R66 - swash zone tar balls	0	4	4
9	30.324810	87.313411	PERDIDO KEY - GINS, Johnson Beach; CSM R66 - plunge step tar balls	0	3	3
10	28.047300	87.216367	N 28° 2.838' W 87° 12.982' - Offshore, approx 11 miles NE of DWH accident site- surface oil	0	22	22
11	30.324767	87.183300	FT PICKENS - EAST END, FL; PUBLIC BEACH ACCESS AREA - 30° 19.486'N 87° 10.998'W"	1	4	4
12	30.330489	87.141441	Pcola Bch, FL (Casino Beach due south of the water tower) -N 30.330489° W 087.141441°	0	6	6
13	30.330700	87.140917	Pcola Bch, FL (Casino Beach due south of the water tower) -N 30° 19.842' W087° 8.455'	0	4	4
14	30.371807	86.913659	N 30° 22'21" W 86°54'50" - Navarre Beach - west end public access at unpaved prkng lot	1	10	10
15	30.403983	86.618017	N 30° 24.239' W 86° 37.081' - The Boat Marina (oily debris in ICW)	1	0	0
16	30.383550	86.451683	N 30° 23.013' W 86° 27.101' - Henderson Beach SP	1	0	0
17	30.368167	86.324467	EAST END OF SAN DESTIN BEACH; boundary with Topsail Hill SP; N 30° 22.090' W 86° 19.468'	1	4	4
18	30.354632	86.263097	Stallworth Lake outfall -30.354632° 086.263097°	0	5	5
19	30.354583	86.261050	N 30° 21.112' W086° 15.663' - Stallworth area beach samples - swash zone	1	30	30
20	30.354583	86.261050	N 30° 21.275' W086° 15.663' - Stallworth area beach samples -SL001	0	10	10
21	30.354583	86.261050	N 30° 21.275' W086° 15.663' - Stallworth area beach samples -SL002	0	7	7
22	30.354583	86.261050	N 30° 21.275' W086° 15.663' - Stallworth area beach samples -SL003	0	6	6
23	30.354583	86.261050	N 30° 21.275' W086° 15.663' - Stallworth area beach samples -SL004	0	9	8
24	30.352150	86.251167	DUNE ALLEN BEACH, FL; PUBLIC BEACH ACCESS AREA - 30° 21.129' N 86° 15.070' W	1	1	1
25	30.329581	86.172940	West end of Grayton Beach, FL - 30° 19' 38"N 86° 10' 26"W	0	13	13
26	29.724380	84.980860	N 29.72438° W 84.98086° - Appalachicola Bay area	0	22	22
Subtotals				7	186	185
Line No.	Google Earth Latitude (°N)	Google Earth Longitude (°W)	Location Description and Remarks - 29 Collection Sites for "J" Detects	ORO hits	PAH hits	No. Hits > IDLH
1	30.260800	89.403783	Waveland MS - pocket beach; 30° 15.648'N 89° 24.227'W	0	3	3
2	30.241866	87.721753	Gulf Shores, AL - 30.241866°N 087.721753° W	0	2	2
3	30.309523	87.369237	PERDIDO KEY - GINS, Johnson Beach; CSM R47 - mid beach shell debris wrack line	0	2	2
4	30.310774	87.363065	PERDIDO KEY - GINS, Johnson Beach; CSM R49 - fore beach shell debris line	0	1	1
5	30.315202	87.341468	PERDIDO KEY - GINS, Johnson Beach; CSM R56 - back beach wrack line tar balls	0	1	1
6	30.316452	87.335294	PERDIDO KEY - GINS, Johnson Beach; CSM R58 - back beach tar balls	0	2	2
7	30.324810	87.313411	PERDIDO KEY - GINS, Johnson Beach; CSM R66 - swash zone tar balls	0	2	0
8	30.324810	87.313411	PERDIDO KEY - GINS, Johnson Beach; CSM R66 - plunge step tar balls	0	2	2
9	28.047300	87.216367	N 28° 2.838' W 87° 12.982' - Offshore, approx 11 miles NE of DWH accident site- surface oil	0	2	2
10	30.324767	87.183300	FT PICKENS - EAST END, FL; PUBLIC BEACH ACCESS AREA - 30° 19.486'N 87° 10.998'W"	0	8	8
11	30.330489	87.141441	Pcola Bch, FL (Casino Beach due south of the water tower) -N 30.330489° W 087.141441°	0	4	4
12	30.330489	87.141441	Pcola Bch, FL (Casino Beach due south of the water tower) -N 30.330489° W 087.141441°	0	2	2
13	30.32725	87.119503	PensacolaBch002 30° 19.635'N 87° 07.171'W - 14th street dive site	1	2	0
14	30.371807	86.913659	N 30° 22'21" W 86°54'50" - Navarre Beach - west end public access at unpaved prkng lot	0	2	2
15	30.372533	86.875750	NavarreBch001 30° 22.352'N 86° 52.545'W - nearshore dive site (60')	1	0	0
16	30.379957	86.860358	N 30° 22'49" W 86° 51' 45" - Navarre Pier - east side beach area due south of picnic lanai area	0	1	1
17	30.403983	86.618017	N 30° 24.239' W 86° 37.081' - The Boat Marina (oily debris in ICW)	1	10	10
18	30.388683	86.613200	OK Island - near shore bottom sampling site - 004	1	0	0
19	30.368167	86.324467	EAST END OF SAN DESTIN BEACH; boundary with Topsail Hill SP; N 30° 22.090' W 86° 19.468'	0	4	4
20	30.347705	86.266352	Stallworth001 30° 20.860'N 86° 15.984'W - nearshore SCUBA sample	4	0	0
21	30.351867	86.261050	Stallworth Swash Zone - sand bar samples - N 30° 21.112' W086° 15.663'	0	26	22
22	30.354583	86.261050	N 30° 21.275' W086° 15.663' - Stallworth area beach samples - SL001	0	3	0
23	30.354583	86.261050	N 30° 21.275' W086° 15.663' - Stallworth area beach samples - SL002	0	4	0
24	30.354583	86.261050	N 30° 21.275' W086° 15.663' - Stallworth area beach samples - SL003	0	1	1
25	30.354583	86.261050	N 30° 21.275' W086° 15.663' - Stallworth area beach samples - SL004	0	1	0
26	30.352150	86.251167	DUNE ALLEN BEACH, FL; PUBLIC BEACH ACCESS AREA 30° 21.130'N 86° 15.100'W	1	5	0
27	30.352150	86.251167	DUNE ALLEN BEACH, FL; PUBLIC BEACH ACCESS AREA - 30° 21.129' N 86° 15.070' W	0	8	3
28	30.329581	86.172940	West end of Grayton Beach, FL - 30° 19' 38"N 86° 10' 26"W	0	3	0
29	29.724380	84.980860	N 29.72438° W 84.98086° - Appalachicola Bay area	0	4	4
Subtotals				9	105	76
Summary - Out of 32 total locations, there were only 3 where PAH analytes were NOT detected during 6 months of monitoring.				ORO hits	PAH hits	No. Hits > IDLH
Grand Totals				16	291	261

Table 2. Summary of location and counts for PAH and ORO detects from sample population. Note that of the 32 locations, only 3 did not prove to be contaminated. Those 3 sites were nearshore bottom sediment sites accessed by SCUBA teams. Of the 29 terrestrial locations, 26 contained contamination levels in excess of the IDLH for PAH analytes. Positive detects are concentration levels that exceed the laboratory's reporting detection limit (RDL) for equipment and procedures used in the analysis. "J" detects are concentration levels that exceed the laboratory's method detection limit (MDL) for equipment and procedures used in the analysis, but did not exceed the RDL. "J" detects are considered to have a larger margin of error than positive detects. Both are considered to be positive indicators of the presence of analytes detected at that concentration level.

Parameter (Total Samples per Parameter = 48)	Positive Detects Count	Count of Positive Detects > IDLH	Percentage of Total Samples with Positive Detects	Minimum Level Detected (ppb)	Maximum Level Detected (ppb)	Max % of Carcinogenic IDLH Level (80ppb)
Chrysene	30	27	62.500%	1.1300	74,600.00	93250%
C2-Phenanthrenes / anthracenes	29	29	60.417%	279.0000	690,000.00	862500%
C3-Phenanthrenes / anthracenes	29	29	60.417%	309.0000	580,000.00	725000%
C1-Phenanthrenes / anthracenes	25	24	52.083%	1,080.0000	390,000.00	487500%
C1-Chrysenes	21	20	43.750%	2.1000	159,000.00	198750%
C2-Chrysenes	19	18	39.583%	2.3900	194,000.00	242500%
Benzo(e)pyrene	13	8	27.083%	1.1500	16,700.00	20875%
C4-Phenanthrenes / anthracenes	13	13	27.083%	195.0000	255,000.00	318750%
C1-Fluoranthenes / pyrenes	9	9	18.750%	3,070.0000	199,000.00	248750%
C2-Fluoranthenes / pyrenes	9	9	18.750%	1,690.0000	305,000.00	381250%
C2-Fluorenes	9	9	18.750%	3,320.0000	246,000.00	307500%
C3-Fluoranthenes / pyrenes	9	9	18.750%	97.9000	237,000.00	296250%
Phenanthrene	9	7	18.750%	21.8000	108,000.00	135000%
Benzo(b)fluoranthene	7	3	14.583%	1.7700	1,910.00	2388%
Pyrene	7	4	14.583%	8.1100	50,400.00	63000%
C3-Chrysenes	6	6	12.500%	185.0000	155,000.00	193750%
C3-Fluorenes	6	6	12.500%	292.0000	242,000.00	302500%
C1-Fluorenes	5	5	10.417%	1,210.0000	136,000.00	170000%
Benzo(a)anthracene	4	2	8.333%	0.7730	36,100.00	45125%
Benzo(k)fluoranthene	4	1	8.333%	1.8200	262.00	328%
Fluoranthene	4	1	8.333%	0.9570	450.00	563%
Benzo(a)pyrene	3	2	6.250%	1.7500	14,100.00	17625%
C2-Naphthalenes	3	3	6.250%	60,400.0000	198,000.00	247500%
C3-Naphthalenes	3	3	6.250%	158,000.0000	360,000.00	450000%
C4-Naphthalenes	3	3	6.250%	129,000.0000	263,000.00	328750%
Benzo(g,h,i)perylene	2	2	4.167%	302.0000	7,430.00	9288%
Dibenz(a,h)anthracene	2	2	4.167%	291.0000	4,920.00	6150%
Fluorene	2	2	4.167%	5,160.0000	26,000.00	32500%
1-Methylnaphthalene	1	1	2.083%	-	22,300.00	27875%
2-Methylnaphthalene	1	1	2.083%	-	25,100.00	31375%
Acenaphthene	1	0	2.083%	-	34.00	43%
Indeno(1,2,3-cd)pyrene	1	1	2.083%	422.0000	422.00	528%
Naphthalene	1	1	2.083%	771.0000	771.00	964%
Perylene	1	1	2.083%	8,840.0000	8,840.00	11050%
2-Methylnaphthalene-d10	0	0	0.000%	-	-	0%
Acenaphthylene	0	0	0.000%	-	-	0%
Anthracene	0	0	0.000%	-	-	0%
C4-Chrysenes	0	0	0.000%	-	-	0%
Oil Range Organics (23 total samples tested)	16	2	69.565%	2,650.0000	15,900,000.00	883%

Table 3. Parameter Count of Detects and Percentages of IDLH Exposure Limits. ORO Target Clean Up Level is 1,800,000 ppb. Only 23 samples of ORO sediment were collected vs 48 for other analytes. The IDLH limit for these PAHs is 80ppb.

References and Literature Cited

1. Northern Gulf of Mexico. (2012). N 30° 20' W086° 53', Sea Level. Image 2012 TerraMetrics, Data SIO, NOAA, U.S. Navy, NGA, GEBCO. Google Earth Image. [Accessed April 10, 2012]. Available from: <http://www.google.com/earth/index.html>.
2. SCHWARTZ, MAURICE L. (ed). (2005). *Encyclopedia of Coastal Science*. Netherlands: Springer. DOI: 10.1007/1-4020-3880-1_31, p. 145, Figure B22
3. Wilcock, R. J., Corban, G. A., Northcott, G. L., Wilkins, A. L. and Langdon, A. G. (1996). Persistence of polycyclic aromatic compounds of different molecular size and water solubility in surficial sediment of an intertidal sandflat.. *Environmental Toxicology and Chemistry*. **15**, pp.670-676.
4. Richard P. Moody, Brita Nadeau, Ih Chu (1995). In vivo and in vitro dermal absorption of benzo[a]pyrene in rat, guinea pig, human and tissue-cultured skin. *Journal of Dermatological Science*. **9**, pp.48-58.
5. Leila J. Hamdan, Preston A. Fulmer (2011). Effects of COREXIT® EC9500A on bacteria from a beach oiled by the Deepwater Horizon spill. *AQUATIC MICROBIAL ECOLOGY*. **63**, pp.101-109.
6. Alissa Zuijdgeest, Jack Middelburg, Markus Huettel (2012). Application of Corexit 9500A as used in response to the Deepwater Horizon spill leads to higher PAH mobility and degradation in saturated Pensacola Beach sands – an experimental study. *In: NAC11*, 29 March 2012, Koningshof, Veldhoven, Netherlands. Theme: Marine Geosciences poster.
7. NIOSH POCKET GUIDE TO CHEMICAL HAZARDS; DHHS (NIOSH) Publication No. 2005-149; Sept 2007
8. Operational Science Advisory Team, Summary Report For Fate And Effects Of Remnant Oil Remaining In The Beach Environment, Dec 17, 2010; Annex F: Human Health Considerations
9. USCG Commandant, ADM R.J. Papp, Jr., Cover Memorandum, dated MAR 18 2011, for the BP Deepwater Horizon Oil Spill, Incident Specific Preparedness Review (ISPR), Final Report, January 2011
10. ExxonMobil Oil Spill Dispersant Guidelines, Copyright 2008 ExxonMobil Research and Engineering Company; Table 14.2, p. 102

APPENDICES

Chemical Analysis Reports by Gulf Coast Analytical Laboratories Baton Rouge, LA

PURPOSE: To Determine PAH Analyte Trends Along The Florida-Alabama-Mississippi Coastal Environs and Beaches Derived From Oil Product Contaminant Samples

**Samples Collected By The Surfrider Foundation Local Chapter
Volunteers And Coastal Geologist James H. Kirby III From March
Through November 2011**

Appendix 1

Report Date 04/18/2011

GCAL Report 211041525

ANALYTICAL RESULTS

PERFORMED BY

GULF COAST ANALYTICAL LABORATORIES, INC.

**7979 GSRI Avenue
Baton Rouge, LA 70820**

Report Date 04/18/2011

GCAL Report 211041525

****211041525****

Deliver To The November 9th Group, LLC
630 Fairway Ave. NE
Fort Walton Beach, FL 32547
850-862-7134

Attn James Kirby

Project State of the Beach

CASE NARRATIVE

Client: Surfrider Foundation **Report:** 211041525

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

SEMI-VOLATILES GAS CHROMATOGRAPHY

In the SW-846 8015B analysis, samples 21104152502 (STALLWORTH-001) and 21104152503 (DUNE ALLEN BEACH-003) had to be diluted to bracket the concentrations within the calibration range of the instrument. The recovery for the surrogate is reported as diluted out.

MISCELLANEOUS

Sample 21104152502 (STALLWORTH-001) was received outside the 14-day holding time for ORO. The client authorized the laboratory to proceed with the analysis. The sample is for a non-regulatory purpose.

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 an estimated value
U	Indicates the compound was analyzed for but not detected
B	(ORGANICS) Indicates the analyte was detected in the associated Method Blank
B	(INORGANICS) Indicates the result is between the RDL and MDL

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

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

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

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

Robyn Miguez
Technical Director
GCAL REPORT 211041525

THIS REPORT CONTAINS _____ PAGES.

Report Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21104152501	EAST FT PICKENS-002	Solid	04/10/2011 19:45	04/15/2011 09:10
21104152502	STALLWORTH-001	Solid	03/15/2011 19:30	04/15/2011 09:10
21104152503	DUNE ALLEN BEACH-003	Solid	04/11/2011 19:53	04/15/2011 09:10
21104152504	DUNE ALLEN BEACH-002	Solid	04/11/2011 19:53	04/15/2011 09:10

Summary of Compounds Detected

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21104152501	EAST FT PICKENS-002	Solid	04/10/2011 19:45	04/15/2011 09:10

SW-846 8015B

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	41300	13600	1950	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21104152502	STALLWORTH-001	Solid	03/15/2011 19:30	04/15/2011 09:10

SW-846 8015B

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	15900000	1540000	221000	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21104152503	DUNE ALLEN BEACH-003	Solid	04/11/2011 19:53	04/15/2011 09:10

SW-846 8015B

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	8000000	1360000	196000	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21104152504	DUNE ALLEN BEACH-002	Solid	04/11/2011 19:53	04/15/2011 09:10

SW-846 8015B

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	2650J	13600	1960	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21104152501	EAST FT PICKENS-002	Solid	04/10/2011 19:45	04/15/2011 09:10

SW-846 8015B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
04/16/2011 13:50	454429	3550B	1	04/18/2011 10:32	SMH	454567

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	41300	13600	1950	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	1660	1510	ug/Kg	91	27 - 129

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21104152502	STALLWORTH-001	Solid	03/15/2011 19:30	04/15/2011 09:10

SW-846 8015B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
04/16/2011 13:50	454429	3550B	100	04/18/2011 11:43	SMH	454567

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	15900000	1540000	221000	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	1670	Diluted Out	ug/Kg	0*	27 - 129

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21104152503	DUNE ALLEN BEACH-003	Solid	04/11/2011 19:53	04/15/2011 09:10

SW-846 8015B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
04/16/2011 13:50	454429	3550B	100	04/18/2011 12:02	SMH	454567

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	8000000	1360000	196000	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	1660	Diluted Out	ug/Kg	0*	27 - 129

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21104152504	DUNE ALLEN BEACH-002	Solid	04/11/2011 19:53	04/15/2011 09:10

SW-846 8015B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
04/16/2011 13:50	454429	3550B	1	04/18/2011 11:25	SMH	454567

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	2650J	13600	1960	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	1670	1450	ug/Kg	87	27 - 129

RESULTS REPORTED ON A DRY WEIGHT BASIS

General Chromatography Quality Control Summary

Analytical Batch 454567 Prep Batch 454429 Prep Method 3550B		Client ID MB454429 GCAL ID 938331 Sample Type Method Blank Prep Date 04/16/2011 13:50 Analytical Date 04/18/2011 09:38 Matrix Solid	LCS454429 938332 LCS 04/16/2011 13:50 04/18/2011 09:56 Solid					LCSD454429 938333 LCSD 04/16/2011 13:50 04/18/2011 10:14 Solid				
SW-846 8015B			Units	ug/Kg	Spike	Result	% R	Control	Result	% R	RPD	RPD
			Result	RDL	Added			Limits % R				Limit
GCSV-00-44	Oil Range Organics		1910U	1910	66700	51800	78	47 - 120	50700	76	2	40
Surrogate												
84-15-1	o-Terphenyl	1470	88	1670	1490	89	27 - 129	1590	95			

Analytical Batch 454567 Prep Batch 454429 Prep Method 3550B		Client ID GCAL ID Sample Type Prep Date Analytical Date Matrix	EAST FT PICKENS-002			938309MS			938309MSD			
			21104152501			938334			938335			
			SAMPLE			MS			MSD			
			04/16/2011 13:50			04/16/2011 13:50			04/16/2011 13:50			
			04/18/2011 10:32			04/18/2011 10:50			04/18/2011 11:08			
			Solid			Solid			Solid			
SW-846 8015B			Units	ug/Kg	Spike	Result	% R	Control	Result	% R	RPD	RPD
			Result	RDL	Added			Limits % R				
GCSV-00-44	Oil Range Organics		40200	1900	66400	94200	81	47 - 120	99900	90	6	40
Surrogate												
84-15-1	o-Terphenyl		1510	91	1660	1500	90	27 - 129	1410	85		

CHAIN OF CUSTODY RECORD

Lab use only

Surfrider

Client Name

4773

Client #

211041525

Workorder #

4-19-11

Due Date

Report to:

Bill to:

Client: Rip Kirby/SURFRIDER
Address: 630 FAIRWAY AVE NE
FT WALTON BEACH, FL 32547
Contact: Rip Kirby
Phone: 850-217-1616
Email: RIP@NOV9THGROUP.COM

Client: SURFRIDER FOUNDATION
Address: P.O. BOX 6010
SAN CLEMENTE, CA 92674
Contact: ERICKA CANALES
Phone: 772 924 4144
Email: ECANALES@SURFRIDER.ORG

Analytical Requests & Method

Lab use only:

Custody Seal

used ☒ yes ☐ no

intact ☒ yes ☐ no

Temperature °C 7.3

P.O. Number

N/A

Project Name/Number

SURFRIDER STATE OF THE BEACH

Sampled By:

James H. "Rip" Kirby III

Matrix ¹	Date 2011	Time (2400) EDT	Comp	Sample Description	Preservatives	No Con- tainers	Lab ID
S	4/10	1945	X	EAST FT PICKENS - 002	NO	L	X
S	3/15	1930	X	STALLWORTH - 001	NO	L	X
S	4/11	1953	X	DUNE ALLEN BEACH - 003	NO	L	X
S	4/11	1953	X	DUNE ALLEN BEACH - 002	NO	L	X
S	4/10	1945	X	EAST FT PICKENS - 001	NO	L	X
S	4/11	1953	X	DUNE ALLEN BEACH - 001	NO	L	X
S	4/10	1945	X	EAST FT PICKENS - 003	NO	L	X
S	3/16	1945	X	WAVELAND - 001	NO	L	X
S	3/15	1930	X	STALLWORTH - 002	NO	L	X
END OF LIST							

LOCATION
REMARKS

CONTAINER #
Remarks:

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

Relinquished by: (Signature)

Received by: (Signature)

Date:

Time:

Note:

Relinquished by: (Signature)

Received by: (Signature)

Date:

Time:

Relinquished by: (Signature)

Received by: (Signature)

Date:

Time:

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



SAMPLE RECEIVING CHECKLIST

Workorder: 211041525

Client: 4773 - Surfrider Foundation

Profile: 210718 - State of the Beach

Line Item: 1 - ORO quick turn

Received by: Raborn, Michelle

Received Date/Time: 4/15/2011 9:10:00 AM

Samples Received via: FEDEX

Number of Coolers Received: 1

Cooler tracking numbers(s): 7569 9302 9393

Cooler temperature(s): 43

Were all coolers received at a temperature of 0 - 6° C?

☒ Yes

☐ No

☐ N/A

Were all custody seals intact?

☒ Yes

☐ No

☐ N/A

Were all samples received in proper containers?

☒ Yes

☐ No

☐ N/A

Were all samples properly preserved?

☒ Yes

☐ No

☐ N/A

Was preservative added to any container at the lab?

☐ Yes

☒ No

☐ N/A

Were all containers received in good condition?

☒ Yes

☐ No

☐ N/A

Were all VOA vials received with no head space?

☐ Yes

☐ No

☐ N/A

Do all sample labels match the Chain of Custody?

☒ Yes

☐ No

☐ N/A

Was the client notified about any discrepancies?

☐ Yes

☐ No

☐ N/A

Notes/Comments: _____

Appendix 2

Report Date 04/28/2011

GCAL Report 211041526

ANALYTICAL RESULTS

PERFORMED BY

GULF COAST ANALYTICAL LABORATORIES, INC.

**7979 GSRI Avenue
Baton Rouge, LA 70820**

Report Date 04/28/2011

GCAL Report 211041526

****211041526****

Deliver To The November 9th Group, LLC
630 Fairway Ave. NE
Fort Walton Beach, FL 32547
850-862-7134

Attn James Kirby

Project Surfrider State of the Beach

CASE NARRATIVE

Client: The November 9th Group, LLC **Report:** 211041526

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.

No anomalies were found for the analyzed sample(s).

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 an estimated value
U	Indicates the compound was analyzed for but not detected
B	(ORGANICS) Indicates the analyte was detected in the associated Method Blank
B	(INORGANICS) Indicates the result is between the RDL and MDL

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

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

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

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

Robyn Miguez
Technical Director
GCAL REPORT 211041526

THIS REPORT CONTAINS _____ PAGES.

Report Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21104152601	EAST FT PICKENS-001	Solid	04/10/2011 19:45	04/15/2011 09:10
21104152602	DUNE ALLEN BEACH-001	Solid	04/11/2011 19:53	04/15/2011 09:10
21104152603	EAST FT PICKENS-003	Solid	04/10/2011 19:45	04/15/2011 09:10
21104152604	WAVELAND-001	Solid	03/16/2011 19:45	04/15/2011 09:10
21104152605	STALLWORTH-002	Solid	03/15/2011 19:30	04/15/2011 09:10

Summary of Compounds Detected

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21104152601	EAST FT PICKENS-001	Solid	04/10/2011 19:45	04/15/2011 09:10

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
192-97-2	Benzo(e)pyrene	1280J	6600	1180	ug/Kg
GCSV-08-14	C1-Chrysenes	7730	6600	1380	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	3070J	6600	967	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	3780J	6600	1450	ug/Kg
GCSV-08-15	C2-Chrysenes	5690J	6600	1380	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	4210J	6600	967	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	13500	6600	1450	ug/Kg
GCSV-08-16	C3-Chrysenes	4130J	6600	1380	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	7220	6600	967	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	12400	6600	1450	ug/Kg
218-01-9	Chrysene	5340J	6600	1380	ug/Kg
129-00-0	Pyrene	1380J	6600	1220	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21104152602	DUNE ALLEN BEACH-001	Solid	04/11/2011 19:53	04/15/2011 09:10

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
56-55-3	Benzo(a)anthracene	0.773J	4.12	0.728	ug/Kg
205-99-2	Benzo(b)fluoranthene	1.77J	4.12	0.597	ug/Kg
207-08-9	Benzo(k)fluoranthene	0.485J	4.12	0.477	ug/Kg
218-01-9	Chrysene	1.13J	4.12	0.860	ug/Kg
206-44-0	Fluoranthene	0.957J	4.12	0.603	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21104152603	EAST FT PICKENS-003	Solid	04/10/2011 19:45	04/15/2011 09:10

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
192-97-2	Benzo(e)pyrene	1.15J	4.11	0.733	ug/Kg
GCSV-08-14	C1-Chrysenes	2.10J	4.11	0.859	ug/Kg
GCSV-08-15	C2-Chrysenes	2.39J	4.11	0.859	ug/Kg
218-01-9	Chrysene	1.24J	4.11	0.859	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21104152604	WAVELAND-001	Solid	03/16/2011 19:45	04/15/2011 09:10

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
205-99-2	Benzo(b)fluoranthene	1910J	7460	1080	ug/Kg
192-97-2	Benzo(e)pyrene	2270J	7460	1330	ug/Kg
GCSV-08-14	C1-Chrysenes	22000	7460	1560	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	8120	7460	1090	ug/Kg

Summary of Compounds Detected (con't)

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21104152604	WAVELAND-001	Solid	03/16/2011 19:45	04/15/2011 09:10

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-08-07	C1-Phenanthrenes/anthracenes	33900	7460	1640	ug/Kg
GCSV-08-15	C2-Chrysenes	13300	7460	1560	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	10600	7460	1090	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	73300	7460	1640	ug/Kg
GCSV-08-16	C3-Chrysenes	8400	7460	1560	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	14200	7460	1090	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	49000	7460	1640	ug/Kg
218-01-9	Chrysene	15500	7460	1560	ug/Kg
85-01-8	Phenanthrene	2400J	7460	1640	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21104152605	STALLWORTH-002	Solid	03/15/2011 19:30	04/15/2011 09:10

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
205-99-2	Benzo(b)fluoranthene	1190J	5890	854	ug/Kg
192-97-2	Benzo(e)pyrene	1140J	5890	1050	ug/Kg
GCSV-08-14	C1-Chrysenes	10000	5890	1230	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	4130J	5890	863	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	7900	5890	1300	ug/Kg
GCSV-08-15	C2-Chrysenes	7090	5890	1230	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	4630J	5890	863	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	27100	5890	1300	ug/Kg
GCSV-08-16	C3-Chrysenes	3940J	5890	1230	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	7620	5890	863	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	19600	5890	1300	ug/Kg
218-01-9	Chrysene	7450	5890	1230	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21104152601	EAST FT PICKENS-001	Solid	04/10/2011 19:45	04/15/2011 09:10

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
04/18/2011 15:00	454563	3550B	100	04/26/2011 11:07	DLB	455114

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	520U	6600	520	ug/Kg
91-57-6	2-Methylnaphthalene	592U	6600	592	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	578U	6600	578	ug/Kg
83-32-9	Acenaphthene	642U	6600	642	ug/Kg
208-96-8	Acenaphthylene	650U	6600	650	ug/Kg
120-12-7	Anthracene	1100U	6600	1100	ug/Kg
56-55-3	Benzo(a)anthracene	1170U	6600	1170	ug/Kg
50-32-8	Benzo(a)pyrene	1130U	6600	1130	ug/Kg
205-99-2	Benzo(b)fluoranthene	957U	6600	957	ug/Kg
192-97-2	Benzo(e)pyrene	1280J	6600	1180	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1400U	6600	1400	ug/Kg
207-08-9	Benzo(k)fluoranthene	766U	6600	766	ug/Kg
GCSV-08-14	C1-Chrysenes	7730	6600	1380	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	3070J	6600	967	ug/Kg
GCSV-08-04	C1-Fluorenes	815U	6600	815	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	3780J	6600	1450	ug/Kg
GCSV-08-15	C2-Chrysenes	5690J	6600	1380	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	4210J	6600	967	ug/Kg
GCSV-08-05	C2-Fluorenes	815U	6600	815	ug/Kg
GCSV-08-01	C2-Naphthalenes	753U	6600	753	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	13500	6600	1450	ug/Kg
GCSV-08-16	C3-Chrysenes	4130J	6600	1380	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	7220	6600	967	ug/Kg
GCSV-08-06	C3-Fluorenes	815U	6600	815	ug/Kg
GCSV-08-02	C3-Naphthalenes	753U	6600	753	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	12400	6600	1450	ug/Kg
GCSV-08-17	C4-Chrysenes	1380U	6600	1380	ug/Kg
GCSV-08-03	C4-Naphthalenes	753U	6600	753	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	1450U	6600	1450	ug/Kg
218-01-9	Chrysene	5340J	6600	1380	ug/Kg
53-70-3	Dibenz(a,h)anthracene	1580U	6600	1580	ug/Kg
206-44-0	Fluoranthene	967U	6600	967	ug/Kg
86-73-7	Fluorene	815U	6600	815	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1240U	6600	1240	ug/Kg
91-20-3	Naphthalene	753U	6600	753	ug/Kg
77392-71-3	Perylene	1350U	6600	1350	ug/Kg
85-01-8	Phenanthrene	1450U	6600	1450	ug/Kg
129-00-0	Pyrene	1380J	6600	1220	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	200	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	200	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	200	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	200	Diluted Out	ug/Kg	0*	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21104152602	DUNE ALLEN BEACH-001	Solid	04/11/2011 19:53	04/15/2011 09:10

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
04/18/2011 15:00	454563	3550B	1	04/25/2011 16:52	DLB	455017

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	0.324U	4.12	0.324	ug/Kg
91-57-6	2-Methylnaphthalene	0.369U	4.12	0.369	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	0.360U	4.12	0.360	ug/Kg
83-32-9	Acenaphthene	0.400U	4.12	0.400	ug/Kg
208-96-8	Acenaphthylene	0.405U	4.12	0.405	ug/Kg
120-12-7	Anthracene	0.688U	4.12	0.688	ug/Kg
56-55-3	Benzo(a)anthracene	0.773J	4.12	0.728	ug/Kg
50-32-8	Benzo(a)pyrene	0.704U	4.12	0.704	ug/Kg
205-99-2	Benzo(b)fluoranthene	1.77J	4.12	0.597	ug/Kg
192-97-2	Benzo(e)pyrene	0.735U	4.12	0.735	ug/Kg
191-24-2	Benzo(g,h,i)perylene	0.871U	4.12	0.871	ug/Kg
207-08-9	Benzo(k)fluoranthene	0.485J	4.12	0.477	ug/Kg
GCSV-08-14	C1-Chrysenes	0.860U	4.12	0.860	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	0.603U	4.12	0.603	ug/Kg
GCSV-08-04	C1-Fluorenes	0.508U	4.12	0.508	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	0.906U	4.12	0.906	ug/Kg
GCSV-08-15	C2-Chrysenes	0.860U	4.12	0.860	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	0.603U	4.12	0.603	ug/Kg
GCSV-08-05	C2-Fluorenes	0.508U	4.12	0.508	ug/Kg
GCSV-08-01	C2-Naphthalenes	0.469U	4.12	0.469	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	0.906U	4.12	0.906	ug/Kg
GCSV-08-16	C3-Chrysenes	0.860U	4.12	0.860	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	0.603U	4.12	0.603	ug/Kg
GCSV-08-06	C3-Fluorenes	0.508U	4.12	0.508	ug/Kg
GCSV-08-02	C3-Naphthalenes	0.469U	4.12	0.469	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	0.906U	4.12	0.906	ug/Kg
GCSV-08-17	C4-Chrysenes	0.860U	4.12	0.860	ug/Kg
GCSV-08-03	C4-Naphthalenes	0.469U	4.12	0.469	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	0.906U	4.12	0.906	ug/Kg
218-01-9	Chrysene	1.13J	4.12	0.860	ug/Kg
53-70-3	Dibenz(a,h)anthracene	0.986U	4.12	0.986	ug/Kg
206-44-0	Fluoranthene	0.957J	4.12	0.603	ug/Kg
86-73-7	Fluorene	0.508U	4.12	0.508	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	0.774U	4.12	0.774	ug/Kg
91-20-3	Naphthalene	0.469U	4.12	0.469	ug/Kg
77392-71-3	Perylene	0.843U	4.12	0.843	ug/Kg
85-01-8	Phenanthrene	0.906U	4.12	0.906	ug/Kg
129-00-0	Pyrene	0.758U	4.12	0.758	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	13.3	8.85	ug/Kg	66	20 - 97
1719-06-8	Anthracene-d10	13.3	8.08	ug/Kg	61	22 - 98
1718-52-1	Pyrene-d10	13.3	9.59	ug/Kg	72	51 - 120
63466-71-7	Benzo(a)pyrene-d12	13.3	7.71	ug/Kg	58	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21104152603	EAST FT PICKENS-003	Solid	04/10/2011 19:45	04/15/2011 09:10

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
04/18/2011 15:00	454563	3550B	1	04/25/2011 17:36	DLB	455017

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	0.323U	4.11	0.323	ug/Kg
91-57-6	2-Methylnaphthalene	0.369U	4.11	0.369	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	0.359U	4.11	0.359	ug/Kg
83-32-9	Acenaphthene	0.399U	4.11	0.399	ug/Kg
208-96-8	Acenaphthylene	0.405U	4.11	0.405	ug/Kg
120-12-7	Anthracene	0.687U	4.11	0.687	ug/Kg
56-55-3	Benzo(a)anthracene	0.726U	4.11	0.726	ug/Kg
50-32-8	Benzo(a)pyrene	0.702U	4.11	0.702	ug/Kg
205-99-2	Benzo(b)fluoranthene	0.596U	4.11	0.596	ug/Kg
192-97-2	Benzo(e)pyrene	1.15J	4.11	0.733	ug/Kg
191-24-2	Benzo(g,h,i)perylene	0.869U	4.11	0.869	ug/Kg
207-08-9	Benzo(k)fluoranthene	0.476U	4.11	0.476	ug/Kg
GCSV-08-14	C1-Chrysenes	2.10J	4.11	0.859	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	0.602U	4.11	0.602	ug/Kg
GCSV-08-04	C1-Fluorenes	0.507U	4.11	0.507	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	0.904U	4.11	0.904	ug/Kg
GCSV-08-15	C2-Chrysenes	2.39J	4.11	0.859	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	0.602U	4.11	0.602	ug/Kg
GCSV-08-05	C2-Fluorenes	0.507U	4.11	0.507	ug/Kg
GCSV-08-01	C2-Naphthalenes	0.468U	4.11	0.468	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	0.904U	4.11	0.904	ug/Kg
GCSV-08-16	C3-Chrysenes	0.859U	4.11	0.859	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	0.602U	4.11	0.602	ug/Kg
GCSV-08-06	C3-Fluorenes	0.507U	4.11	0.507	ug/Kg
GCSV-08-02	C3-Naphthalenes	0.468U	4.11	0.468	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	0.904U	4.11	0.904	ug/Kg
GCSV-08-17	C4-Chrysenes	0.859U	4.11	0.859	ug/Kg
GCSV-08-03	C4-Naphthalenes	0.468U	4.11	0.468	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	0.904U	4.11	0.904	ug/Kg
218-01-9	Chrysene	1.24J	4.11	0.859	ug/Kg
53-70-3	Dibenz(a,h)anthracene	0.984U	4.11	0.984	ug/Kg
206-44-0	Fluoranthene	0.602U	4.11	0.602	ug/Kg
86-73-7	Fluorene	0.507U	4.11	0.507	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	0.772U	4.11	0.772	ug/Kg
91-20-3	Naphthalene	0.468U	4.11	0.468	ug/Kg
77392-71-3	Perylene	0.841U	4.11	0.841	ug/Kg
85-01-8	Phenanthrene	0.904U	4.11	0.904	ug/Kg
129-00-0	Pyrene	0.757U	4.11	0.757	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	13.3	8.68	ug/Kg	65	20 - 97
1719-06-8	Anthracene-d10	13.3	8.03	ug/Kg	60	22 - 98
1718-52-1	Pyrene-d10	13.3	9.62	ug/Kg	72	51 - 120
63466-71-7	Benzo(a)pyrene-d12	13.3	12	ug/Kg	90	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21104152604	WAVELAND-001	Solid	03/16/2011 19:45	04/15/2011 09:10

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
04/18/2011 15:00	454563	3550B	100	04/26/2011 14:05	DLB	455114

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	587U	7460	587	ug/Kg
91-57-6	2-Methylnaphthalene	669U	7460	669	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	653U	7460	653	ug/Kg
83-32-9	Acenaphthene	725U	7460	725	ug/Kg
208-96-8	Acenaphthylene	735U	7460	735	ug/Kg
120-12-7	Anthracene	1250U	7460	1250	ug/Kg
56-55-3	Benzo(a)anthracene	1320U	7460	1320	ug/Kg
50-32-8	Benzo(a)pyrene	1280U	7460	1280	ug/Kg
205-99-2	Benzo(b)fluoranthene	1910J	7460	1080	ug/Kg
192-97-2	Benzo(e)pyrene	2270J	7460	1330	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1580U	7460	1580	ug/Kg
207-08-9	Benzo(k)fluoranthene	865U	7460	865	ug/Kg
GCSV-08-14	C1-Chrysenes	22000	7460	1560	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	8120	7460	1090	ug/Kg
GCSV-08-04	C1-Fluorenes	921U	7460	921	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	33900	7460	1640	ug/Kg
GCSV-08-15	C2-Chrysenes	13300	7460	1560	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	10600	7460	1090	ug/Kg
GCSV-08-05	C2-Fluorenes	921U	7460	921	ug/Kg
GCSV-08-01	C2-Naphthalenes	850U	7460	850	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	73300	7460	1640	ug/Kg
GCSV-08-16	C3-Chrysenes	8400	7460	1560	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	14200	7460	1090	ug/Kg
GCSV-08-06	C3-Fluorenes	921U	7460	921	ug/Kg
GCSV-08-02	C3-Naphthalenes	850U	7460	850	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	49000	7460	1640	ug/Kg
GCSV-08-17	C4-Chrysenes	1560U	7460	1560	ug/Kg
GCSV-08-03	C4-Naphthalenes	850U	7460	850	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	1640U	7460	1640	ug/Kg
218-01-9	Chrysene	15500	7460	1560	ug/Kg
53-70-3	Dibenz(a,h)anthracene	1790U	7460	1790	ug/Kg
206-44-0	Fluoranthene	1090U	7460	1090	ug/Kg
86-73-7	Fluorene	921U	7460	921	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1400U	7460	1400	ug/Kg
91-20-3	Naphthalene	850U	7460	850	ug/Kg
77392-71-3	Perylene	1530U	7460	1530	ug/Kg
85-01-8	Phenanthrene	2400J	7460	1640	ug/Kg
129-00-0	Pyrene	1370U	7460	1370	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	200	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	200	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	200	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	200	Diluted Out	ug/Kg	0*	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21104152605	STALLWORTH-002	Solid	03/15/2011 19:30	04/15/2011 09:10

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
04/18/2011 15:00	454563	3550B	100	04/26/2011 15:33	DLB	455114

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	464U	5890	464	ug/Kg
91-57-6	2-Methylnaphthalene	528U	5890	528	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	515U	5890	515	ug/Kg
83-32-9	Acenaphthene	573U	5890	573	ug/Kg
208-96-8	Acenaphthylene	580U	5890	580	ug/Kg
120-12-7	Anthracene	985U	5890	985	ug/Kg
56-55-3	Benzo(a)anthracene	1040U	5890	1040	ug/Kg
50-32-8	Benzo(a)pyrene	1010U	5890	1010	ug/Kg
205-99-2	Benzo(b)fluoranthene	1190J	5890	854	ug/Kg
192-97-2	Benzo(e)pyrene	1140J	5890	1050	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1250U	5890	1250	ug/Kg
207-08-9	Benzo(k)fluoranthene	683U	5890	683	ug/Kg
GCSV-08-14	C1-Chrysenes	10000	5890	1230	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	4130J	5890	863	ug/Kg
GCSV-08-04	C1-Fluorenes	727U	5890	727	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	7900	5890	1300	ug/Kg
GCSV-08-15	C2-Chrysenes	7090	5890	1230	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	4630J	5890	863	ug/Kg
GCSV-08-05	C2-Fluorenes	727U	5890	727	ug/Kg
GCSV-08-01	C2-Naphthalenes	671U	5890	671	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	27100	5890	1300	ug/Kg
GCSV-08-16	C3-Chrysenes	3940J	5890	1230	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	7620	5890	863	ug/Kg
GCSV-08-06	C3-Fluorenes	727U	5890	727	ug/Kg
GCSV-08-02	C3-Naphthalenes	671U	5890	671	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	19600	5890	1300	ug/Kg
GCSV-08-17	C4-Chrysenes	1230U	5890	1230	ug/Kg
GCSV-08-03	C4-Naphthalenes	671U	5890	671	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	1300U	5890	1300	ug/Kg
218-01-9	Chrysene	7450	5890	1230	ug/Kg
53-70-3	Dibenz(a,h)anthracene	1410U	5890	1410	ug/Kg
206-44-0	Fluoranthene	863U	5890	863	ug/Kg
86-73-7	Fluorene	727U	5890	727	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1110U	5890	1110	ug/Kg
91-20-3	Naphthalene	671U	5890	671	ug/Kg
77392-71-3	Perylene	1210U	5890	1210	ug/Kg
85-01-8	Phenanthrene	1300U	5890	1300	ug/Kg
129-00-0	Pyrene	1080U	5890	1080	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	174	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	174	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	174	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	174	Diluted Out	ug/Kg	0*	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GC/MS Semi-Volatiles Quality Control Summary

Analytical Batch 455017 Prep Batch 454563 Prep Method 3550B		Client ID MB454563 GCAL ID 938911 Sample Type Method Blank Prep Date 04/18/2011 15:00 Analytical Date 04/25/2011 14:39 Matrix Solid	LCS454563 939129 LCS 04/18/2011 15:00 04/25/2011 15:23 Solid				
SW-846 8272 Modified Solid		Units Result	ug/Kg RDL	Spike Added	Result	% R	Control Limits % R
91-20-3	Naphthalene	0.456U	0.456	13.3	8.83	66	50 - 150
91-57-6	2-Methylnaphthalene	0.359U	0.359				
90-12-0	1-Methylnaphthalene	0.315U	0.315				
GCSV-08-01	C2-Naphthalenes	0.456U	0.456				
GCSV-08-02	C3-Naphthalenes	0.456U	0.456				
GCSV-08-03	C4-Naphthalenes	0.456U	0.456				
7297-45-2	2-Methylnaphthalene-d10	0.350U	0.350				
208-96-8	Acenaphthylene	0.394U	0.394				
83-32-9	Acenaphthene	0.389U	0.389				
86-73-7	Fluorene	0.494U	0.494				
GCSV-08-04	C1-Fluorenes	0.494U	0.494				
GCSV-08-05	C2-Fluorenes	0.494U	0.494				
GCSV-08-06	C3-Fluorenes	0.494U	0.494				
85-01-8	Phenanthrene	0.880U	0.880				
GCSV-08-07	C1-Phenanthrenes/anthracenes	0.880U	0.880				
GCSV-08-08	C2-Phenanthrenes/anthracenes	0.880U	0.880				
GCSV-08-09	C3-Phenanthrenes/anthracenes	0.880U	0.880				
GCSV-08-10	C4-Phenanthrenes/anthracenes	0.880U	0.880				
120-12-7	Anthracene	0.669U	0.669				
206-44-0	Fluoranthene	0.586U	0.586				
129-00-0	Pyrene	0.737U	0.737				
GCSV-08-11	C1-Fluoranthenes/pyrenes	0.586U	0.586				
GCSV-08-12	C2-Fluoranthenes/pyrenes	0.586U	0.586				
GCSV-08-13	C3-Fluoranthenes/pyrenes	0.586U	0.586				
218-01-9	Chrysene	0.836U	0.836				
GCSV-08-14	C1-Chrysenes	0.836U	0.836				
GCSV-08-15	C2-Chrysenes	0.836U	0.836				
GCSV-08-16	C3-Chrysenes	0.836U	0.836				
GCSV-08-17	C4-Chrysenes	0.836U	0.836				
56-55-3	Benzo(a)anthracene	0.707U	0.707				
205-99-2	Benzo(b)fluoranthene	0.580U	0.580				
207-08-9	Benzo(k)fluoranthene	0.464U	0.464				

GC/MS Semi-Volatiles Quality Control Summary

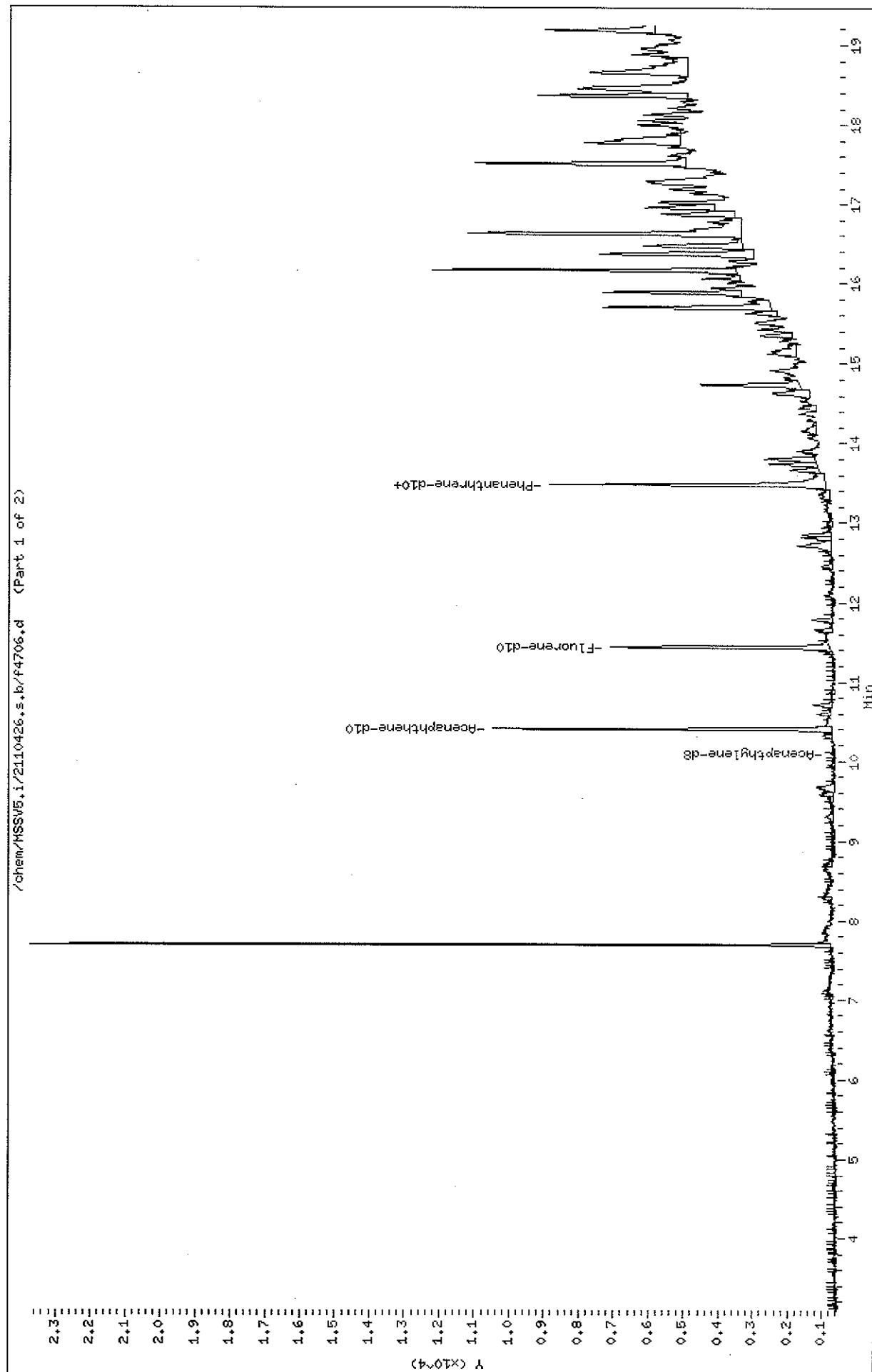
Analytical Batch 455017 Prep Batch 454563 Prep Method 3550B		Client ID MB454563 GCAL ID 938911 Sample Type Method Blank Prep Date 04/18/2011 15:00 Analytical Date 04/25/2011 14:39 Matrix Solid	LCS454563 939129 LCS 04/18/2011 15:00 04/25/2011 15:23 Solid				
SW-846 8272 Modified Solid		Units Result	ug/Kg RDL	Spike Added	Result	% R	Control Limits % R
192-97-2	Benzo(e)pyrene	0.714U	0.714				
50-32-8	Benzo(a)pyrene	0.684U	0.684				
77392-71-3	Perylene	0.819U	0.819				
193-39-5	Indeno(1,2,3-cd)pyrene	0.752U	0.752				
53-70-3	Dibenz(a,h)anthracene	0.958U	0.958				
191-24-2	Benzo(g,h,i)perylene	0.846U	0.846				
Surrogate							
93951-97-4	Acenaphthylene-d8	9.68	73	13.3	8.93	67	20 - 97
1719-06-8	Anthracene-d10	11.2	84	13.3	8.89	67	22 - 98
1718-52-1	Pyrene-d10	9.88	74	13.3	9.44	71	51 - 120
63466-71-7	Benzo(a)pyrene-d12	8.98	67	13.3	7.77	58	43 - 111

Analytical Batch 455017 Prep Batch 454563 Prep Method 3550B		Client ID EAST FT PICKENS-003 GCAL ID 21104152603 Sample Type SAMPLE Prep Date 04/18/2011 15:00 Analytical Date 04/25/2011 17:36 Matrix Solid	938316MS 938914 MS 04/18/2011 15:00 04/25/2011 18:19 Solid					938316MSD 938915 MSD 04/18/2011 15:00 04/25/2011 19:03 Solid			
SW-846 8272 Modified Solid		Units Result	ug/Kg RDL	Spike Added	Result	% R	Control Limits % R	Result	% R	RPD	RPD Limit
7297-45-2	2-Methylnaphthalene-d10	0.00	0.349	13.3	8.18	61	50 - 150	8.07	61	1	40
Surrogate											
93951-97-4	Acenaphthylene-d8	8.68	65	13.3	8.23	62	20 - 97	9.04	68		
1719-06-8	Anthracene-d10	8.03	60	13.3	8.27	62	22 - 98	8.12	61		
1718-52-1	Pyrene-d10	9.62	72	13.3	8.99	67	51 - 120	8.93	67		
63466-71-7	Benzo(a)pyrene-d12	12	90	13.3	12.2	92	43 - 111	14.7	110		

Data File: /chem/MSSV5.i/2110426.s.b/f4706.d
Date : 26-APR-2011 11:07
Client ID: 21104152601
Sample Info: 21104152601*4773*
Volume Injected (uL): 1.0
Column phase: hp-SMS

Instrument: MSSV5.i

Operator: dlb
Column diameter: 0.25



Data File: /chem/MSSV5.i/2110425p.s.b/f4698.d

Date : 26-APR-2011 16:52

Client ID: 21104152602

Sample Info: 21104152602M4773

Volume Injected (uL): 1.0

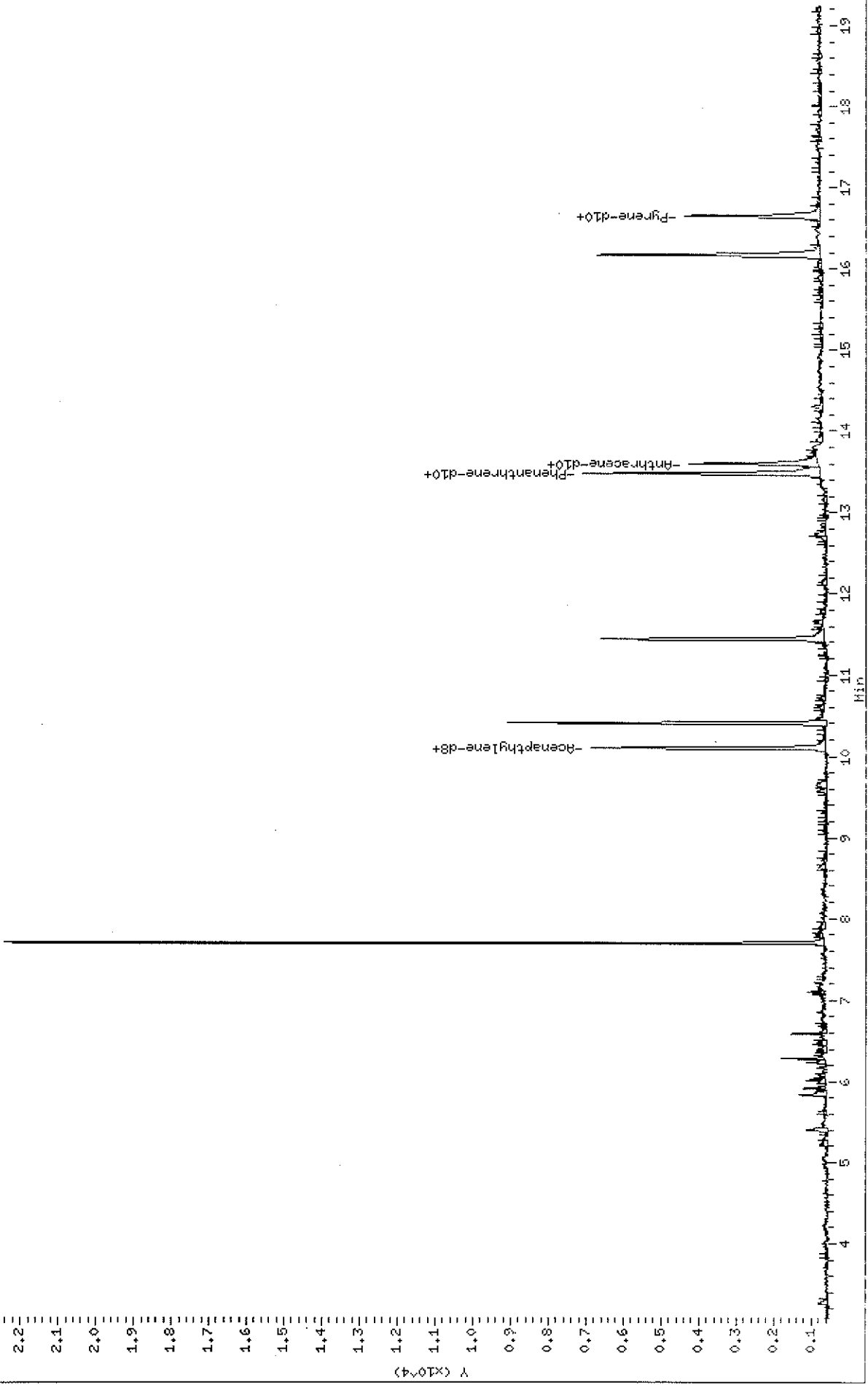
Column phase: hp-5MS

Instrument: MSSV5.i

Operator: dlb

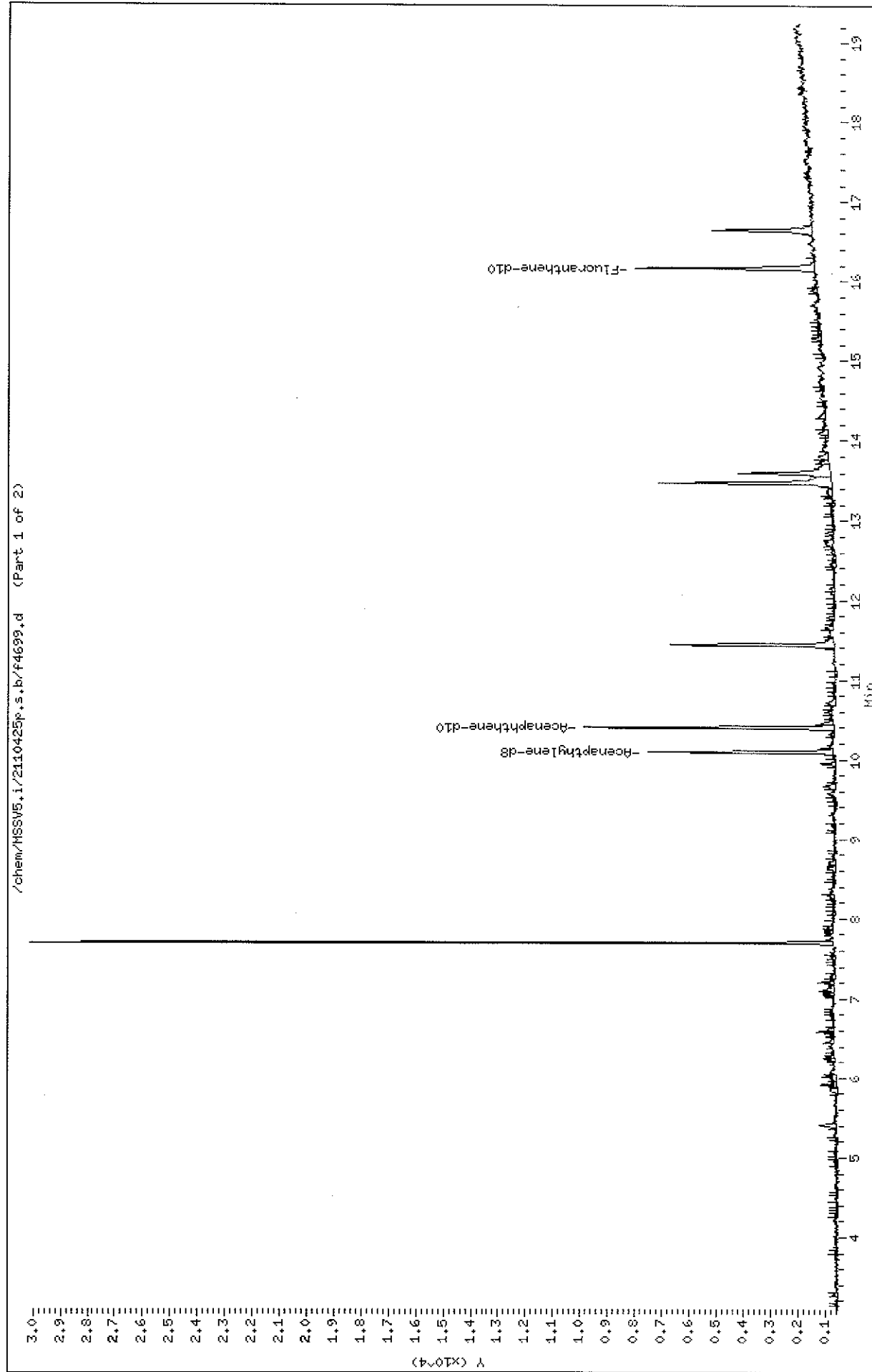
Column diameter: 0.25

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Data File: /chem/HSSV5.i/2110425p.s.b/f4699.d
Date : 25-APR-2011 17:36
Client ID: 21104152603
Sample Info: 21104152603*4773
Volume Injected (uL): 1.0
Column phase: hp-5MS

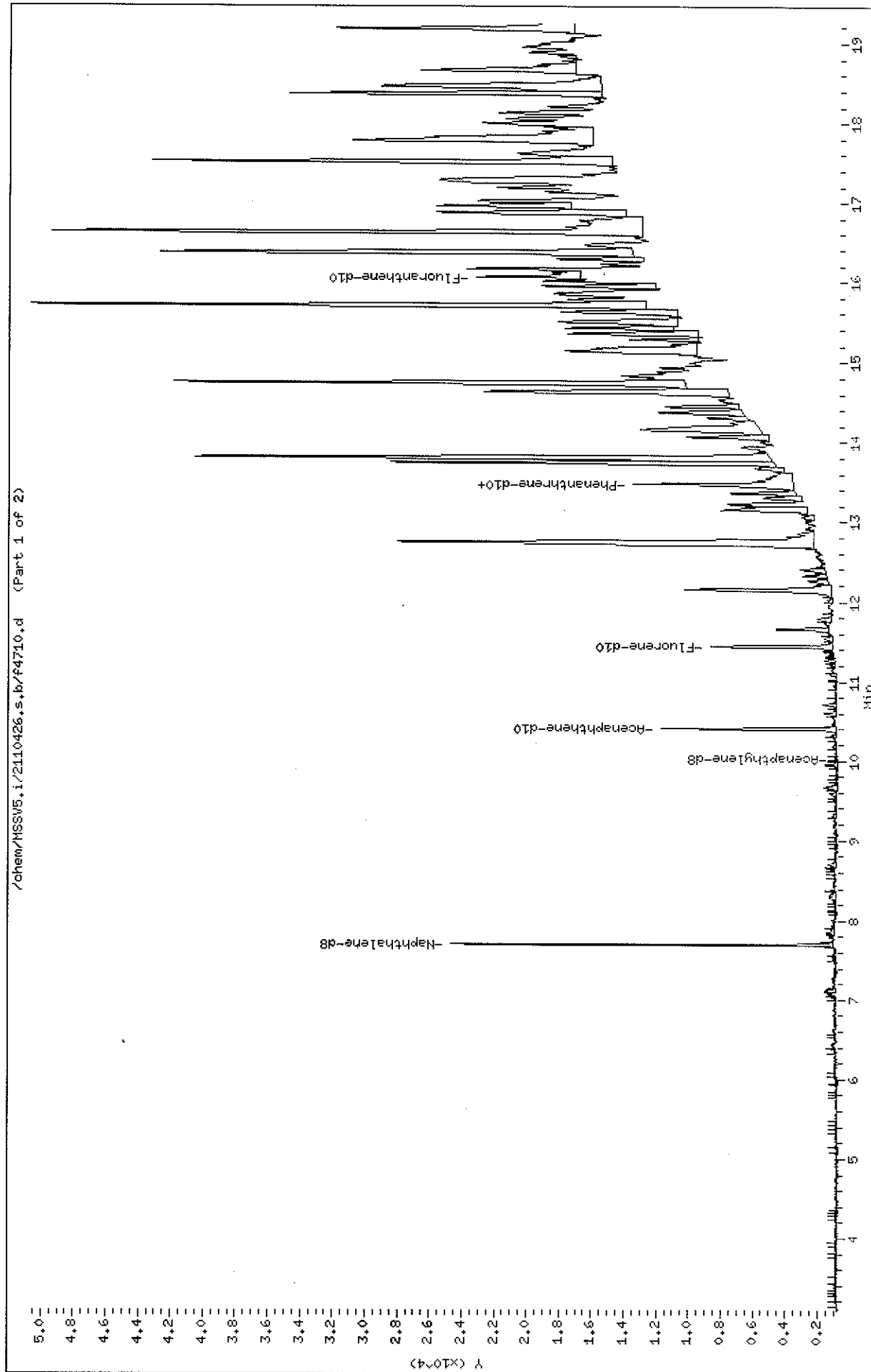
Instrument: HSSV5.i
Operator: dlb
Column diameter: 0.25



Data File: /chem/HSSV5.i/2110426.s.b/f4710.d
Date : 26-APR-2011 14:05
Client ID: 21104152604
Sample Info: 21104152604x4773x
Volume Injected (uL): 1.0
Column phase: hp-5MS

Instrument: HSSV5.i

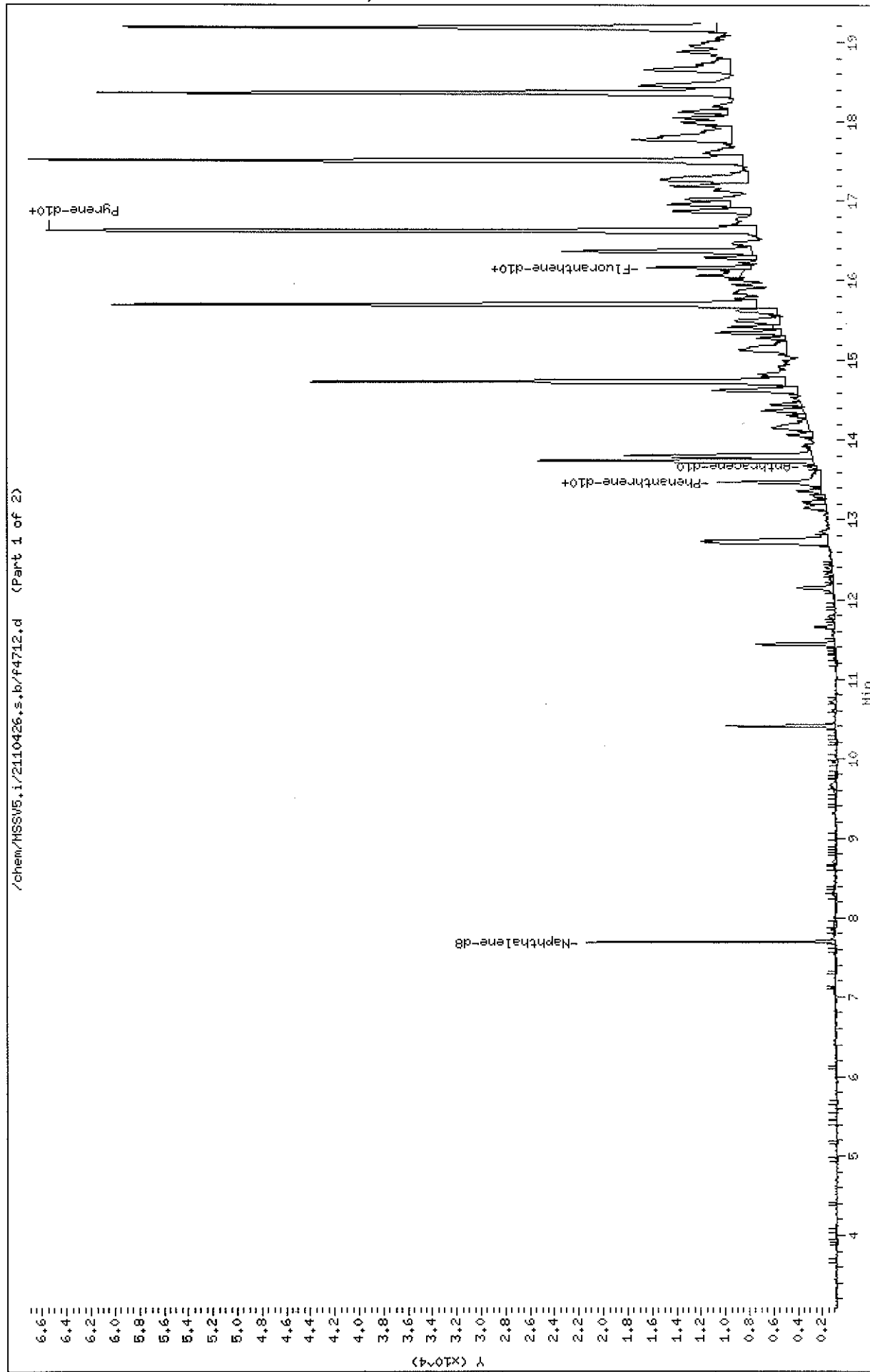
Operator: dlb
Column diameter: 0.25



Data File: /chem/MSSV5.i/2110426.s.b/p4712.d
Date : 26-APR-2011 15:33
Client ID: 21104152605
Sample Info: 21104152605*4773*
Volume Injected (uL): 1.0
Column phase: hp-5MS

Instrument: MSSV5.i

Operator: dlb
Column diameter: 0.25





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	Sat. Friday	4773	2110415 26	5-6-11
	Client Name	Client #	Workorder #	Due Date

Report to: Client: <u>RIP KIRBY/SURFRIDER</u> Address: <u>630 FAIRWAY AVE NE</u> <u>FT WALTON BEACH, FL 32507</u> Contact: <u>RIP KIRBY</u> Phone: <u>850-2171616</u> Email: <u>RIP@NON9THGROUP.COM</u>	Bill to: Client: <u>SURFRIDER FOUNDATION</u> Address: <u>P.O. BOX 6010</u> <u>SAN CLEMENTE, CA 92674</u> Contact: <u>ERICKA CANALES</u> Phone: <u>772 924 4144</u> Email: <u>ECANALESC@SURFRIDER.ORG</u>
P.O. Number <u>N/A</u>	Project Name/Number <u>SURFRIDER STATE OF THE BEACH</u>

Sampled By: <u>James H. Kirby III</u>			Preservatives		No. Containers	
Matrix	Date	Time	G	S	B	P
S	4/10/11	1945	X			X
S	3/15/11	1930	X			X
S	4/11/11	1953	X			X
S	4/11/11	1953	X			X
S	4/10/11	1945	X			X
S	4/11/11	1953	X			X
S	4/10/11	1945	X			X
S	3/16/11	1945	X			X
S	3/15/11	1930	X			X

Turn Around Time: ☐ 24-48 hrs. ☐ 3 days ☐ 1 week ☒ Standard ☐ Other	Date: <u>4/14/11</u> Time: <u>1745</u>
Relinquished by: (Signature) <u>James H. Kirby III</u>	Received by: (Signature) <u>FEDEX</u>
Relinquished by: (Signature) <u>James H. Kirby III</u>	Received by: (Signature) <u>ML</u>
Relinquished by: (Signature) <u>James H. Kirby III</u>	Received by: (Signature) <u>ML</u>

Note: * samples are in this water only.

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

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



SAMPLE RECEIVING CHECKLIST

Workorder: 211041526

Client: 4773 - Surfrider Foundation

Profile: 210818 - Surfrider State of the Beach

Line Item: 1 - Solid

Received by: Raborn, Michelle

Received Date/Time: 4/15/2011 9:10:00 AM

Samples Received via: FEDEX

Number of Coolers Received: 1

Cooler tracking numbers(s): 7969 9302 9393

Cooler temperature(s): 4.3

Were all coolers received at a temperature of 0 - 6° C?

☒ Yes

☐ No

☐ N/A

Were all custody seals intact?

☒ Yes

☐ No

☐ N/A

Were all samples received in proper containers?

☒ Yes

☐ No

☐ N/A

Were all samples properly preserved?

☒ Yes

☐ No

☐ N/A

Was preservative added to any container at the lab?

☐ Yes

☒ No

☐ N/A

Were all containers received in good condition?

☒ Yes

☐ No

☐ N/A

Were all VOA vials received with no head space?

☐ Yes

☐ No

☒ N/A

Do all sample labels match the Chain of Custody?

☒ Yes

☐ No

☐ N/A

Was the client notified about any discrepancies?

☐ Yes

☐ No

☐ N/A

Notes/Comments: _____

Appendix 3

Report Date 07/27/2011

GCAL Report 211060827

ANALYTICAL RESULTS

PERFORMED BY

GULF COAST ANALYTICAL LABORATORIES, INC.

**7979 GSRI Avenue
Baton Rouge, LA 70820**

Report Date 07/27/2011

GCAL Report 211060827

****211060827****

Deliver To The November 9th Group, LLC
630 Fairway Ave. NE
Fort Walton Beach, FL 32547
850-862-7134

Attn James Kirby

Project Surfrider State of the Beach

CASE NARRATIVE

Client: The November 9th Group, LLC **Report:** 211060827

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

SEMI-VOLATILES MASS SPECTROMETRY

In the SW-846 8272 Modified analysis, samples 21106082701 (004008-TAR BALLS), 21106082702 (003988-TAR BALLS), 21106082704 (003973-SURFACE), and 21106082708 (003968-DUNE SCARP) had to be diluted to bracket the concentration of target compounds within the calibration range of the instrument and to eliminate interference that affected the recoveries of the internal standards. This is reflected in elevated detection limits. The recoveries for the surrogates are reported as diluted out.

In the SW-846 8272 Modified analysis, samples 21106082703 (004011-HBSP), 21106082707 (004007-FLOTSAM), and 21106082708 (003968-DUNE SCARP) had to be diluted to eliminate interference from non-target background that may have affected the recoveries of the internal standards. This is reflected in elevated detection limits. The recoveries for the surrogates are reported as diluted out.

SEMI-VOLATILES GAS CHROMATOGRAPHY

In the SW-846 8015B ORO analysis, sample 21106082709 (003968-DUNE SCARP) had to be diluted to bracket the concentration within the calibration range of the instrument.

MISCELLANEOUS

All samples were received outside the specified holding times for the requested methods.

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 an estimated value
U	Indicates the compound was analyzed for but not detected
B	(ORGANICS) Indicates the analyte was detected in the associated Method Blank
B	(INORGANICS) Indicates the result is between the RDL and MDL

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

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

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

Robyn Miguez
Technical Director
GCAL REPORT 211060827

THIS REPORT CONTAINS _____ PAGES.

Report Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082701	004008-TAR BALLS	Solid	05/22/2011 20:41	06/07/2011 09:05
21106082702	003988-TAR BALLS	Solid	05/01/2011 09:00	06/07/2011 09:05
21106082703	004011-HBSP	Solid	04/20/2011 08:00	06/07/2011 09:05
21106082704	003973-SURFACE	Solid	06/08/2010 14:45	06/07/2011 09:05
21106082705	003998-TRENCH WALL	Solid	05/22/2011 19:45	06/07/2011 09:05
21106082706	004001-HBSP	Solid	05/22/2011 09:10	06/07/2011 09:05
21106082707	004007-FLOTSAM #1	Solid	05/12/2011 14:30	06/07/2011 09:05
21106082708	003968-DUNE SCARP	Solid	05/22/2011 21:21	06/07/2011 09:05
21106082709	003968-DUNE SCARP	Solid	05/22/2011 21:21	06/07/2011 09:05
21106082710	004002-FLOTSAM #2	Solid	05/12/2011 14:30	06/07/2011 09:05

Summary of Compounds Detected

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082701	004008-TAR BALLS	Solid	05/22/2011 20:41	06/07/2011 09:05

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-08-14	C1-Chrysenes	5500	3010	629	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	1730J	3010	662	ug/Kg
GCSV-08-15	C2-Chrysenes	3580	3010	629	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	19400	3010	662	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	16200	3010	662	ug/Kg
218-01-9	Chrysene	3860	3010	629	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082702	003988-TAR BALLS	Solid	05/01/2011 09:00	06/07/2011 09:05

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
56-55-3	Benzo(a)anthracene	36100	9470	1670	ug/Kg
50-32-8	Benzo(a)pyrene	14100	9470	1620	ug/Kg
192-97-2	Benzo(e)pyrene	16700	9470	1690	ug/Kg
191-24-2	Benzo(g,h,i)perylene	7430J	9470	2000	ug/Kg
GCSV-08-14	C1-Chrysenes	159000	9470	1980	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	199000	9470	1390	ug/Kg
GCSV-08-04	C1-Fluorenes	60300	9470	1170	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	313000	9470	2080	ug/Kg
GCSV-08-15	C2-Chrysenes	194000	9470	1980	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	305000	9470	1390	ug/Kg
GCSV-08-05	C2-Fluorenes	134000	9470	1170	ug/Kg
GCSV-08-01	C2-Naphthalenes	73400	9470	1080	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	690000	9470	2080	ug/Kg
GCSV-08-16	C3-Chrysenes	155000	9470	1980	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	237000	9470	1390	ug/Kg
GCSV-08-06	C3-Fluorenes	199000	9470	1170	ug/Kg
GCSV-08-02	C3-Naphthalenes	211000	9470	1080	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	580000	9470	2080	ug/Kg
GCSV-08-03	C4-Naphthalenes	165000	9470	1080	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	255000	9470	2080	ug/Kg
218-01-9	Chrysene	60300	9470	1980	ug/Kg
53-70-3	Dibenz(a,h)anthracene	4920J	9470	2270	ug/Kg
86-73-7	Fluorene	5160J	9470	1170	ug/Kg
77392-71-3	Perylene	8840J	9470	1940	ug/Kg
85-01-8	Phenanthrene	58500	9470	2080	ug/Kg
129-00-0	Pyrene	50400	9470	1750	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082704	003973-SURFACE	Solid	06/08/2010 14:45	06/07/2011 09:05

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	22300	3650	287	ug/Kg

Summary of Compounds Detected (con't)

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082704	003973-SURFACE	Solid	06/08/2010 14:45	06/07/2011 09:05

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
91-57-6	2-Methylnaphthalene	25100	3650	327	ug/Kg
GCSV-08-14	C1-Chrysenes	70200	3650	762	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	59600	3650	534	ug/Kg
GCSV-08-04	C1-Fluorenes	136000	3650	451	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	390000	3650	803	ug/Kg
GCSV-08-15	C2-Chrysenes	70000	3650	762	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	75200	3650	534	ug/Kg
GCSV-08-05	C2-Fluorenes	246000	3650	451	ug/Kg
GCSV-08-01	C2-Naphthalenes	198000	3650	416	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	508000	3650	803	ug/Kg
GCSV-08-16	C3-Chrysenes	37900	3650	762	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	80600	3650	534	ug/Kg
GCSV-08-06	C3-Fluorenes	242000	3650	451	ug/Kg
GCSV-08-02	C3-Naphthalenes	360000	3650	416	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	314000	3650	803	ug/Kg
GCSV-08-03	C4-Naphthalenes	263000	3650	416	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	112000	3650	803	ug/Kg
218-01-9	Chrysene	44300	3650	762	ug/Kg
86-73-7	Fluorene	26000	3650	451	ug/Kg
91-20-3	Naphthalene	771J	3650	416	ug/Kg
85-01-8	Phenanthrene	108000	3650	803	ug/Kg
129-00-0	Pyrene	8150	3650	672	ug/Kg

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
192-97-2	Benzo(e)pyrene	10400J	36500	6510	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082706	004001-HBSP	Solid	05/22/2011 09:10	06/07/2011 09:05

SW-846 8015B

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	540000	228000	32800	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082707	004007-FLOTSAM #1	Solid	05/12/2011 14:30	06/07/2011 09:05

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
56-55-3	Benzo(a)anthracene	215J	937	166	ug/Kg
50-32-8	Benzo(a)pyrene	268J	937	160	ug/Kg
205-99-2	Benzo(b)fluoranthene	461J	937	136	ug/Kg
191-24-2	Benzo(g,h,i)perylene	302J	937	198	ug/Kg

Summary of Compounds Detected (con't)

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082707	004007-FLOTSAM #1	Solid	05/12/2011 14:30	06/07/2011 09:05

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
207-08-9	Benzo(k)fluoranthene	262J	937	109	ug/Kg
218-01-9	Chrysene	294J	937	196	ug/Kg
53-70-3	Dibenz(a,h)anthracene	291J	937	224	ug/Kg
206-44-0	Fluoranthene	450J	937	137	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	422J	937	176	ug/Kg
129-00-0	Pyrene	212J	937	173	ug/Kg

SW-846 8015B

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	486000	312000	44700	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082708	003968-DUNE SCARP	Solid	05/22/2011 21:21	06/07/2011 09:05

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-08-14	C1-Chrysenes	3770	2790	583	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	1080J	2790	613	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	1690J	2790	408	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	4590	2790	613	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	4390	2790	613	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	4150	2790	613	ug/Kg
218-01-9	Chrysene	2820	2790	583	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082709	003968-DUNE SCARP	Solid	05/22/2011 21:21	06/07/2011 09:05

SW-846 8015B

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	89900	27000	3880	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082710	004002-FLOTSAM #2	Solid	05/12/2011 14:30	06/07/2011 09:05

SW-846 8015B

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	43000J	84700	12200	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082701	004008-TAR BALLS	Solid	05/22/2011 20:41	06/07/2011 09:05

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
06/09/2011 10:00	457991	3550B	50	07/12/2011 18:40	DLB	460584

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	237U	3010	237	ug/Kg
91-57-6	2-Methylnaphthalene	270U	3010	270	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	263U	3010	263	ug/Kg
83-32-9	Acenaphthene	293U	3010	293	ug/Kg
208-96-8	Acenaphthylene	296U	3010	296	ug/Kg
120-12-7	Anthracene	503U	3010	503	ug/Kg
56-55-3	Benzo(a)anthracene	532U	3010	532	ug/Kg
50-32-8	Benzo(a)pyrene	514U	3010	514	ug/Kg
205-99-2	Benzo(b)fluoranthene	436U	3010	436	ug/Kg
192-97-2	Benzo(e)pyrene	537U	3010	537	ug/Kg
191-24-2	Benzo(g,h,i)perylene	636U	3010	636	ug/Kg
207-08-9	Benzo(k)fluoranthene	349U	3010	349	ug/Kg
GCSV-08-14	C1-Chrysenes	5500	3010	629	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	441U	3010	441	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	1730J	3010	662	ug/Kg
GCSV-08-15	C2-Chrysenes	3580	3010	629	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	441U	3010	441	ug/Kg
GCSV-08-01	C2-Naphthalenes	343U	3010	343	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	19400	3010	662	ug/Kg
GCSV-08-16	C3-Chrysenes	629U	3010	629	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	441U	3010	441	ug/Kg
GCSV-08-02	C3-Naphthalenes	343U	3010	343	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	16200	3010	662	ug/Kg
GCSV-08-17	C4-Chrysenes	629U	3010	629	ug/Kg
GCSV-08-03	C4-Naphthalenes	343U	3010	343	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	662U	3010	662	ug/Kg
218-01-9	Chrysene	3860	3010	629	ug/Kg
53-70-3	Dibenz(a,h)anthracene	720U	3010	720	ug/Kg
206-44-0	Fluoranthene	441U	3010	441	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	566U	3010	566	ug/Kg
91-20-3	Naphthalene	343U	3010	343	ug/Kg
77392-71-3	Perylene	616U	3010	616	ug/Kg
85-01-8	Phenanthrene	662U	3010	662	ug/Kg
129-00-0	Pyrene	554U	3010	554	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	200	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	200	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	200	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	200	Diluted Out	ug/Kg	0*	43 - 111

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
06/09/2011 10:00	457991	3550B	100	07/13/2011 12:36	DLB	460843

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-08-04	C1-Fluorenes	743U	6020	743	ug/Kg
GCSV-08-05	C2-Fluorenes	743U	6020	743	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082701	004008-TAR BALLS	Solid	05/22/2011 20:41	06/07/2011 09:05

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
06/09/2011 10:00	457991	3550B	100	07/13/2011 12:36	DLB	460843

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-08-06	C3-Fluorenes	743U	6020	743	ug/Kg
86-73-7	Fluorene	743U	6020	743	ug/Kg

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082702	003988-TAR BALLS	Solid	05/01/2011 09:00	06/07/2011 09:05

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
06/09/2011 10:00	457991	3550B	100	07/12/2011 21:33	DLB	460584

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	746U	9470	746	ug/Kg
91-57-6	2-Methylnaphthalene	850U	9470	850	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	829U	9470	829	ug/Kg
83-32-9	Acenaphthene	921U	9470	921	ug/Kg
208-96-8	Acenaphthylene	933U	9470	933	ug/Kg
120-12-7	Anthracene	1580U	9470	1580	ug/Kg
56-55-3	Benzo(a)anthracene	36100	9470	1670	ug/Kg
50-32-8	Benzo(a)pyrene	14100	9470	1620	ug/Kg
205-99-2	Benzo(b)fluoranthene	1370U	9470	1370	ug/Kg
192-97-2	Benzo(e)pyrene	16700	9470	1690	ug/Kg
191-24-2	Benzo(g,h,i)perylene	7430J	9470	2000	ug/Kg
207-08-9	Benzo(k)fluoranthene	1100U	9470	1100	ug/Kg
GCSV-08-14	C1-Chrysenes	159000	9470	1980	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	199000	9470	1390	ug/Kg
GCSV-08-04	C1-Fluorenes	60300	9470	1170	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	313000	9470	2080	ug/Kg
GCSV-08-15	C2-Chrysenes	194000	9470	1980	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	305000	9470	1390	ug/Kg
GCSV-08-05	C2-Fluorenes	134000	9470	1170	ug/Kg
GCSV-08-01	C2-Naphthalenes	73400	9470	1080	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	690000	9470	2080	ug/Kg
GCSV-08-16	C3-Chrysenes	155000	9470	1980	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	237000	9470	1390	ug/Kg
GCSV-08-06	C3-Fluorenes	199000	9470	1170	ug/Kg
GCSV-08-02	C3-Naphthalenes	211000	9470	1080	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	580000	9470	2080	ug/Kg
GCSV-08-17	C4-Chrysenes	1980U	9470	1980	ug/Kg
GCSV-08-03	C4-Naphthalenes	165000	9470	1080	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	255000	9470	2080	ug/Kg
218-01-9	Chrysene	60300	9470	1980	ug/Kg
53-70-3	Dibenz(a,h)anthracene	4920J	9470	2270	ug/Kg
206-44-0	Fluoranthene	1390U	9470	1390	ug/Kg
86-73-7	Fluorene	5160J	9470	1170	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1780U	9470	1780	ug/Kg
91-20-3	Naphthalene	1080U	9470	1080	ug/Kg
77392-71-3	Perylene	8840J	9470	1940	ug/Kg
85-01-8	Phenanthrene	58500	9470	2080	ug/Kg
129-00-0	Pyrene	50400	9470	1750	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	190	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	190	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	190	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	190	Diluted Out	ug/Kg	0*	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082703	004011-HBSP	Solid	04/20/2011 08:00	06/07/2011 09:05

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
06/09/2011 10:00	457991	3550B	50	07/12/2011 19:23	DLB	460584

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	233U	2960	233	ug/Kg
91-57-6	2-Methylnaphthalene	265U	2960	265	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	259U	2960	259	ug/Kg
83-32-9	Acenaphthene	287U	2960	287	ug/Kg
208-96-8	Acenaphthylene	291U	2960	291	ug/Kg
120-12-7	Anthracene	494U	2960	494	ug/Kg
56-55-3	Benzo(a)anthracene	522U	2960	522	ug/Kg
50-32-8	Benzo(a)pyrene	505U	2960	505	ug/Kg
205-99-2	Benzo(b)fluoranthene	428U	2960	428	ug/Kg
192-97-2	Benzo(e)pyrene	527U	2960	527	ug/Kg
191-24-2	Benzo(g,h,i)perylene	625U	2960	625	ug/Kg
207-08-9	Benzo(k)fluoranthene	343U	2960	343	ug/Kg
GCSV-08-14	C1-Chrysenes	618U	2960	618	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	433U	2960	433	ug/Kg
GCSV-08-04	C1-Fluorenes	365U	2960	365	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	650U	2960	650	ug/Kg
GCSV-08-15	C2-Chrysenes	618U	2960	618	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	433U	2960	433	ug/Kg
GCSV-08-05	C2-Fluorenes	365U	2960	365	ug/Kg
GCSV-08-01	C2-Naphthalenes	337U	2960	337	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	650U	2960	650	ug/Kg
GCSV-08-16	C3-Chrysenes	618U	2960	618	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	433U	2960	433	ug/Kg
GCSV-08-06	C3-Fluorenes	365U	2960	365	ug/Kg
GCSV-08-02	C3-Naphthalenes	337U	2960	337	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	650U	2960	650	ug/Kg
GCSV-08-17	C4-Chrysenes	618U	2960	618	ug/Kg
GCSV-08-03	C4-Naphthalenes	337U	2960	337	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	650U	2960	650	ug/Kg
218-01-9	Chrysene	618U	2960	618	ug/Kg
53-70-3	Dibenz(a,h)anthracene	708U	2960	708	ug/Kg
206-44-0	Fluoranthene	433U	2960	433	ug/Kg
86-73-7	Fluorene	365U	2960	365	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	556U	2960	556	ug/Kg
91-20-3	Naphthalene	337U	2960	337	ug/Kg
77392-71-3	Perylene	605U	2960	605	ug/Kg
85-01-8	Phenanthrene	650U	2960	650	ug/Kg
129-00-0	Pyrene	544U	2960	544	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	182	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	182	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	182	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	182	Diluted Out	ug/Kg	0*	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082704	003973-SURFACE	Solid	06/08/2010 14:45	06/07/2011 09:05

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
06/09/2011 10:00	457991	3550B	50	07/12/2011 20:06	DLB	460584

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	22300	3650	287	ug/Kg
91-57-6	2-Methylnaphthalene	25100	3650	327	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	319U	3650	319	ug/Kg
83-32-9	Acenaphthene	355U	3650	355	ug/Kg
208-96-8	Acenaphthylene	359U	3650	359	ug/Kg
120-12-7	Anthracene	610U	3650	610	ug/Kg
56-55-3	Benzo(a)anthracene	645U	3650	645	ug/Kg
GCSV-08-14	C1-Chrysenes	70200	3650	762	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	59600	3650	534	ug/Kg
GCSV-08-04	C1-Fluorenes	136000	3650	451	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	390000	3650	803	ug/Kg
GCSV-08-15	C2-Chrysenes	70000	3650	762	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	75200	3650	534	ug/Kg
GCSV-08-05	C2-Fluorenes	246000	3650	451	ug/Kg
GCSV-08-01	C2-Naphthalenes	198000	3650	416	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	508000	3650	803	ug/Kg
GCSV-08-16	C3-Chrysenes	37900	3650	762	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	80600	3650	534	ug/Kg
GCSV-08-06	C3-Fluorenes	242000	3650	451	ug/Kg
GCSV-08-02	C3-Naphthalenes	360000	3650	416	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	314000	3650	803	ug/Kg
GCSV-08-17	C4-Chrysenes	762U	3650	762	ug/Kg
GCSV-08-03	C4-Naphthalenes	263000	3650	416	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	112000	3650	803	ug/Kg
218-01-9	Chrysene	44300	3650	762	ug/Kg
206-44-0	Fluoranthene	534U	3650	534	ug/Kg
86-73-7	Fluorene	26000	3650	451	ug/Kg
91-20-3	Naphthalene	771J	3650	416	ug/Kg
85-01-8	Phenanthrene	108000	3650	803	ug/Kg
129-00-0	Pyrene	8150	3650	672	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	200	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	200	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	200	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	200	Diluted Out	ug/Kg	0*	43 - 111

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
06/09/2011 10:00	457991	3550B	500	07/14/2011 12:46	DLB	460845

CAS#	Parameter	Result	RDL	MDL	Units
50-32-8	Benzo(a)pyrene	6240U	36500	6240	ug/Kg
205-99-2	Benzo(b)fluoranthene	5290U	36500	5290	ug/Kg
192-97-2	Benzo(e)pyrene	10400J	36500	6510	ug/Kg
191-24-2	Benzo(g,h,i)perylene	7720U	36500	7720	ug/Kg
207-08-9	Benzo(k)fluoranthene	4230U	36500	4230	ug/Kg
53-70-3	Dibenz(a,h)anthracene	8740U	36500	8740	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082704	003973-SURFACE	Solid	06/08/2010 14:45	06/07/2011 09:05

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
06/09/2011 10:00	457991	3550B	500	07/14/2011 12:46	DLB	460845

CAS#	Parameter	Result	RDL	MDL	Units
193-39-5	Indeno(1,2,3-cd)pyrene	6860U	36500	6860	ug/Kg
77392-71-3	Perylene	7470U	36500	7470	ug/Kg

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082705	003998-TRENCH WALL	Solid	05/22/2011 19:45	06/07/2011 09:05

SW-846 8015B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
06/08/2011 16:30	457988	3550B	1	06/10/2011 19:58	SMH	458248

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	2020U	14100	2020	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	1650	1230	ug/Kg	75	67 - 120

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082706	004001-HBSP	Solid	05/22/2011 09:10	06/07/2011 09:05

SW-846 8015B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
06/12/2011 16:15	458261	3550B	1	06/13/2011 13:04	SMH	458374

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	540000	228000	32800	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	25000	21600	ug/Kg	86	67 - 120

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082707	004007-FLOTSAM #1	Solid	05/12/2011 14:30	06/07/2011 09:05

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
06/30/2011 10:20	459676	3550B	10	07/13/2011 11:53	DLB	460843

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	73.8U	937	73.8	ug/Kg
91-57-6	2-Methylnaphthalene	84.1U	937	84.1	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	82.0U	937	82.0	ug/Kg
83-32-9	Acenaphthene	91.1U	937	91.1	ug/Kg
208-96-8	Acenaphthylene	92.3U	937	92.3	ug/Kg
120-12-7	Anthracene	157U	937	157	ug/Kg
56-55-3	Benzo(a)anthracene	215J	937	166	ug/Kg
50-32-8	Benzo(a)pyrene	268J	937	160	ug/Kg
205-99-2	Benzo(b)fluoranthene	461J	937	136	ug/Kg
192-97-2	Benzo(e)pyrene	167U	937	167	ug/Kg
191-24-2	Benzo(g,h,i)perylene	302J	937	198	ug/Kg
207-08-9	Benzo(k)fluoranthene	262J	937	109	ug/Kg
GCSV-08-14	C1-Chrysenes	196U	937	196	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	137U	937	137	ug/Kg
GCSV-08-04	C1-Fluorenes	116U	937	116	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	206U	937	206	ug/Kg
GCSV-08-15	C2-Chrysenes	196U	937	196	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	137U	937	137	ug/Kg
GCSV-08-05	C2-Fluorenes	116U	937	116	ug/Kg
GCSV-08-01	C2-Naphthalenes	107U	937	107	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	206U	937	206	ug/Kg
GCSV-08-16	C3-Chrysenes	196U	937	196	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	137U	937	137	ug/Kg
GCSV-08-06	C3-Fluorenes	116U	937	116	ug/Kg
GCSV-08-02	C3-Naphthalenes	107U	937	107	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	206U	937	206	ug/Kg
GCSV-08-17	C4-Chrysenes	196U	937	196	ug/Kg
GCSV-08-03	C4-Naphthalenes	107U	937	107	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	206U	937	206	ug/Kg
218-01-9	Chrysene	294J	937	196	ug/Kg
53-70-3	Dibenz(a,h)anthracene	291J	937	224	ug/Kg
206-44-0	Fluoranthene	450J	937	137	ug/Kg
86-73-7	Fluorene	116U	937	116	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	422J	937	176	ug/Kg
91-20-3	Naphthalene	107U	937	107	ug/Kg
77392-71-3	Perylene	192U	937	192	ug/Kg
85-01-8	Phenanthrene	206U	937	206	ug/Kg
129-00-0	Pyrene	212J	937	173	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	40	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	40	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	40	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	40	Diluted Out	ug/Kg	0*	43 - 111

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082707	004007-FLOTSAM #1	Solid	05/12/2011 14:30	06/07/2011 09:05

SW-846 8015B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
06/08/2011 16:30	457988	3550B	1	06/10/2011 19:22	SMH	458248

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	486000	312000	44700	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	5000	4070	ug/Kg	81	67 - 120

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082708	003968-DUNE SCARP	Solid	05/22/2011 21:21	06/07/2011 09:05

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
06/09/2011 10:00	457991	3550B	50	07/12/2011 20:50	DLB	460584

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	220U	2790	220	ug/Kg
91-57-6	2-Methylnaphthalene	250U	2790	250	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	244U	2790	244	ug/Kg
83-32-9	Acenaphthene	271U	2790	271	ug/Kg
208-96-8	Acenaphthylene	275U	2790	275	ug/Kg
120-12-7	Anthracene	466U	2790	466	ug/Kg
56-55-3	Benzo(a)anthracene	493U	2790	493	ug/Kg
GCSV-08-14	C1-Chrysenes	3770	2790	583	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	408U	2790	408	ug/Kg
GCSV-08-04	C1-Fluorenes	344U	2790	344	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	1080J	2790	613	ug/Kg
GCSV-08-15	C2-Chrysenes	583U	2790	583	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	1690J	2790	408	ug/Kg
GCSV-08-05	C2-Fluorenes	344U	2790	344	ug/Kg
GCSV-08-01	C2-Naphthalenes	318U	2790	318	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	4590	2790	613	ug/Kg
GCSV-08-16	C3-Chrysenes	583U	2790	583	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	408U	2790	408	ug/Kg
GCSV-08-06	C3-Fluorenes	344U	2790	344	ug/Kg
GCSV-08-02	C3-Naphthalenes	318U	2790	318	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	4390	2790	613	ug/Kg
GCSV-08-17	C4-Chrysenes	583U	2790	583	ug/Kg
GCSV-08-03	C4-Naphthalenes	318U	2790	318	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	4150	2790	613	ug/Kg
218-01-9	Chrysene	2820	2790	583	ug/Kg
206-44-0	Fluoranthene	408U	2790	408	ug/Kg
86-73-7	Fluorene	344U	2790	344	ug/Kg
91-20-3	Naphthalene	318U	2790	318	ug/Kg
85-01-8	Phenanthrene	613U	2790	613	ug/Kg
129-00-0	Pyrene	514U	2790	514	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	182	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	182	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	182	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	182	Diluted Out	ug/Kg	0*	43 - 111

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
06/09/2011 10:00	457991	3550B	500	07/14/2011 13:29	DLB	460845

CAS#	Parameter	Result	RDL	MDL	Units
50-32-8	Benzo(a)pyrene	4770U	27900	4770	ug/Kg
205-99-2	Benzo(b)fluoranthene	4040U	27900	4040	ug/Kg
192-97-2	Benzo(e)pyrene	4980U	27900	4980	ug/Kg
191-24-2	Benzo(g,h,i)perylene	5900U	27900	5900	ug/Kg
207-08-9	Benzo(k)fluoranthene	3230U	27900	3230	ug/Kg
53-70-3	Dibenz(a,h)anthracene	6680U	27900	6680	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082708	003968-DUNE SCARP	Solid	05/22/2011 21:21	06/07/2011 09:05

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
06/09/2011 10:00	457991	3550B	500	07/14/2011 13:29	DLB	460845

CAS#	Parameter	Result	RDL	MDL	Units
193-39-5	Indeno(1,2,3-cd)pyrene	5240U	27900	5240	ug/Kg
77392-71-3	Perylene	5710U	27900	5710	ug/Kg

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082709	003968-DUNE SCARP	Solid	05/22/2011 21:21	06/07/2011 09:05

SW-846 8015B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
06/09/2011 10:30	457988	3550B	2	06/10/2011 20:16	SMH	458248

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	89900	27000	3880	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	1660	1240	ug/Kg	75	67 - 120

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21106082710	004002-FLOTSAM #2	Solid	05/12/2011 14:30	06/07/2011 09:05

SW-846 8015B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
06/11/2011 08:40	458143	3550B	1	06/13/2011 13:23	SMH	458374

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	43000J	84700	12200	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	1650	1640	ug/Kg	99	67 - 120

RESULTS REPORTED ON A DRY WEIGHT BASIS

GC/MS Semi-Volatiles Quality Control Summary

Analytical Batch 460584 Prep Batch 457991 Prep Method 3550B		Client ID MB457991 GCAL ID 954980 Sample Type Method Blank Prep Date 06/09/2011 10:00 Analytical Date 07/12/2011 15:47 Matrix Solid		LCS457991 954981 LCS 06/09/2011 10:00 07/12/2011 16:30 Solid			LCSD457991 954982 LCSD 06/09/2011 10:00 07/12/2011 17:13 Solid				
SW-846 8272 Modified Solid		Units	ug/Kg	Spike	Result		Control	Result		RPD	RPD
		Result	RDL	Added		% R	Limits % R		% R	RPD	Limit
91-20-3	Naphthalene	0.456U	0.456	13.3	7.54	57	50 - 150	7.45	56	1	40
91-57-6	2-Methylnaphthalene	0.359U	0.359								
90-12-0	1-Methylnaphthalene	0.315U	0.315								
GCSV-08-01	C2-Naphthalenes	0.456U	0.456								
GCSV-08-02	C3-Naphthalenes	0.456U	0.456								
GCSV-08-03	C4-Naphthalenes	0.456U	0.456								
7297-45-2	2-Methylnaphthalene-d10	0.350U	0.350								
208-96-8	Acenaphthylene	0.394U	0.394								
83-32-9	Acenaphthene	0.389U	0.389								
86-73-7	Fluorene	0.494U	0.494								
GCSV-08-04	C1-Fluorenes	0.494U	0.494								
GCSV-08-05	C2-Fluorenes	0.494U	0.494								
GCSV-08-06	C3-Fluorenes	0.494U	0.494								
85-01-8	Phenanthrene	0.880U	0.880								
GCSV-08-07	C1-Phenanthrenes/anthracenes	0.880U	0.880								
GCSV-08-08	C2-Phenanthrenes/anthracenes	0.880U	0.880								
GCSV-08-09	C3-Phenanthrenes/anthracenes	0.880U	0.880								
GCSV-08-10	C4-Phenanthrenes/anthracenes	0.880U	0.880								
120-12-7	Anthracene	0.669U	0.669								
206-44-0	Fluoranthene	0.586U	0.586								
129-00-0	Pyrene	0.737U	0.737								
GCSV-08-11	C1-Fluoranthenes/pyrenes	0.586U	0.586								
GCSV-08-12	C2-Fluoranthenes/pyrenes	0.586U	0.586								
GCSV-08-13	C3-Fluoranthenes/pyrenes	0.586U	0.586								
218-01-9	Chrysene	0.836U	0.836								
GCSV-08-14	C1-Chrysenes	0.836U	0.836								
GCSV-08-15	C2-Chrysenes	0.836U	0.836								
GCSV-08-16	C3-Chrysenes	0.836U	0.836								
GCSV-08-17	C4-Chrysenes	0.836U	0.836								
56-55-3	Benzo(a)anthracene	0.707U	0.707								
205-99-2	Benzo(b)fluoranthene	0.580U	0.580								
207-08-9	Benzo(k)fluoranthene	0.464U	0.464								

GC/MS Semi-Volatiles Quality Control Summary

Analytical Batch 460584 Prep Batch 457991 Prep Method 3550B		Client ID MB457991 GCAL ID 954980 Sample Type Method Blank Prep Date 06/09/2011 10:00 Analytical Date 07/12/2011 15:47 Matrix Solid			LCS457991 954981 LCS 06/09/2011 10:00 07/12/2011 16:30 Solid			LCSD457991 954982 LCSD 06/09/2011 10:00 07/12/2011 17:13 Solid			
SW-846 8272 Modified Solid		Units ug/Kg Result RDL		Spike Added	Result	% R	Control Limits % R	Result	% R	RPD	RPD Limit
192-97-2	Benzo(e)pyrene	0.714U	0.714								
50-32-8	Benzo(a)pyrene	0.684U	0.684								
77392-71-3	Perylene	0.819U	0.819								
193-39-5	Indeno(1,2,3-cd)pyrene	0.752U	0.752								
53-70-3	Dibenz(a,h)anthracene	0.958U	0.958								
191-24-2	Benzo(g,h,i)perylene	0.846U	0.846								
Surrogate											
93951-97-4	Acenaphthylene-d8	7.36	55	13.3	7.93	59	20 - 97	7.76	58		
1719-06-8	Anthracene-d10	7.81	59	13.3	5.76	43	22 - 98	9.64	72		
1718-52-1	Pyrene-d10	8.15	61	13.3	7.49	56	51 - 120	7.54	57		
63466-71-7	Benzo(a)pyrene-d12	7.12	53	13.3	7.52	56	43 - 111	9.78	73		

Analytical Batch 460584 Prep Batch 459676 Prep Method 3550B		Client ID MB459676 GCAL ID 963023 Sample Type Method Blank Prep Date 06/30/2011 10:20 Analytical Date 07/12/2011 13:35 Matrix Solid			LCS459676 963024 LCS 06/30/2011 10:20 07/12/2011 14:19 Solid			LCSD459676 963025 LCSD 06/30/2011 10:20 07/12/2011 15:03 Solid			
SW-846 8272 Modified Solid		Units ug/Kg Result RDL		Spike Added	Result	% R	Control Limits % R	Result	% R	RPD	RPD Limit
91-20-3	Naphthalene	0.454U	0.454	13.3	7.92	60	50 - 150	10.1	77	24	40
91-57-6	2-Methylnaphthalene	0.358U	0.358								
90-12-0	1-Methylnaphthalene	0.314U	0.314								
GCSV-08-01	C2-Naphthalenes	0.454U	0.454								
GCSV-08-02	C3-Naphthalenes	0.454U	0.454								
GCSV-08-03	C4-Naphthalenes	0.454U	0.454								
7297-45-2	2-Methylnaphthalene-d10	0.349U	0.349								
208-96-8	Acenaphthylene	0.393U	0.393								
83-32-9	Acenaphthene	0.388U	0.388								
86-73-7	Fluorene	0.492U	0.492								
GCSV-08-04	C1-Fluorenes	0.492U	0.492								

GC/MS Semi-Volatiles Quality Control Summary

Analytical Batch 460584 Prep Batch 459676 Prep Method 3550B		Client ID MB459676 GCAL ID 963023 Sample Type Method Blank Prep Date 06/30/2011 10:20 Analytical Date 07/12/2011 13:35 Matrix Solid			LCS459676 963024 LCS 06/30/2011 10:20 07/12/2011 14:19 Solid			LCSD459676 963025 LCSD 06/30/2011 10:20 07/12/2011 15:03 Solid			
SW-846 8272 Modified Solid		Units	ug/Kg	Spike	Result		Control	Result			RPD
		Result	RDL	Added		% R	Limits % R		% R	RPD	Limit
GCSV-08-05	C2-Fluorenes	0.492U	0.492								
GCSV-08-06	C3-Fluorenes	0.492U	0.492								
85-01-8	Phenanthrene	0.877U	0.877								
GCSV-08-07	C1-Phenanthrenes/anthracenes	0.877U	0.877								
GCSV-08-08	C2-Phenanthrenes/anthracenes	0.877U	0.877								
GCSV-08-09	C3-Phenanthrenes/anthracenes	0.877U	0.877								
GCSV-08-10	C4-Phenanthrenes/anthracenes	0.877U	0.877								
120-12-7	Anthracene	0.667U	0.667								
206-44-0	Fluoranthene	0.584U	0.584								
129-00-0	Pyrene	0.735U	0.735								
GCSV-08-11	C1-Fluoranthenes/pyrenes	0.584U	0.584								
GCSV-08-12	C2-Fluoranthenes/pyrenes	0.584U	0.584								
GCSV-08-13	C3-Fluoranthenes/pyrenes	0.584U	0.584								
218-01-9	Chrysene	0.833U	0.833								
GCSV-08-14	C1-Chrysenes	0.833U	0.833								
GCSV-08-15	C2-Chrysenes	0.833U	0.833								
GCSV-08-16	C3-Chrysenes	0.833U	0.833								
GCSV-08-17	C4-Chrysenes	0.833U	0.833								
56-55-3	Benzo(a)anthracene	0.705U	0.705								
205-99-2	Benzo(b)fluoranthene	0.578U	0.578								
207-08-9	Benzo(k)fluoranthene	0.462U	0.462								
192-97-2	Benzo(e)pyrene	0.712U	0.712								
50-32-8	Benzo(a)pyrene	0.682U	0.682								
77392-71-3	Perylene	0.816U	0.816								
193-39-5	Indeno(1,2,3-cd)pyrene	0.750U	0.750								
53-70-3	Dibenz(a,h)anthracene	0.955U	0.955								
191-24-2	Benzo(g,h,i)perylene	0.843U	0.843								
Surrogate											
93951-97-4	Acenaphthylene-d8	6.57	49	13.3	6.99	53	20 - 97	10.3	78		
1719-06-8	Anthracene-d10	7.57	57	13.3	7.05	53	22 - 98	11	84		
1718-52-1	Pyrene-d10	7.21	54	13.3	7.63	57	51 - 120	10.7	81		
63466-71-7	Benzo(a)pyrene-d12	6.01	45	13.3	7.94	60	43 - 111	11.7	89		

General Chromatography Quality Control Summary

Analytical Batch 458126 Prep Batch 457988 Prep Method 3550B		Client ID MB457988 GCAL ID 954970 Sample Type Method Blank Prep Date 06/08/2011 16:30 Analytical Date 06/09/2011 12:34 Matrix Solid		LCS457988 954971 LCS 06/08/2011 16:30 06/09/2011 13:28 Solid			LCSD457988 954972 LCSD 06/08/2011 16:30 06/09/2011 13:46 Solid						
SW-846 8015B				Units	ug/Kg	Spike	Result	% R	Control	Result	% R	RPD	RPD
				Result	RDL	Added			Limits % R				Limit
GCSV-00-44	Oil Range Organics			1900U	1900	66400	47600	72	47 - 120	57400	86	19	40
Surrogate													
84-15-1	o-Terphenyl			1400	84	1660	1310	79	67 - 120	1480	89		

Analytical Batch 458126 Prep Batch 457988 Prep Method 3550B		Client ID 106041IDW1 GCAL ID 21106072001 Sample Type SAMPLE Prep Date 06/08/2011 16:30 Analytical Date 06/09/2011 17:38 Matrix Solid		954134MS 954973 MS 06/08/2011 16:30 06/09/2011 17:56 Solid			954134MSD 954974 MSD 06/08/2011 16:30 06/09/2011 18:13 Solid						
SW-846 8015B				Units	ug/Kg	Spike	Result	% R	Control	Result	% R	RPD	RPD
				Result	RDL	Added			Limits % R				Limit
GCSV-00-44 Oil Range Organics		13100 1880		65800		55800		65	47 - 120	52600 60		6	40
Surrogate													
84-15-1 o-Terphenyl				1640		1350		82	67 - 120	1280 77			

Analytical Batch 458344 Prep Batch 458143 Prep Method 3550B		Client ID MB458143 GCAL ID 955882 Sample Type Method Blank Prep Date 06/11/2011 08:40 Analytical Date 06/12/2011 10:15 Matrix Solid		LCS458143 955883 LCS 06/11/2011 08:40 06/12/2011 11:09 Solid			LCSD458143 955884 LCSD 06/11/2011 08:40 06/12/2011 11:27 Solid				
SW-846 8015B		Units	ug/Kg	Spike	Result	% R	Control	Result	% R	RPD	RPD
Result	RDL			Added			Limits % R				Limit
GCSV-00-44	Oil Range Organics	1880U	1880	65800	52400	80	47 - 120	54000	81	3	40
Surrogate											
84-15-1	o-Terphenyl	1460	89	1640	1550	94	67 - 120	1530	92		

General Chromatography Quality Control Summary

Analytical Batch 458344 Prep Batch 458143 Prep Method 3550B		Client ID 106058IDW1 GCAL ID 21106102002 Sample Type SAMPLE Prep Date 06/11/2011 08:40 Analytical Date 06/12/2011 12:38 Matrix Solid		955832MS 955885 MS 06/11/2011 08:40 06/12/2011 12:56 Solid			955832MSD 955886 MSD 06/11/2011 08:40 06/12/2011 13:50 Solid						
SW-846 8015B				Units	ug/Kg	Spike		Control					
				Result	RDL	Added	Result	% R	Limits % R	Result	% R	RPD	RPD Limit
GCSV-00-44	Oil Range Organics			5810	1910	66700	57500	78	47 - 120	56300	76	2	40
Surrogate													
84-15-1	o-Terphenyl					1670	1620	97	67 - 120	1540	93		

Analytical Batch 458374 Prep Batch 458261 Prep Method 3550B		Client ID MB458261 GCAL ID 956359 Sample Type Method Blank Prep Date 06/12/2011 16:15 Analytical Date 06/13/2011 12:11 Matrix Solid		LCS458261 956360 LCS 06/12/2011 16:15 06/13/2011 12:29 Solid			LCSD458261 956361 LCSD 06/12/2011 16:15 06/13/2011 12:47 Solid						
SW-846 8015B				Units	ug/Kg	Spike	Result	% R	Control	Result	% R	RPD	RPD
		Result	RDL						Limits % R				Limit
GCSV-00-44	Oil Range Organics	1910U	1910	66700	48000	72	47 - 120	46400	70	4	40		
Surrogate													
84-15-1	o-Terphenyl	1500	90	1670	1540	92	67 - 120	1490	89				



Chain of Custody Record

7929 GSR AVE, RATON HOUSE LA 70820-7402
(225) 769-4900 FAX (225) 767-5717

Lab use only	Client Name Surfrider	Client # 4773	Group 211060827	Date 6/7/11 <i>Aut</i>
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Report to: Client: Rip Kirby & Surfrider Address: 630 Fariway Ave NE Ft Walton Beach, FL 32547 Contact: Rip Kirby Phone: 850-217-1616 eMail: rip@nov9thgroup.com				Bill to: Client: Surfrider Foundation Address: PO Box 6010 San Clemente, CA 92674 Contact: Ericka Canales Phone: 772-924-4144 eMail: ecanales@surfrider.org				Analytical Requests & Methods			
P.O. Number N/A		Project Name/Number Surfrider SOTB - May 2011		8272 Modified for all listed samples		Remarks: Lab ID 6/8					
Sampled By: James H "Rip" Kirby III or as otherwise remarked											
Matrix	Date	Time (2400)	C o n t a i n e r							G e n e r a l	Sample Container Nbr & Description
S/O	5/22/11	20:41	X		004008 - Tar balls on the back beach surface of the eastern beach of Navarre Beach, FL	No	1	X	NOTE: Conduct ORO on sister sample before doing 8272 on this sample. Notify client of preliminary ORO result prior to doing this sample to confirm need for 8272 test. N 30° 22'49" W 86° 51' 45" N 30° 24.239' W 86° 37.081" N 28.72438° W 84.98086° - Collected by Robin Rickel Vroegop and Sabrina Phipps then consigned to JH Kirby on 5/10/11 N 30° 23.013' W 86° 26.973' - Collected by S. Forsyth then consigned to JH Kirby on 4/22/11 N 28° 2.838' W 87° 12.982' - Collected by E. Hayles then consigned to JH Kirby on 5/26/11		
S/O	5/12/11	14:30	X		004002 - Flotsam #2; surface blobs of suspected oil product mixed with vegetation - The Boat marina in Ft Walton Beach, FL	No	1	X			
S/O	5/1/11	9:00	X		003988 - Tar balls from beach at the first pullover, Gulf front side, St George Island State Park, FL. Original jar labeled Osprey #17	No	1	X			
S/O	4/20/11	8:00	X		004011 - HBSP surface tarball#1; tar balls and buried tar mat along most of the Henderson Beach State Park beach	No	1	X			
S/O	6/8/10	14:45	X		003973 - Surface slick approx. 12 statute miles NE of DW Horizon Accident Site	No	1	X			
NOTE: All times CDT											
End of List											
Turn Around Time:		24 - 48 hrs		3 days		1 week		X standard other			
Relinquished by: (Signature) <i>James H Kirby III</i>		Received by: (Signature) <i>FEDEX</i>		Date: 6/6/11		Time: 1645		Note: By submitting these samples, you agree to the terms and conditions contained in our most recent schedule of services.			
Relinquished by: (Signature) <i>FEDEX</i>		Received by: (Signature) <i>One</i>		Date: 6/7/11		Time: 0905		5.70C			

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



7979 GSN AVE, BATON ROUGE LA 70820-7402
(225) 769-4900 FAX (225) 767-5717

Chain of Custody Record

Lab use only

Surfrider

Client Name

4773

Client #

211060827

Group

6/29/11

Due Date

Report to: Client: Rip Kirby & Surfrider Address: 630 Fariway Ave NE Ft Walton Beach, FL 32547 Contact: Rip Kirby Phone: 850-217-1616 eMail: rip@nov9thgroup.com				Bill to: Client: Surfrider Foundation Address: PO Box 6010 San Clemente, CA 92674 Contact: Ericka Canales Phone: 772-924-1144 eMail: ecanales@surfrider.org				Analytical Requests & Methods			
P.O. Number N/A		Project Name/Number Surfrider SOTB - May 2011						ORC for all listed samples	Lab ID 6/8 5 6 7		
Sampled By: James H "Rip" Kirby III or as otherwise remarked											
Matrix	Date	Time (2400)	C o n t a i n e r	E n v i r o n m e n t	Sample Container Nbr & Description	Pre-serva tives	No. Con tainers			Remarks:	
S/O	5/22/11	19:45	X		003998 - Trench wall layer on the eastern beach of Navarre Beach, FL	No	1	X	N 30° 22'47" W 86° 51'46"		
S/O	5/22/11	9:10	X		004001 - HBSP surface tar ball #2; tar balls and buried tar mat along most of the Henderson Beach State Park beach	No	1	X	N 30° 23.013' W 86° 27.101'		
S/O	5/12/11	14:30	X		004007 - Flotsam #1; surface blobs of suspected oil product mixed with vegetation - The Boat marina in Ft Walton Beach, FL	No	1	X	NOTE: Conduct ORO on this sample before doing 8272 on sister sample. Notify client of preliminary ORO result to confirm need for 8272 test on sister sample. N 30° 24.239' W 86° 37.081'		
===== End of List =====											
NOTE: All times CDT											
Turn Around Time:		24 - 48 hrs		3 days		1 week		X standard other			
Relinquished by: (Signature) James H Kirby III		Received by: (Signature) FEDEX 794834463605		Date: 6/6/11		Time: 1645		Note: By submitting these samples, you agree to the terms and conditions contained in our most recent schedule of services.			
Relinquished by: (Signature) FedEx		Received by: (Signature) [Signature]		Date: 6/7/11		Time: 0905		5.70C			

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



7979 GSR AVE, BAYTOWN, TX 77020-7402
(281) 769-4900 FAX (281) 767-5717

Chain of Custody Record

Lab use only	Client Name Surfrider	Client # 4773	Group# 211060827	Doc Date 6/28/11
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Report to: Client: Rip Kirby & Surfrider Address: 630 Fariway Ave NE Ft Walton Beach, FL 32547 Contact: Rip Kirby Phone: 850-217-1616 eMail: rip@nov9thgroup.com				Bill to: Client: Surfrider Foundation Address: PO Box 6010 San Clemente, CA 92674 Contact: Ericka Canales Phone: 772-924-4144 eMail: ecanales@surfrider.org				Analytical Requests & Methods			
P.O. Number N/A		Project Name/Number Surfrider SOTB - May 2011						Split Sample- use tar balls for 8272 Split Sample- use sand for ORO			
Sampled By: James H "Rip" Kirby III or as otherwise remarked											
Matrix	Date	Time (2400)	U a m p	S a m p l e	Sample Container Nbr & Description	Pre-serva tives	No. Con tainers	Remarks:	Lab ID		
S/O	5/22/11	21:21		X	003968 - Dune Scarp face and surface (6" to 8" deep) - west side beaches of Navarre Beach FL	No	1	X	N 30° 22'21" W 86°54'50"	6/8	
S/O	5/22/11	21:21		X	003968 - Dune Scarp face and surface (6" to 8" deep) - west side beaches of Navarre Beach FL	No	1	X	N 30° 22'21" W 86°54'50"	8 9	
===== End of List =====											
Note: physical separation (sift or sieve) req'd at lab to create split...one for sand and one for tar balls. Test sand for oil coating on the grains using ORO method. Test lumpy tar balls using 8272 modified method.											
NOTE: All times CDT											
Turn Around Time:		24 - 48 hrs		3 days		1 week		X standard other			
Relinquished by: (Signature) <i>James H Kirby III</i> James H Kirby III		Received by: (Signature) <i>FEDEX</i> FEDEX 794834463605		Date: 6/6/11		Time: 1645		Note: By submitting these samples, you agree to the terms and conditions contained in our most recent schedule of services.			
Relinquished by: (Signature) <i>FEDEX</i>		Received by: (Signature) <i>Chen IK</i>		Date: 6/7/11		Time: 0905		5702			

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

**SAMPLE RECEIVING CHECKLIST**Workorder: 211060827Client: 4773 - Surfrider FoundationProfile: 210818 - Surfrider State of the BeachLine Item: 1 - SolidReceived by: Kinchen, Anna M.Received Date/Time: 6/7/2011 9:05:00 AMSamples Received via: FEDEXNumber of Coolers Received: 1Cooler tracking numbers(s): 7948 3440 3605Cooler temperature(s): 5.7°C

Were all coolers received at a temperature of 0 - 6° C?

☒ Yes☐ No☐ N/A

Were all custody seals intact?

☒ Yes☐ No☐ N/A

Were all samples received in proper containers?

☒ Yes☐ No☐ N/A

Were all samples properly preserved?

☒ Yes☐ No☐ N/A

Was preservative added to any container at the lab?

☐ Yes☒ No☐ N/A

Were all containers received in good condition?

☒ Yes☐ No☐ N/A

Were all VOA vials received with no head space?

☐ Yes☐ No☒ N/A

Do all sample labels match the Chain of Custody?

☒ Yes☐ No☐ N/A

Was the client notified about any discrepancies?

☐ Yes☐ No☒ N/A

Notes/Comments: _____

Appendix 4

Report Date 07/27/2011

GCAL Report 211070813

Appendix 5

Report Date 08/12/2011

GCAL Report 211072028

ANALYTICAL RESULTS

PERFORMED BY

GULF COAST ANALYTICAL LABORATORIES, INC.

**7979 GSRI Avenue
Baton Rouge, LA 70820**

Report Date 08/12/2011

GCAL Report 211072028

****211072028****

Deliver To The November 9th Group, LLC
630 Fairway Ave. NE
Fort Walton Beach, FL 32547
850-862-7134

Attn James Kirby

Project Surfrider SOTB - July 2011

CASE NARRATIVE

Client: The November 9th Group, LLC **Report:** 211072028

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

MISCELLANEOUS

The samples were received at the laboratory at a temperature of 13.9°C. All ice in the cooler had melted. The client was contacted and authorized the laboratory to proceed with the analyses.

The analysis of several samples by SW-846 8272 was added after expiration of the 14-day holding time.

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 an estimated value
U	Indicates the compound was analyzed for but not detected
B	(ORGANICS) Indicates the analyte was detected in the associated Method Blank
B	(INORGANICS) Indicates the result is between the RDL and MDL

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

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

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

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

Robyn Miguez
Technical Director
GCAL REPORT 211072028

THIS REPORT CONTAINS _____ PAGES.

Report Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202801	000822-BOT SED 60	Solid	07/12/2011 14:15	07/20/2011 09:05
21107202802	000787-BOTTOM SED 30	Solid	07/12/2011 16:05	07/20/2011 09:05
21107202803	000815-BOTTOM SED 30	Solid	07/12/2011 16:10	07/20/2011 09:05
21107202804	000796 BOTTOM SED 30	Solid	07/12/2011 09:15	07/20/2011 09:05
21107202805	000817-BOTTOM SED 30	Solid	07/12/2011 09:20	07/20/2011 09:05
21107202806	000821-BOTTOM SED 30	Solid	07/12/2011 09:25	07/20/2011 09:05
21107202807	000761-BOTTOM SED 30	Solid	07/12/2011 09:30	07/20/2011 09:05
21107202808	000805-BOTTEM SED 30	Solid	07/12/2011 12:15	07/20/2011 09:05
21107202809	000758-BOTTEM SED 30	Solid	07/12/2011 12:20	07/20/2011 09:05
21107202810	000757-BOTTEM SED 30	Solid	07/12/2011 12:25	07/20/2011 09:05
21107202811	000803-BOTTEM SED 30	Solid	07/12/2011 12:30	07/20/2011 09:05

Summary of Compounds Detected

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202801	000822-BOT SED 60	Solid	07/12/2011 14:15	07/20/2011 09:05

SW-846 8015B

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	5450J	17900	2570	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202802	000787-BOTTOM SED 30	Solid	07/12/2011 16:05	07/20/2011 09:05

SW-846 8015B

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	6750J	35900	5150	ug/Kg

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
205-99-2	Benzo(b)fluoranthene	1.80J	10.8	1.57	ug/Kg
206-44-0	Fluoranthene	1.95J	10.8	1.58	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202804	000796 BOTTOM SED 30	Solid	07/12/2011 09:15	07/20/2011 09:05

SW-846 8015B

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	9380J	17100	2450	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202805	000817-BOTTOM SED 30	Solid	07/12/2011 09:20	07/20/2011 09:05

SW-846 8015B

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	5340J	17500	2520	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202806	000821-BOTTOM SED 30	Solid	07/12/2011 09:25	07/20/2011 09:05

SW-846 8015B

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	11700J	17400	2490	ug/Kg

Summary of Compounds Detected (con't)

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202807	000761-BOTTOM SED 30	Solid	07/12/2011 09:30	07/20/2011 09:05

SW-846 8015B

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	4340J	17100	2460	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202811	000803-BOTTEM SED 30	Solid	07/12/2011 12:30	07/20/2011 09:05

SW-846 8015B

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	2700J	16600	2390	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202801	000822-BOT SED 60	Solid	07/12/2011 14:15	07/20/2011 09:05

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
07/31/2011 08:30	462382	3550B	1	08/10/2011 10:59	DLB	463127

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	0.421U	5.35	0.421	ug/Kg
91-57-6	2-Methylnaphthalene	0.480U	5.35	0.480	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	0.468U	5.35	0.468	ug/Kg
83-32-9	Acenaphthene	0.520U	5.35	0.520	ug/Kg
208-96-8	Acenaphthylene	0.527U	5.35	0.527	ug/Kg
120-12-7	Anthracene	0.895U	5.35	0.895	ug/Kg
56-55-3	Benzo(a)anthracene	0.946U	5.35	0.946	ug/Kg
50-32-8	Benzo(a)pyrene	0.915U	5.35	0.915	ug/Kg
205-99-2	Benzo(b)fluoranthene	0.776U	5.35	0.776	ug/Kg
192-97-2	Benzo(e)pyrene	0.955U	5.35	0.955	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1.13U	5.35	1.13	ug/Kg
207-08-9	Benzo(k)fluoranthene	0.621U	5.35	0.621	ug/Kg
GCSV-08-14	C1-Chrysenes	1.12U	5.35	1.12	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	0.784U	5.35	0.784	ug/Kg
GCSV-08-04	C1-Fluorenes	0.661U	5.35	0.661	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	1.18U	5.35	1.18	ug/Kg
GCSV-08-15	C2-Chrysenes	1.12U	5.35	1.12	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	0.784U	5.35	0.784	ug/Kg
GCSV-08-05	C2-Fluorenes	0.661U	5.35	0.661	ug/Kg
GCSV-08-01	C2-Naphthalenes	0.610U	5.35	0.610	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	1.18U	5.35	1.18	ug/Kg
GCSV-08-16	C3-Chrysenes	1.12U	5.35	1.12	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	0.784U	5.35	0.784	ug/Kg
GCSV-08-06	C3-Fluorenes	0.661U	5.35	0.661	ug/Kg
GCSV-08-02	C3-Naphthalenes	0.610U	5.35	0.610	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	1.18U	5.35	1.18	ug/Kg
GCSV-08-17	C4-Chrysenes	1.12U	5.35	1.12	ug/Kg
GCSV-08-03	C4-Naphthalenes	0.610U	5.35	0.610	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	1.18U	5.35	1.18	ug/Kg
218-01-9	Chrysene	1.12U	5.35	1.12	ug/Kg
53-70-3	Dibenz(a,h)anthracene	1.28U	5.35	1.28	ug/Kg
206-44-0	Fluoranthene	0.784U	5.35	0.784	ug/Kg
86-73-7	Fluorene	0.661U	5.35	0.661	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1.01U	5.35	1.01	ug/Kg
91-20-3	Naphthalene	0.610U	5.35	0.610	ug/Kg
77392-71-3	Perylene	1.10U	5.35	1.10	ug/Kg
85-01-8	Phenanthrene	1.18U	5.35	1.18	ug/Kg
129-00-0	Pyrene	0.986U	5.35	0.986	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	13.2	8.87	ug/Kg	67	20 - 97
1719-06-8	Anthracene-d10	13.2	8.86	ug/Kg	67	22 - 98
1718-52-1	Pyrene-d10	13.2	7.5	ug/Kg	57	51 - 120
63466-71-7	Benzo(a)pyrene-d12	13.2	10.8	ug/Kg	82	43 - 111

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202801	000822-BOT SED 60	Solid	07/12/2011 14:15	07/20/2011 09:05

SW-846 8015B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
07/25/2011 14:30	461885	3550B	1	07/26/2011 20:53	SMH	462140

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	5450J	17900	2570	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	1670	1350	ug/Kg	81	67 - 120

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202802	000787-BOTTOM SED 30	Solid	07/12/2011 16:05	07/20/2011 09:05

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
07/31/2011 08:30	462382	3550B	1	08/10/2011 11:42	DLB	463127

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	0.850U	10.8	0.850	ug/Kg
91-57-6	2-Methylnaphthalene	0.969U	10.8	0.969	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	0.944U	10.8	0.944	ug/Kg
83-32-9	Acenaphthene	1.05U	10.8	1.05	ug/Kg
208-96-8	Acenaphthylene	1.06U	10.8	1.06	ug/Kg
120-12-7	Anthracene	1.81U	10.8	1.81	ug/Kg
56-55-3	Benzo(a)anthracene	1.91U	10.8	1.91	ug/Kg
50-32-8	Benzo(a)pyrene	1.85U	10.8	1.85	ug/Kg
205-99-2	Benzo(b)fluoranthene	1.80J	10.8	1.57	ug/Kg
192-97-2	Benzo(e)pyrene	1.93U	10.8	1.93	ug/Kg
191-24-2	Benzo(g,h,i)perylene	2.28U	10.8	2.28	ug/Kg
207-08-9	Benzo(k)fluoranthene	1.25U	10.8	1.25	ug/Kg
GCSV-08-14	C1-Chrysenes	2.26U	10.8	2.26	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	1.58U	10.8	1.58	ug/Kg
GCSV-08-04	C1-Fluorenes	1.33U	10.8	1.33	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	2.37U	10.8	2.37	ug/Kg
GCSV-08-15	C2-Chrysenes	2.26U	10.8	2.26	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	1.58U	10.8	1.58	ug/Kg
GCSV-08-05	C2-Fluorenes	1.33U	10.8	1.33	ug/Kg
GCSV-08-01	C2-Naphthalenes	1.23U	10.8	1.23	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	2.37U	10.8	2.37	ug/Kg
GCSV-08-16	C3-Chrysenes	2.26U	10.8	2.26	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	1.58U	10.8	1.58	ug/Kg
GCSV-08-06	C3-Fluorenes	1.33U	10.8	1.33	ug/Kg
GCSV-08-02	C3-Naphthalenes	1.23U	10.8	1.23	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	2.37U	10.8	2.37	ug/Kg
GCSV-08-17	C4-Chrysenes	2.26U	10.8	2.26	ug/Kg
GCSV-08-03	C4-Naphthalenes	1.23U	10.8	1.23	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	2.37U	10.8	2.37	ug/Kg
218-01-9	Chrysene	2.26U	10.8	2.26	ug/Kg
53-70-3	Dibenz(a,h)anthracene	2.59U	10.8	2.59	ug/Kg
206-44-0	Fluoranthene	1.95J	10.8	1.58	ug/Kg
86-73-7	Fluorene	1.33U	10.8	1.33	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	2.03U	10.8	2.03	ug/Kg
91-20-3	Naphthalene	1.23U	10.8	1.23	ug/Kg
77392-71-3	Perylene	2.21U	10.8	2.21	ug/Kg
85-01-8	Phenanthrene	2.37U	10.8	2.37	ug/Kg
129-00-0	Pyrene	1.99U	10.8	1.99	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	13.3	11.7	ug/Kg	88	20 - 97
1719-06-8	Anthracene-d10	13.3	11	ug/Kg	83	22 - 98
1718-52-1	Pyrene-d10	13.3	9.94	ug/Kg	75	51 - 120
63466-71-7	Benzo(a)pyrene-d12	13.3	14.5	ug/Kg	109	43 - 111

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202802	000787-BOTTOM SED 30	Solid	07/12/2011 16:05	07/20/2011 09:05

SW-846 8015B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
07/25/2011 14:30	461885	3550B	1	07/26/2011 21:11	SMH	462140

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	6750J	35900	5150	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	1670	1350	ug/Kg	81	67 - 120

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202803	000815-BOTTOM SED 30	Solid	07/12/2011 16:10	07/20/2011 09:05

SW-846 8015B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
07/25/2011 14:30	461885	3550B	1	07/26/2011 21:29	SMH	462140

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	3040U	21200	3040	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	1670	1470	ug/Kg	88	67 - 120

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202804	000796 BOTTOM SED 30	Solid	07/12/2011 09:15	07/20/2011 09:05

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
07/31/2011 08:30	462382	3550B	1	08/10/2011 12:26	DLB	463127

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	0.402U	5.10	0.402	ug/Kg
91-57-6	2-Methylnaphthalene	0.458U	5.10	0.458	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	0.446U	5.10	0.446	ug/Kg
83-32-9	Acenaphthene	0.496U	5.10	0.496	ug/Kg
208-96-8	Acenaphthylene	0.502U	5.10	0.502	ug/Kg
120-12-7	Anthracene	0.853U	5.10	0.853	ug/Kg
56-55-3	Benzo(a)anthracene	0.901U	5.10	0.901	ug/Kg
50-32-8	Benzo(a)pyrene	0.872U	5.10	0.872	ug/Kg
205-99-2	Benzo(b)fluoranthene	0.739U	5.10	0.739	ug/Kg
192-97-2	Benzo(e)pyrene	0.910U	5.10	0.910	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1.08U	5.10	1.08	ug/Kg
207-08-9	Benzo(k)fluoranthene	0.591U	5.10	0.591	ug/Kg
GCSV-08-14	C1-Chrysenes	1.07U	5.10	1.07	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	0.747U	5.10	0.747	ug/Kg
GCSV-08-04	C1-Fluorenes	0.630U	5.10	0.630	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	1.12U	5.10	1.12	ug/Kg
GCSV-08-15	C2-Chrysenes	1.07U	5.10	1.07	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	0.747U	5.10	0.747	ug/Kg
GCSV-08-05	C2-Fluorenes	0.630U	5.10	0.630	ug/Kg
GCSV-08-01	C2-Naphthalenes	0.581U	5.10	0.581	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	1.12U	5.10	1.12	ug/Kg
GCSV-08-16	C3-Chrysenes	1.07U	5.10	1.07	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	0.747U	5.10	0.747	ug/Kg
GCSV-08-06	C3-Fluorenes	0.630U	5.10	0.630	ug/Kg
GCSV-08-02	C3-Naphthalenes	0.581U	5.10	0.581	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	1.12U	5.10	1.12	ug/Kg
GCSV-08-17	C4-Chrysenes	1.07U	5.10	1.07	ug/Kg
GCSV-08-03	C4-Naphthalenes	0.581U	5.10	0.581	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	1.12U	5.10	1.12	ug/Kg
218-01-9	Chrysene	1.07U	5.10	1.07	ug/Kg
53-70-3	Dibenz(a,h)anthracene	1.22U	5.10	1.22	ug/Kg
206-44-0	Fluoranthene	0.747U	5.10	0.747	ug/Kg
86-73-7	Fluorene	0.630U	5.10	0.630	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	0.959U	5.10	0.959	ug/Kg
91-20-3	Naphthalene	0.581U	5.10	0.581	ug/Kg
77392-71-3	Perylene	1.04U	5.10	1.04	ug/Kg
85-01-8	Phenanthrene	1.12U	5.10	1.12	ug/Kg
129-00-0	Pyrene	0.939U	5.10	0.939	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	13.2	9.22	ug/Kg	70	20 - 97
1719-06-8	Anthracene-d10	13.2	10.1	ug/Kg	76	22 - 98
1718-52-1	Pyrene-d10	13.2	8.83	ug/Kg	67	51 - 120
63466-71-7	Benzo(a)pyrene-d12	13.2	14.4	ug/Kg	109	43 - 111

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202804	000796 BOTTOM SED 30	Solid	07/12/2011 09:15	07/20/2011 09:05

SW-846 8015B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
07/25/2011 14:30	461885	3550B	1	07/26/2011 17:54	SMH	462140

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	9380J	17100	2450	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	1670	1410	ug/Kg	85	67 - 120

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202805	000817-BOTTOM SED 30	Solid	07/12/2011 09:20	07/20/2011 09:05

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
07/31/2011 08:30	462382	3550B	1	08/10/2011 13:10	DLB	463127

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	0.411U	5.22	0.411	ug/Kg
91-57-6	2-Methylnaphthalene	0.468U	5.22	0.468	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	0.457U	5.22	0.457	ug/Kg
83-32-9	Acenaphthene	0.508U	5.22	0.508	ug/Kg
208-96-8	Acenaphthylene	0.514U	5.22	0.514	ug/Kg
120-12-7	Anthracene	0.873U	5.22	0.873	ug/Kg
56-55-3	Benzo(a)anthracene	0.922U	5.22	0.922	ug/Kg
50-32-8	Benzo(a)pyrene	0.892U	5.22	0.892	ug/Kg
205-99-2	Benzo(b)fluoranthene	0.757U	5.22	0.757	ug/Kg
192-97-2	Benzo(e)pyrene	0.932U	5.22	0.932	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1.10U	5.22	1.10	ug/Kg
207-08-9	Benzo(k)fluoranthene	0.605U	5.22	0.605	ug/Kg
GCSV-08-14	C1-Chrysenes	1.09U	5.22	1.09	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	0.765U	5.22	0.765	ug/Kg
GCSV-08-04	C1-Fluorenes	0.644U	5.22	0.644	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	1.15U	5.22	1.15	ug/Kg
GCSV-08-15	C2-Chrysenes	1.09U	5.22	1.09	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	0.765U	5.22	0.765	ug/Kg
GCSV-08-05	C2-Fluorenes	0.644U	5.22	0.644	ug/Kg
GCSV-08-01	C2-Naphthalenes	0.595U	5.22	0.595	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	1.15U	5.22	1.15	ug/Kg
GCSV-08-16	C3-Chrysenes	1.09U	5.22	1.09	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	0.765U	5.22	0.765	ug/Kg
GCSV-08-06	C3-Fluorenes	0.644U	5.22	0.644	ug/Kg
GCSV-08-02	C3-Naphthalenes	0.595U	5.22	0.595	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	1.15U	5.22	1.15	ug/Kg
GCSV-08-17	C4-Chrysenes	1.09U	5.22	1.09	ug/Kg
GCSV-08-03	C4-Naphthalenes	0.595U	5.22	0.595	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	1.15U	5.22	1.15	ug/Kg
218-01-9	Chrysene	1.09U	5.22	1.09	ug/Kg
53-70-3	Dibenz(a,h)anthracene	1.25U	5.22	1.25	ug/Kg
206-44-0	Fluoranthene	0.765U	5.22	0.765	ug/Kg
86-73-7	Fluorene	0.644U	5.22	0.644	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	0.981U	5.22	0.981	ug/Kg
91-20-3	Naphthalene	0.595U	5.22	0.595	ug/Kg
77392-71-3	Perylene	1.07U	5.22	1.07	ug/Kg
85-01-8	Phenanthrene	1.15U	5.22	1.15	ug/Kg
129-00-0	Pyrene	0.962U	5.22	0.962	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	13.2	10.8	ug/Kg	82	20 - 97
1719-06-8	Anthracene-d10	13.2	10.7	ug/Kg	81	22 - 98
1718-52-1	Pyrene-d10	13.2	9.41	ug/Kg	71	51 - 120
63466-71-7	Benzo(a)pyrene-d12	13.2	14	ug/Kg	106	43 - 111

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202805	000817-BOTTOM SED 30	Solid	07/12/2011 09:20	07/20/2011 09:05

SW-846 8015B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
07/25/2011 14:30	461885	3550B	1	07/26/2011 18:12	SMH	462140

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	5340J	17500	2520	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	1670	1440	ug/Kg	86	67 - 120

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202806	000821-BOTTOM SED 30	Solid	07/12/2011 09:25	07/20/2011 09:05

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
07/31/2011 08:30	462382	3550B	1	08/10/2011 13:53	DLB	463127

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	0.410U	5.21	0.410	ug/Kg
91-57-6	2-Methylnaphthalene	0.467U	5.21	0.467	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	0.456U	5.21	0.456	ug/Kg
83-32-9	Acenaphthene	0.506U	5.21	0.506	ug/Kg
208-96-8	Acenaphthylene	0.513U	5.21	0.513	ug/Kg
120-12-7	Anthracene	0.871U	5.21	0.871	ug/Kg
56-55-3	Benzo(a)anthracene	0.920U	5.21	0.920	ug/Kg
50-32-8	Benzo(a)pyrene	0.891U	5.21	0.891	ug/Kg
205-99-2	Benzo(b)fluoranthene	0.755U	5.21	0.755	ug/Kg
192-97-2	Benzo(e)pyrene	0.930U	5.21	0.930	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1.10U	5.21	1.10	ug/Kg
207-08-9	Benzo(k)fluoranthene	0.604U	5.21	0.604	ug/Kg
GCSV-08-14	C1-Chrysenes	1.09U	5.21	1.09	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	0.763U	5.21	0.763	ug/Kg
GCSV-08-04	C1-Fluorenes	0.643U	5.21	0.643	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	1.15U	5.21	1.15	ug/Kg
GCSV-08-15	C2-Chrysenes	1.09U	5.21	1.09	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	0.763U	5.21	0.763	ug/Kg
GCSV-08-05	C2-Fluorenes	0.643U	5.21	0.643	ug/Kg
GCSV-08-01	C2-Naphthalenes	0.594U	5.21	0.594	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	1.15U	5.21	1.15	ug/Kg
GCSV-08-16	C3-Chrysenes	1.09U	5.21	1.09	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	0.763U	5.21	0.763	ug/Kg
GCSV-08-06	C3-Fluorenes	0.643U	5.21	0.643	ug/Kg
GCSV-08-02	C3-Naphthalenes	0.594U	5.21	0.594	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	1.15U	5.21	1.15	ug/Kg
GCSV-08-17	C4-Chrysenes	1.09U	5.21	1.09	ug/Kg
GCSV-08-03	C4-Naphthalenes	0.594U	5.21	0.594	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	1.15U	5.21	1.15	ug/Kg
218-01-9	Chrysene	1.09U	5.21	1.09	ug/Kg
53-70-3	Dibenz(a,h)anthracene	1.25U	5.21	1.25	ug/Kg
206-44-0	Fluoranthene	0.763U	5.21	0.763	ug/Kg
86-73-7	Fluorene	0.643U	5.21	0.643	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	0.979U	5.21	0.979	ug/Kg
91-20-3	Naphthalene	0.594U	5.21	0.594	ug/Kg
77392-71-3	Perylene	1.07U	5.21	1.07	ug/Kg
85-01-8	Phenanthrene	1.15U	5.21	1.15	ug/Kg
129-00-0	Pyrene	0.960U	5.21	0.960	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	13.2	10.9	ug/Kg	82	20 - 97
1719-06-8	Anthracene-d10	13.2	10.7	ug/Kg	81	22 - 98
1718-52-1	Pyrene-d10	13.2	9.36	ug/Kg	71	51 - 120
63466-71-7	Benzo(a)pyrene-d12	13.2	13.8	ug/Kg	104	43 - 111

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202806	000821-BOTTOM SED 30	Solid	07/12/2011 09:25	07/20/2011 09:05

SW-846 8015B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
07/25/2011 14:30	461885	3550B	1	07/26/2011 18:30	SMH	462140

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	11700J	17400	2490	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	1660	1430	ug/Kg	86	67 - 120

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202807	000761-BOTTOM SED 30	Solid	07/12/2011 09:30	07/20/2011 09:05

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
07/31/2011 08:30	462382	3550B	1	08/10/2011 14:37	DLB	463127

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	0.411U	5.22	0.411	ug/Kg
91-57-6	2-Methylnaphthalene	0.469U	5.22	0.469	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	0.457U	5.22	0.457	ug/Kg
83-32-9	Acenaphthene	0.508U	5.22	0.508	ug/Kg
208-96-8	Acenaphthylene	0.514U	5.22	0.514	ug/Kg
120-12-7	Anthracene	0.873U	5.22	0.873	ug/Kg
56-55-3	Benzo(a)anthracene	0.923U	5.22	0.923	ug/Kg
50-32-8	Benzo(a)pyrene	0.893U	5.22	0.893	ug/Kg
205-99-2	Benzo(b)fluoranthene	0.757U	5.22	0.757	ug/Kg
192-97-2	Benzo(e)pyrene	0.932U	5.22	0.932	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1.10U	5.22	1.10	ug/Kg
207-08-9	Benzo(k)fluoranthene	0.606U	5.22	0.606	ug/Kg
GCSV-08-14	C1-Chrysenes	1.09U	5.22	1.09	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	0.765U	5.22	0.765	ug/Kg
GCSV-08-04	C1-Fluorenes	0.645U	5.22	0.645	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	1.15U	5.22	1.15	ug/Kg
GCSV-08-15	C2-Chrysenes	1.09U	5.22	1.09	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	0.765U	5.22	0.765	ug/Kg
GCSV-08-05	C2-Fluorenes	0.645U	5.22	0.645	ug/Kg
GCSV-08-01	C2-Naphthalenes	0.595U	5.22	0.595	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	1.15U	5.22	1.15	ug/Kg
GCSV-08-16	C3-Chrysenes	1.09U	5.22	1.09	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	0.765U	5.22	0.765	ug/Kg
GCSV-08-06	C3-Fluorenes	0.645U	5.22	0.645	ug/Kg
GCSV-08-02	C3-Naphthalenes	0.595U	5.22	0.595	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	1.15U	5.22	1.15	ug/Kg
GCSV-08-17	C4-Chrysenes	1.09U	5.22	1.09	ug/Kg
GCSV-08-03	C4-Naphthalenes	0.595U	5.22	0.595	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	1.15U	5.22	1.15	ug/Kg
218-01-9	Chrysene	1.09U	5.22	1.09	ug/Kg
53-70-3	Dibenz(a,h)anthracene	1.25U	5.22	1.25	ug/Kg
206-44-0	Fluoranthene	0.765U	5.22	0.765	ug/Kg
86-73-7	Fluorene	0.645U	5.22	0.645	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	0.982U	5.22	0.982	ug/Kg
91-20-3	Naphthalene	0.595U	5.22	0.595	ug/Kg
77392-71-3	Perylene	1.07U	5.22	1.07	ug/Kg
85-01-8	Phenanthrene	1.15U	5.22	1.15	ug/Kg
129-00-0	Pyrene	0.962U	5.22	0.962	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	13.3	9.05	ug/Kg	68	20 - 97
1719-06-8	Anthracene-d10	13.3	8.92	ug/Kg	67	22 - 98
1718-52-1	Pyrene-d10	13.3	7.47	ug/Kg	56	51 - 120
63466-71-7	Benzo(a)pyrene-d12	13.3	11.6	ug/Kg	87	43 - 111

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202807	000761-BOTTOM SED 30	Solid	07/12/2011 09:30	07/20/2011 09:05

SW-846 8015B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
07/25/2011 14:30	461885	3550B	1	07/26/2011 18:48	SMH	462140

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	4340J	17100	2460	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	1640	1260	ug/Kg	77	67 - 120

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202808	000805-BOTTEM SED 30	Solid	07/12/2011 12:15	07/20/2011 09:05

SW-846 8015B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
07/25/2011 14:30	461885	3550B	1	07/26/2011 19:06	SMH	462140

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	2420U	16900	2420	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	1660	1460	ug/Kg	88	67 - 120

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202809	000758-BOTTEM SED 30	Solid	07/12/2011 12:20	07/20/2011 09:05

SW-846 8015B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
07/25/2011 14:30	461885	3550B	1	07/26/2011 19:24	SMH	462140

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	2460U	17100	2460	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	1660	1400	ug/Kg	84	67 - 120

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202810	000757-BOTTEM SED 30	Solid	07/12/2011 12:25	07/20/2011 09:05

SW-846 8015B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
07/25/2011 14:30	461885	3550B	1	07/26/2011 20:17	SMH	462140

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	2430U	16900	2430	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	1640	1480	ug/Kg	90	67 - 120

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202811	000803-BOTTEM SED 30	Solid	07/12/2011 12:30	07/20/2011 09:05

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
07/31/2011 08:30	462382	3550B	1	08/10/2011 15:21	DLB	463127

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	0.390U	4.95	0.390	ug/Kg
91-57-6	2-Methylnaphthalene	0.445U	4.95	0.445	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	0.434U	4.95	0.434	ug/Kg
83-32-9	Acenaphthene	0.482U	4.95	0.482	ug/Kg
208-96-8	Acenaphthylene	0.488U	4.95	0.488	ug/Kg
120-12-7	Anthracene	0.829U	4.95	0.829	ug/Kg
56-55-3	Benzo(a)anthracene	0.876U	4.95	0.876	ug/Kg
50-32-8	Benzo(a)pyrene	0.847U	4.95	0.847	ug/Kg
205-99-2	Benzo(b)fluoranthene	0.718U	4.95	0.718	ug/Kg
192-97-2	Benzo(e)pyrene	0.884U	4.95	0.884	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1.05U	4.95	1.05	ug/Kg
207-08-9	Benzo(k)fluoranthene	0.575U	4.95	0.575	ug/Kg
GCSV-08-14	C1-Chrysenes	1.04U	4.95	1.04	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	0.726U	4.95	0.726	ug/Kg
GCSV-08-04	C1-Fluorenes	0.612U	4.95	0.612	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	1.09U	4.95	1.09	ug/Kg
GCSV-08-15	C2-Chrysenes	1.04U	4.95	1.04	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	0.726U	4.95	0.726	ug/Kg
GCSV-08-05	C2-Fluorenes	0.612U	4.95	0.612	ug/Kg
GCSV-08-01	C2-Naphthalenes	0.565U	4.95	0.565	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	1.09U	4.95	1.09	ug/Kg
GCSV-08-16	C3-Chrysenes	1.04U	4.95	1.04	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	0.726U	4.95	0.726	ug/Kg
GCSV-08-06	C3-Fluorenes	0.612U	4.95	0.612	ug/Kg
GCSV-08-02	C3-Naphthalenes	0.565U	4.95	0.565	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	1.09U	4.95	1.09	ug/Kg
GCSV-08-17	C4-Chrysenes	1.04U	4.95	1.04	ug/Kg
GCSV-08-03	C4-Naphthalenes	0.565U	4.95	0.565	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	1.09U	4.95	1.09	ug/Kg
218-01-9	Chrysene	1.04U	4.95	1.04	ug/Kg
53-70-3	Dibenz(a,h)anthracene	1.19U	4.95	1.19	ug/Kg
206-44-0	Fluoranthene	0.726U	4.95	0.726	ug/Kg
86-73-7	Fluorene	0.612U	4.95	0.612	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	0.931U	4.95	0.931	ug/Kg
91-20-3	Naphthalene	0.565U	4.95	0.565	ug/Kg
77392-71-3	Perylene	1.01U	4.95	1.01	ug/Kg
85-01-8	Phenanthrene	1.09U	4.95	1.09	ug/Kg
129-00-0	Pyrene	0.913U	4.95	0.913	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	13.2	9.28	ug/Kg	70	20 - 97
1719-06-8	Anthracene-d10	13.2	8.32	ug/Kg	63	22 - 98
1718-52-1	Pyrene-d10	13.2	7.63	ug/Kg	58	51 - 120
63466-71-7	Benzo(a)pyrene-d12	13.2	11	ug/Kg	83	43 - 111

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21107202811	000803-BOTTEM SED 30	Solid	07/12/2011 12:30	07/20/2011 09:05

SW-846 8015B

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
07/25/2011 14:30	461885	3550B	1	07/26/2011 20:35	SMH	462140

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-00-44	Oil Range Organics	2700J	16600	2390	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
84-15-1	o-Terphenyl	1670	1450	ug/Kg	87	67 - 120

RESULTS REPORTED ON A DRY WEIGHT BASIS

GC/MS Semi-Volatiles Quality Control Summary

Analytical Batch 463127 Prep Batch 462382 Prep Method 3550B		Client ID MB462382 GCAL ID 974741 Sample Type Method Blank Prep Date 07/31/2011 08:30 Analytical Date 08/10/2011 08:48 Matrix Solid		LCS462382 974742 LCS 07/31/2011 08:30 08/10/2011 09:32 Solid			LCSD462382 974743 LCSD 07/31/2011 08:30 08/10/2011 10:15 Solid				
SW-846 8272 Modified Solid		Units	ug/Kg	Spike	Result		Control	Result		RPD	RPD
		Result	RDL	Added		% R	Limits % R		% R	RPD	Limit
91-20-3	Naphthalene	0.456U	0.456	13.3	10.4	78	50 - 150	9.16	69	13	40
91-57-6	2-Methylnaphthalene	0.359U	0.359								
90-12-0	1-Methylnaphthalene	0.315U	0.315								
GCSV-08-01	C2-Naphthalenes	0.456U	0.456								
GCSV-08-02	C3-Naphthalenes	0.456U	0.456								
GCSV-08-03	C4-Naphthalenes	0.456U	0.456								
7297-45-2	2-Methylnaphthalene-d10	0.350U	0.350								
208-96-8	Acenaphthylene	0.394U	0.394								
83-32-9	Acenaphthene	0.389U	0.389								
86-73-7	Fluorene	0.494U	0.494								
GCSV-08-04	C1-Fluorenes	0.494U	0.494								
GCSV-08-05	C2-Fluorenes	0.494U	0.494								
GCSV-08-06	C3-Fluorenes	0.494U	0.494								
85-01-8	Phenanthrene	0.880U	0.880								
GCSV-08-07	C1-Phenanthrenes/anthracenes	0.880U	0.880								
GCSV-08-08	C2-Phenanthrenes/anthracenes	0.880U	0.880								
GCSV-08-09	C3-Phenanthrenes/anthracenes	0.880U	0.880								
GCSV-08-10	C4-Phenanthrenes/anthracenes	0.880U	0.880								
120-12-7	Anthracene	0.669U	0.669								
206-44-0	Fluoranthene	0.586U	0.586								
129-00-0	Pyrene	0.737U	0.737								
GCSV-08-11	C1-Fluoranthenes/pyrenes	0.586U	0.586								
GCSV-08-12	C2-Fluoranthenes/pyrenes	0.586U	0.586								
GCSV-08-13	C3-Fluoranthenes/pyrenes	0.586U	0.586								
218-01-9	Chrysene	0.836U	0.836								
GCSV-08-14	C1-Chrysenes	0.836U	0.836								
GCSV-08-15	C2-Chrysenes	0.836U	0.836								
GCSV-08-16	C3-Chrysenes	0.836U	0.836								
GCSV-08-17	C4-Chrysenes	0.836U	0.836								
56-55-3	Benzo(a)anthracene	0.707U	0.707								
205-99-2	Benzo(b)fluoranthene	0.580U	0.580								
207-08-9	Benzo(k)fluoranthene	0.464U	0.464								

GC/MS Semi-Volatiles Quality Control Summary

Analytical Batch 463127 Prep Batch 462382 Prep Method 3550B		Client ID MB462382 GCAL ID 974741 Sample Type Method Blank Prep Date 07/31/2011 08:30 Analytical Date 08/10/2011 08:48 Matrix Solid			LCS462382 974742 LCS 07/31/2011 08:30 08/10/2011 09:32 Solid			LCSD462382 974743 LCSD 07/31/2011 08:30 08/10/2011 10:15 Solid					
SW-846 8272 Modified Solid				Units Result	ug/Kg RDL	Spike Added	Result	% R	Control Limits % R	Result	% R	RPD	RPD Limit
192-97-2	Benzo(e)pyrene	0.714U	0.714										
50-32-8	Benzo(a)pyrene	0.684U	0.684										
77392-71-3	Perylene	0.819U	0.819										
193-39-5	Indeno(1,2,3-cd)pyrene	0.752U	0.752										
53-70-3	Dibenz(a,h)anthracene	0.958U	0.958										
191-24-2	Benzo(g,h,i)perylene	0.846U	0.846										
Surrogate													
93951-97-4	Acenaphthylene-d8	10.9	82	13.3	10.5	79	20 - 97	10.5	79				
1719-06-8	Anthracene-d10	11	83	13.3	11.2	84	22 - 98	9.57	72				
1718-52-1	Pyrene-d10	9.5	71	13.3	10.9	82	51 - 120	9.51	71				
63466-71-7	Benzo(a)pyrene-d12	11.6	87	13.3	12.2	92	43 - 111	10.1	76				

Analytical Batch 463127 Prep Batch 462382 Prep Method 3550B		Client ID 000803-BOTTEM SED 30 GCAL ID 21107202811 Sample Type SAMPLE Prep Date 07/31/2011 08:30 Analytical Date 08/10/2011 15:21 Matrix Solid		970634MS 974744 MS 07/31/2011 08:30 08/10/2011 16:05 Solid			970634MSD 974745 MSD 07/31/2011 08:30 08/10/2011 16:49 Solid				
SW-846 8272 Modified Solid		Units	ug/Kg	Spike	Result	% R	Control	Result	% R	RPD	RPD
		Result	RDL	Added			Limits % R				Limit
7297-45-2	2-Methylnaphthalene-d10	0.00	0.347	13.3	9.88	74	50 - 150	8.21	62	18	40
Surrogate											
93951-97-4	Acenaphthylene-d8	9.28	70	13.3	10.8	81	20 - 97	8.94	67		
1719-06-8	Anthracene-d10	8.32	63	13.3	9.08	68	22 - 98	8.15	61		
1718-52-1	Pyrene-d10	7.63	58	13.3	8.47	64	51 - 120	7.37	55		
63466-71-7	Benzo(a)pyrene-d12	11	83	13.3	13.2	99	43 - 111	11.1	84		

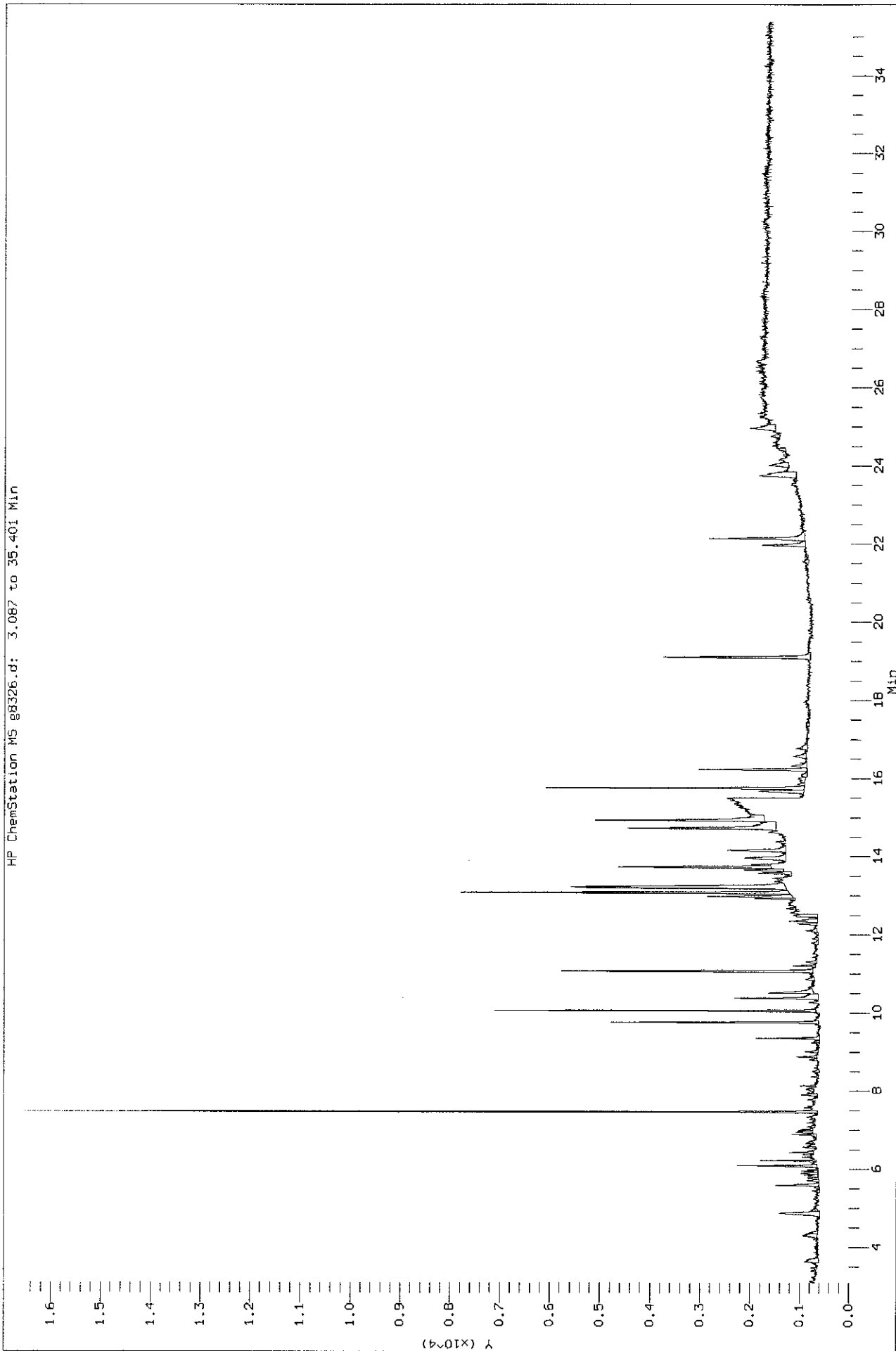
General Chromatography Quality Control Summary

Analytical Batch 462140 Prep Batch 461885 Prep Method 3550B		Client ID MB461885 GCAL ID 972581 Sample Type Method Blank Prep Date 07/25/2011 14:30 Analytical Date 07/26/2011 14:00 Matrix Solid		LCS461885 972582 LCS 07/25/2011 14:30 07/26/2011 14:54 Solid			LCSD461885 972583 LCSD 07/25/2011 14:30 07/26/2011 15:12 Solid						
SW-846 8015B				Units	ug/Kg	Spike		Control					
				Result	RDL	Added	Result	% R	Limits % R	Result	% R	RPD	RPD Limit
GCSV-00-44	Oil Range Organics			1880U	1880	65800	52800	80	47 - 120	56000	85	6	40
Surrogate													
84-15-1	o-Terphenyl			1460	89	1640	1430	87	67 - 120	1490	91		

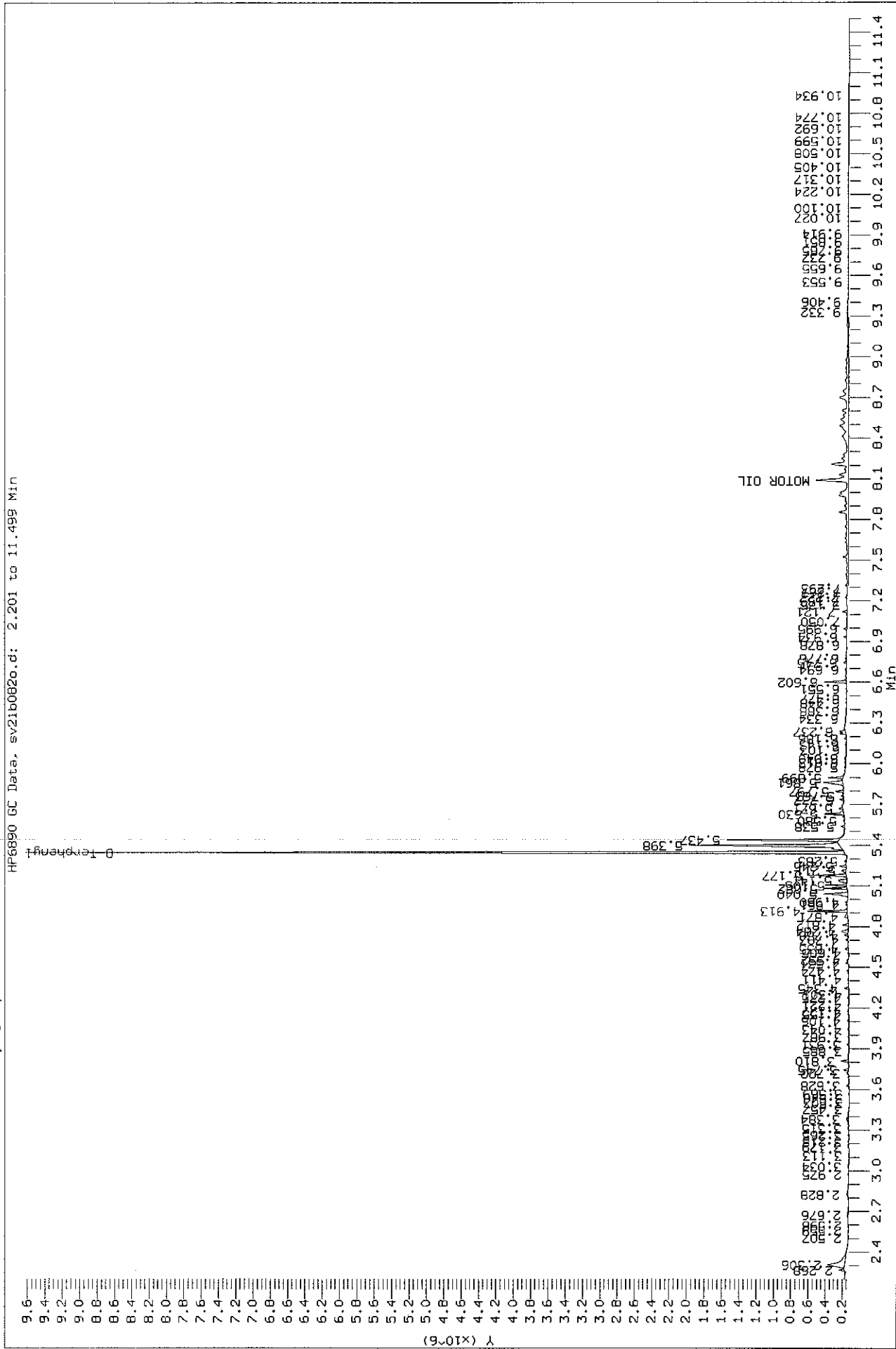
Analytical Batch 462140 Prep Batch 461885 Prep Method 3550B		Client ID 106052IDW1 GCAL ID 21107230701 Sample Type SAMPLE Prep Date 07/25/2011 14:30 Analytical Date 07/26/2011 15:30 Matrix Solid	972351MS 972584 MS 07/25/2011 14:30 07/26/2011 15:48 Solid					972351MSD 972585 MSD 07/25/2011 14:30 07/26/2011 16:42 Solid				
SW-846 8015B			Units	ug/Kg	Spike	Result	% R	Control	Result	% R	RPD	RPD
			Result	RDL	Added			Limits				Limit
GCSV-00-44	Oil Range Organics		4130	1880	65600	57000	81	47 - 120	63900	90	12	40
Surrogate												
84-15-1	o-Terphenyl			1640	1410	86	67 - 120	1650	99			

Data File: /var/chem/MSSV5.1/2110810.s.b/g8326.d
Injection Date: 10-AUG-2011 10:59
Instrument: MSSV5.1
Client Sample ID: 21107202801

HP ChemStation MS g8326.d: 3.087 to 35.401 Min

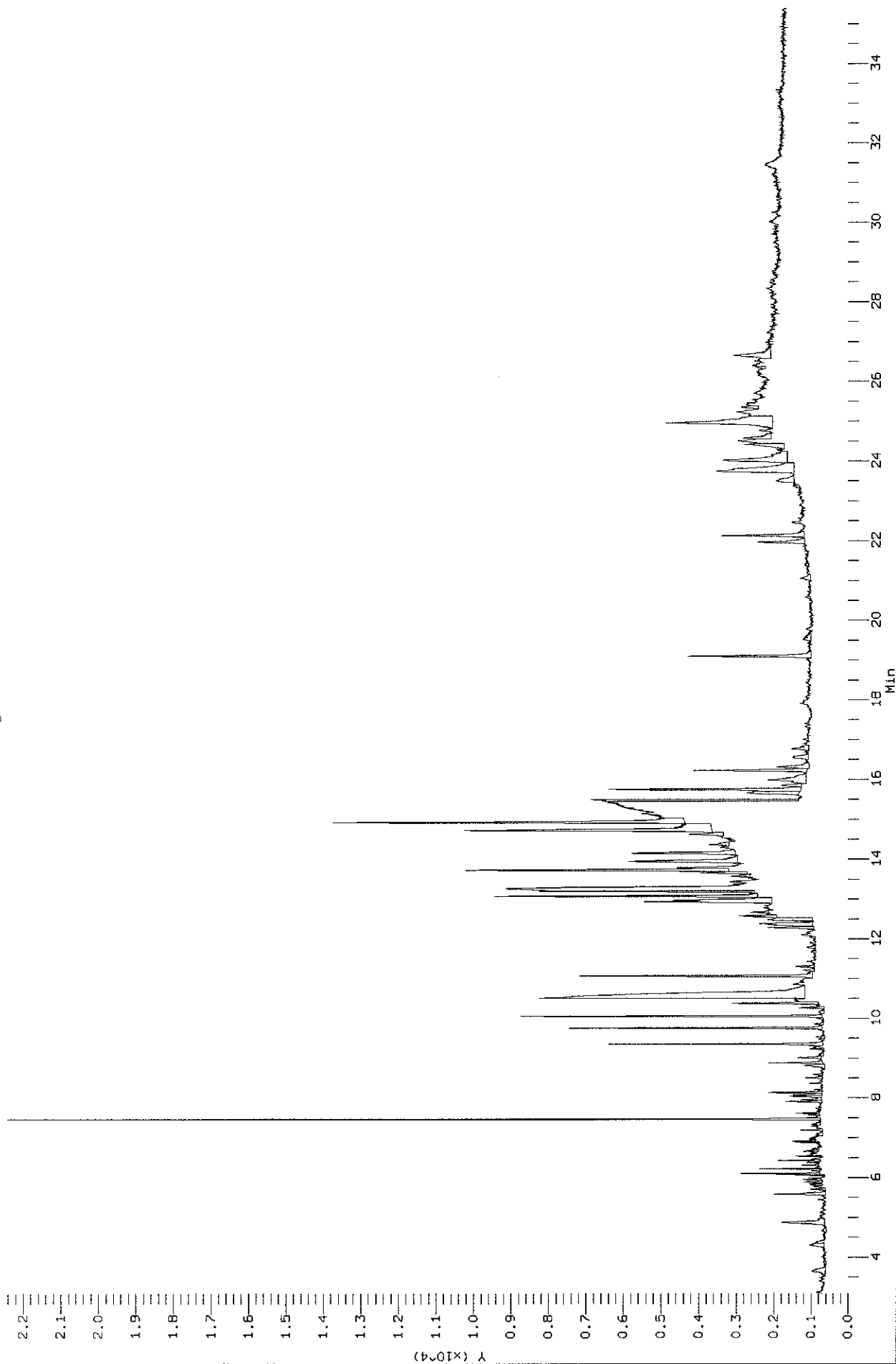


21107202801

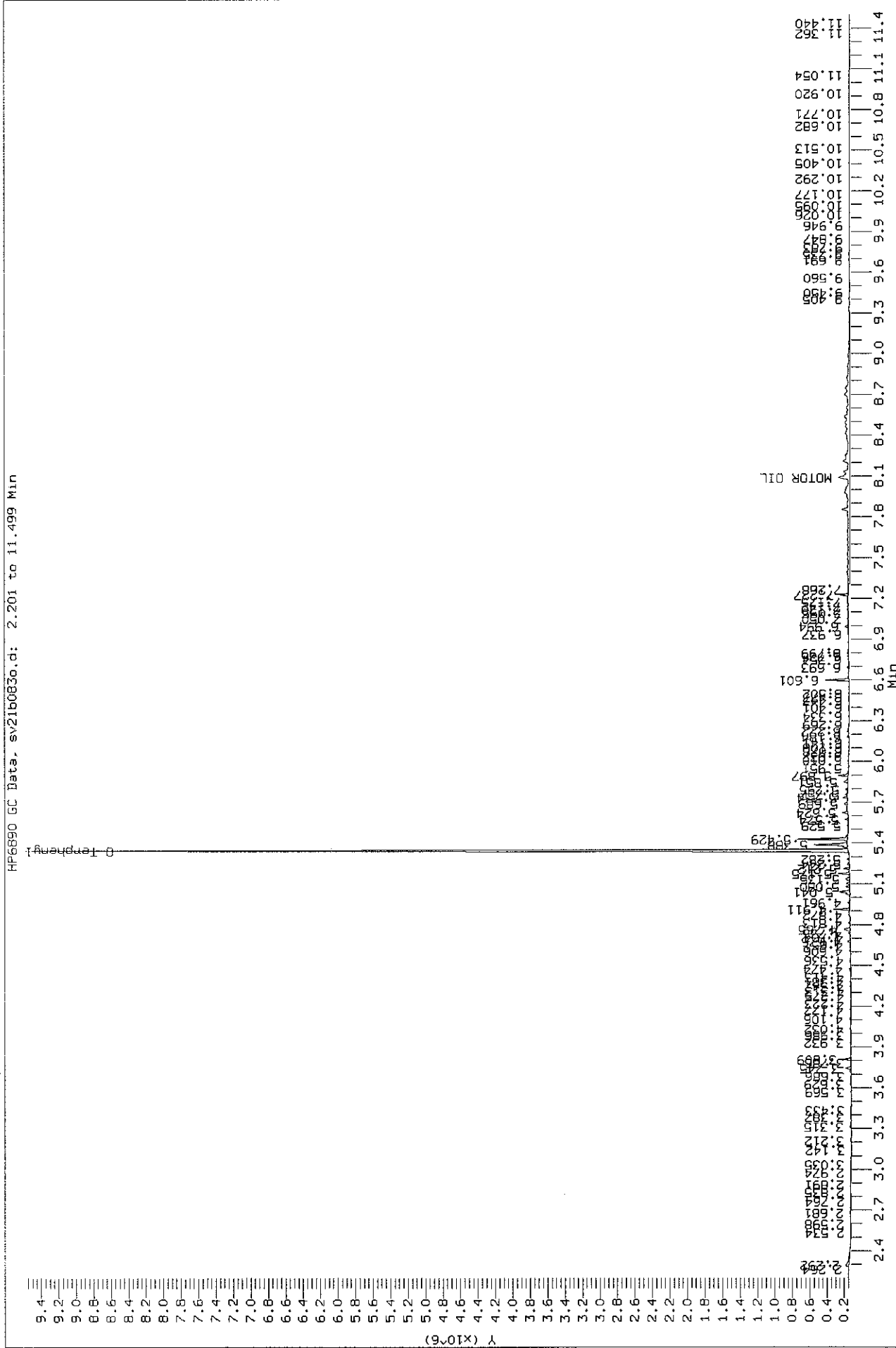


Data File: /var/chem/MSSV5.i/2110810.s.b/g8327.d
Injection Date: 10-AUG-2011 11:42
Instrument: MSSV5.i
Client Sample ID: 21107202802

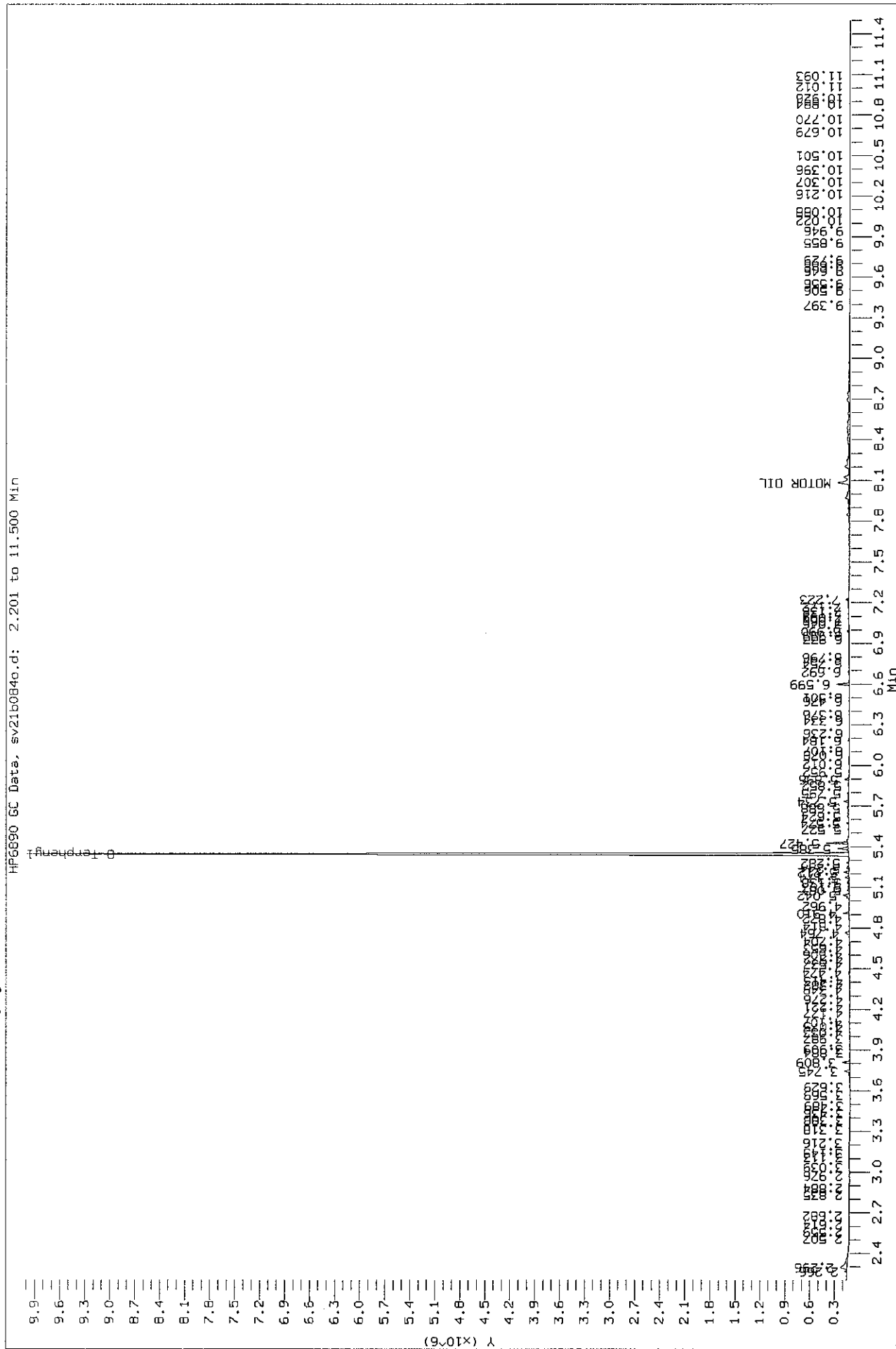
HP ChemStation MS g8327.d: 3.087 to 35.402 Min



Data File: /var/chem/gcsw21b.i/2110726.b/sv21b083o.d
Injection Date: 26-JUL-2011 21:11
Instrument: gcsw21b.i
Client Sample ID: 21107202802

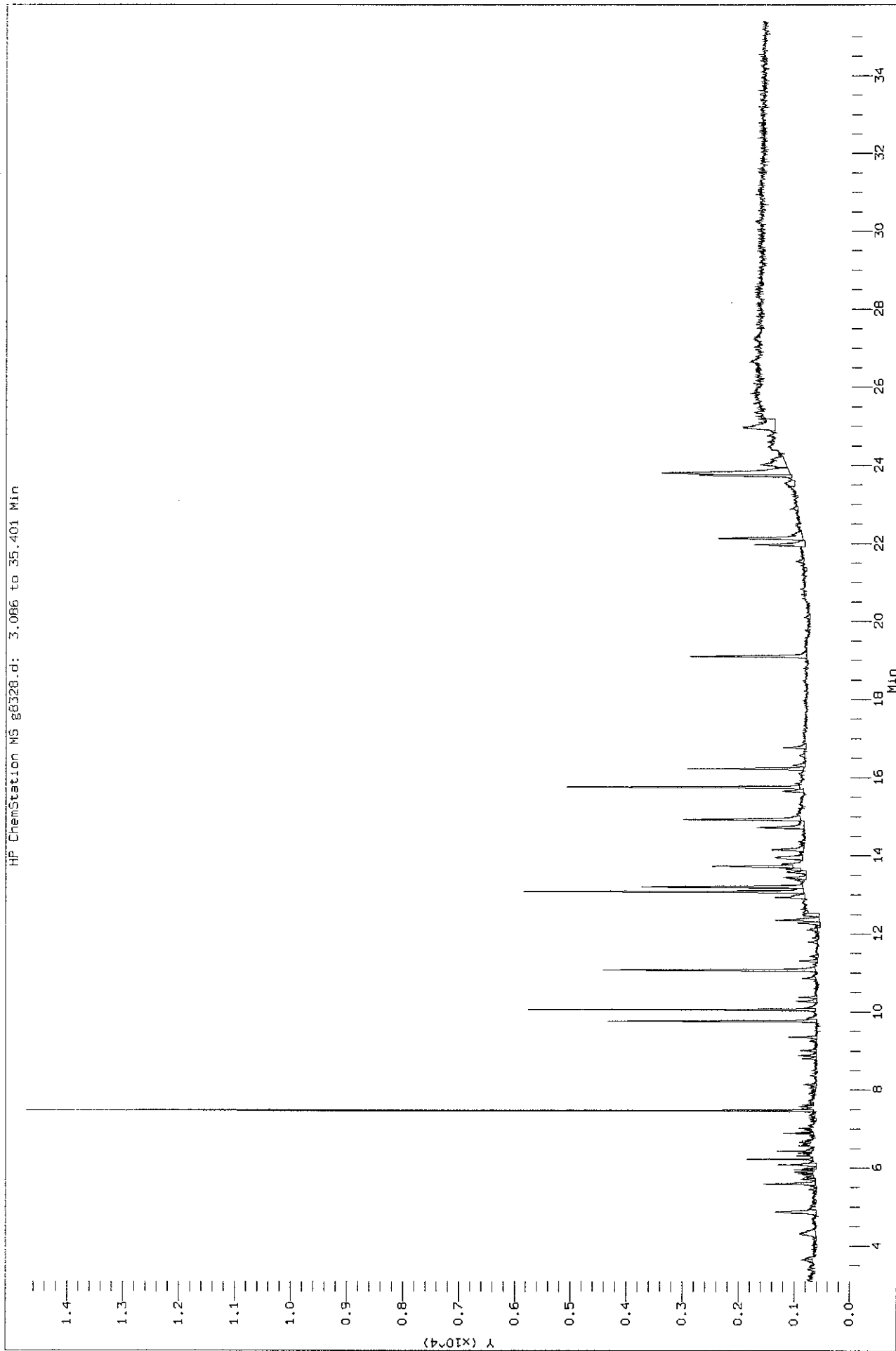


Data File: /var/chem/gcsw21b.i/2110726.b/sv21b084a.d
Injection Date: 26-JUL-2011 21:29
Instrument: gcsw21b.i
Client Sample ID: 21107202803

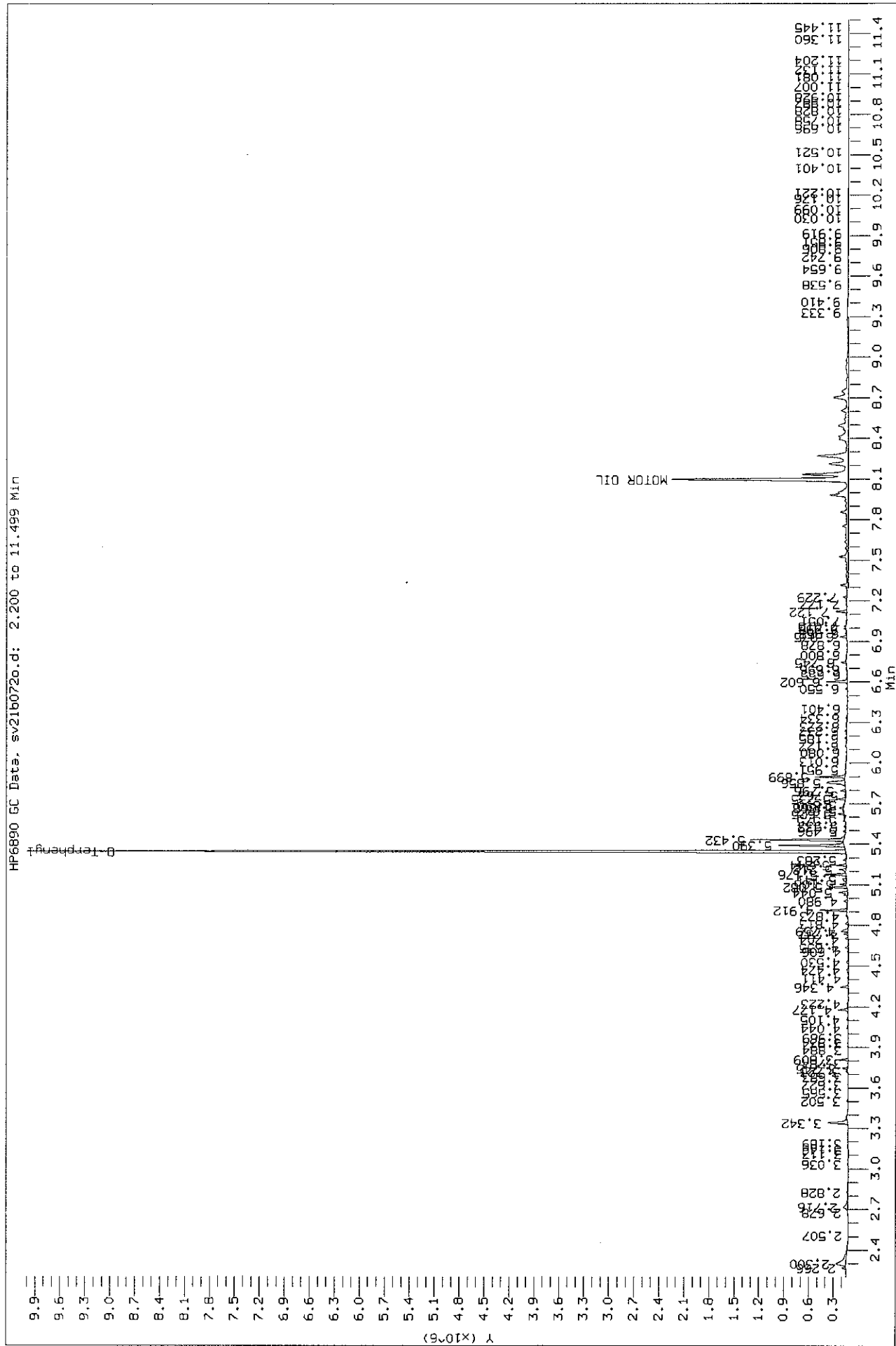


Data File: /var/chem/MSSV5.1/2110810.s.b/g8328.d
Injection Date: 10-AUG-2011 12:26
Instrument: MSSV5.1
Client Sample ID: 21107202804

HP ChemStation MS g8328.d: 3.086 to 35.401 Min

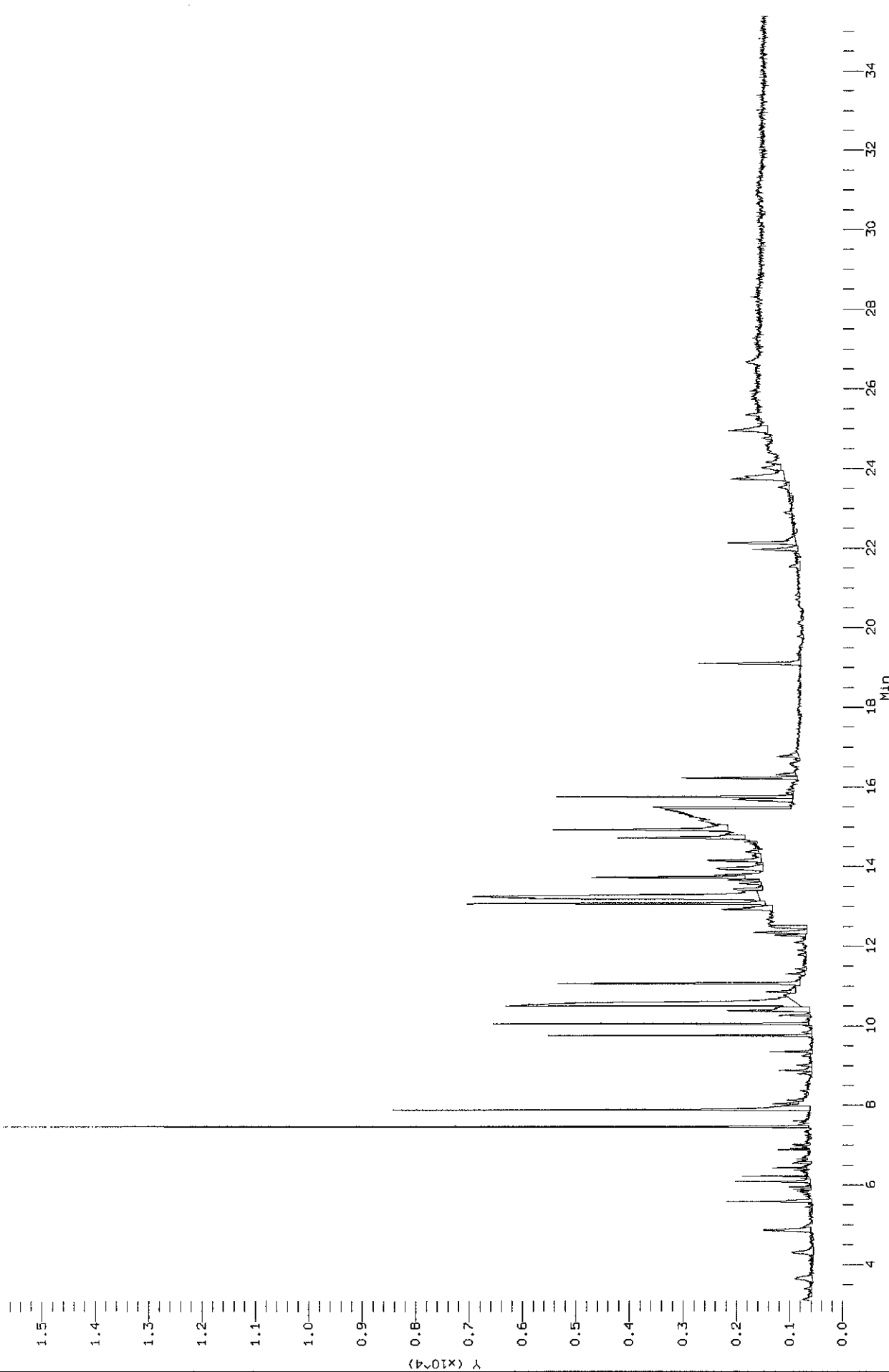


Data File: /var/chem/gc/v21b.i/2110726.b/sv21b0720.d
Injection Date: 26-JUL-2011 17:54
Instrument: gcsv21b.i
Client Sample ID: 21107202804

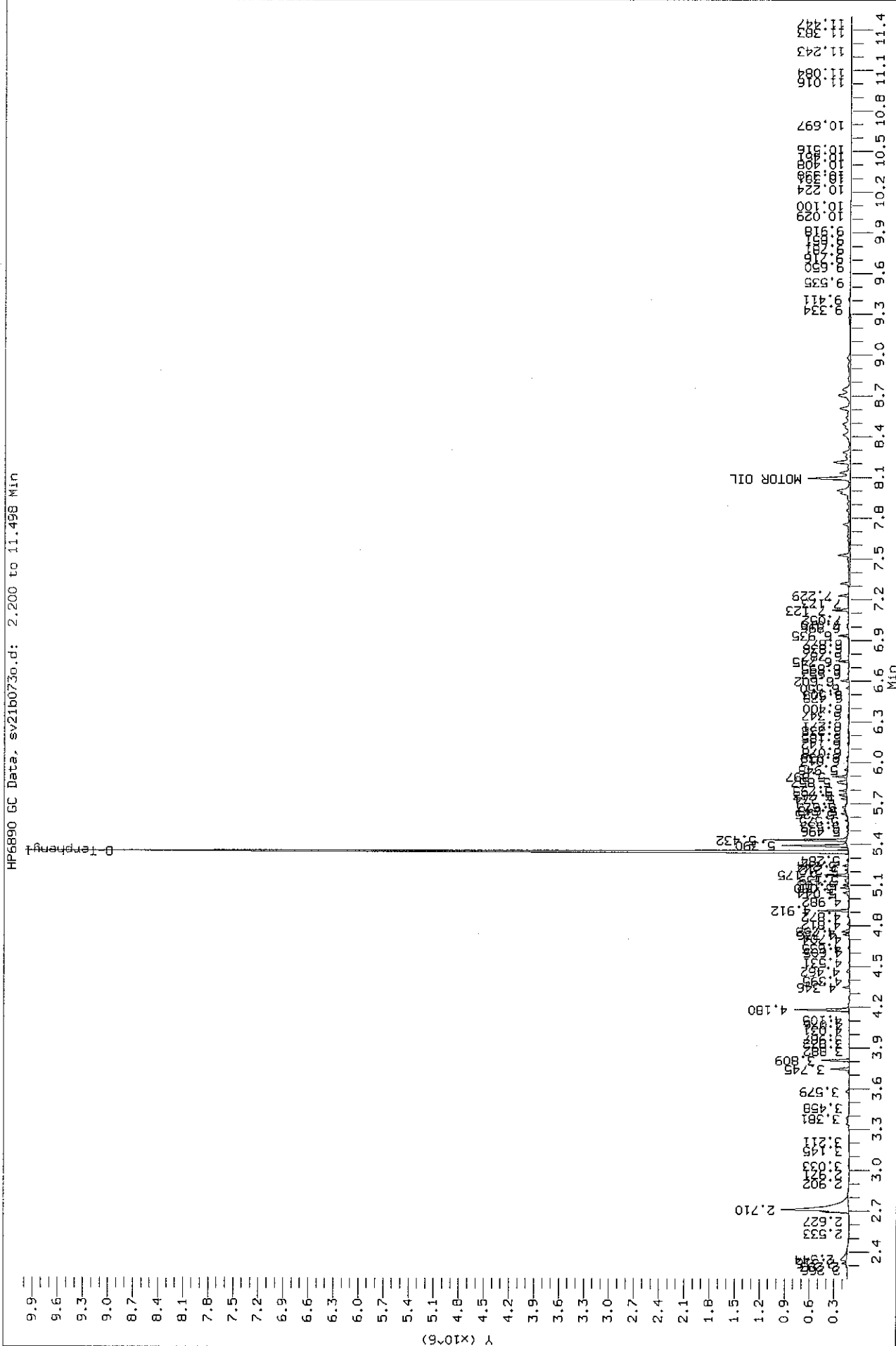


Data File: /var/chem/MSSV5.1/2110810.s.b/g8329.d
Injection Date: 10-AUG-2011 13:10
Instrument: MSSV5.1
Client Sample ID: 21107202805

HP ChemStation MS g8329.d: 3.086 to 35.401 Min

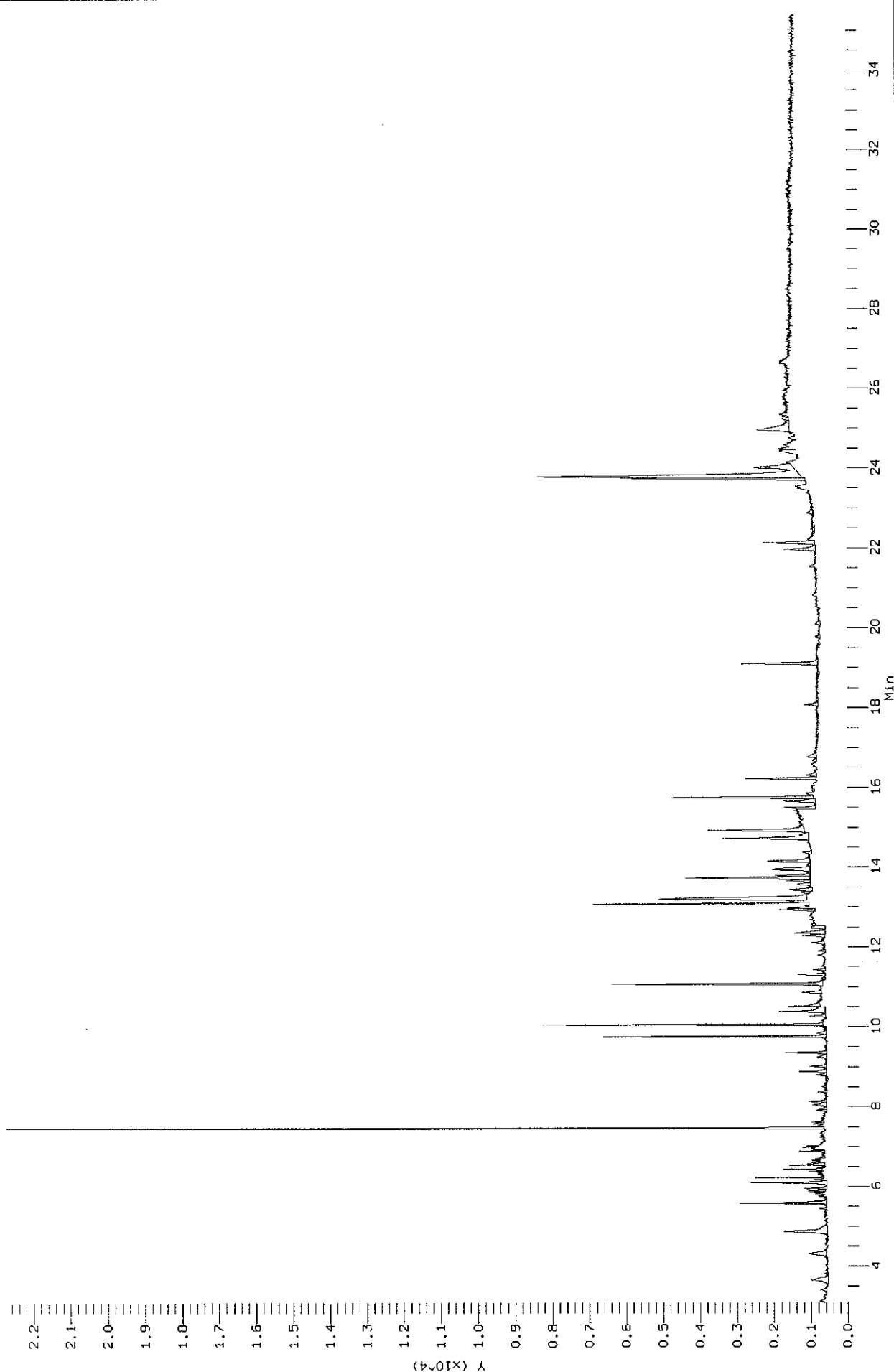


Data File: /var/chem/gcsw21b.1/2110726.b/sv21b0730.d
 Injection Date: 26-JUL-2011 18:12
 Instrument: gcsw21b.1
 Client Sample ID: 21107202805

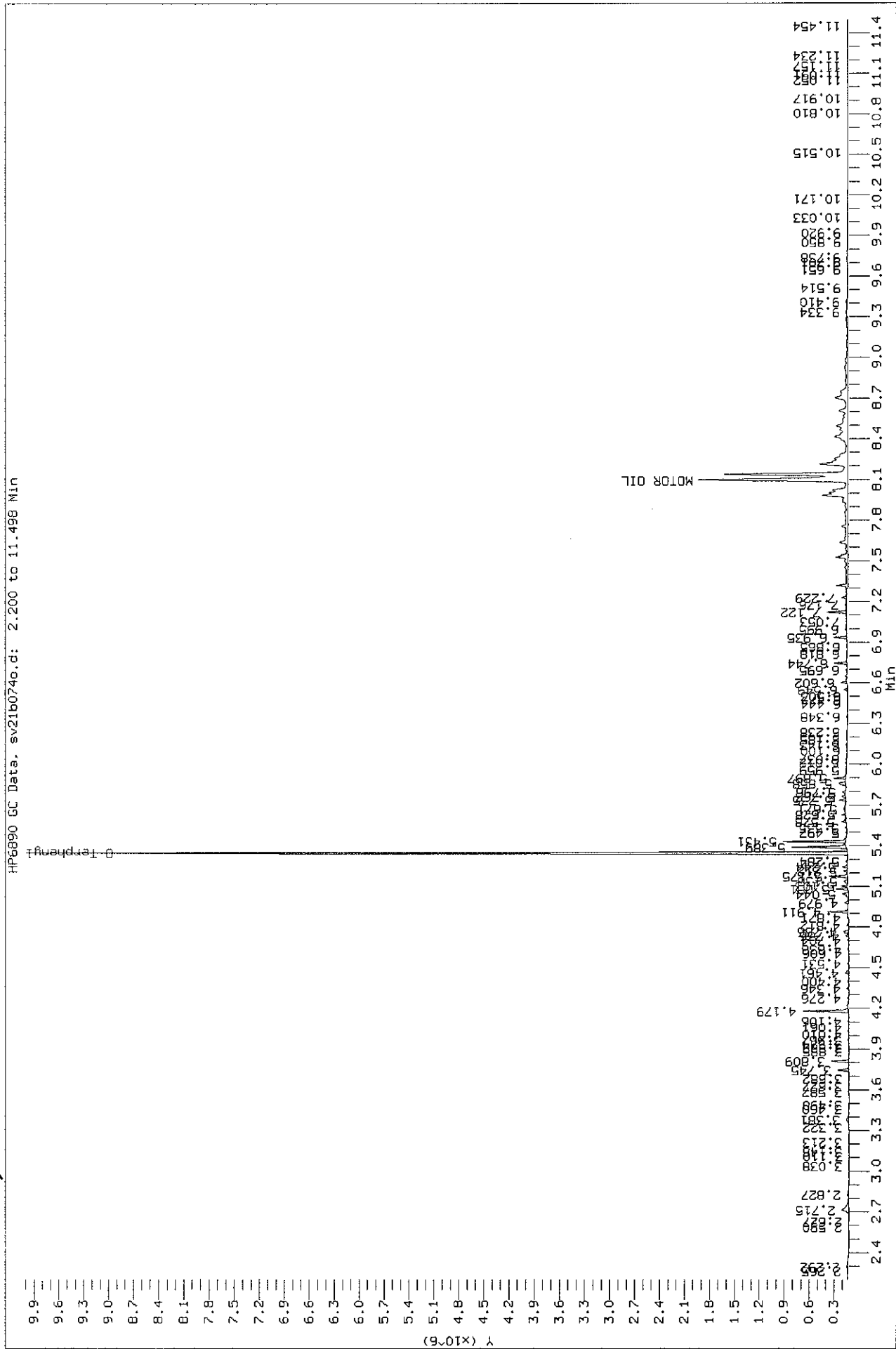


Data File: /var/chem/MSSV5.1/2110810.s.b/g8330.d
Injection Date: 10-AUG-2011 13:53
Instrument: MSSV5.1
Client Sample ID: 21107202806

HP ChemStation MS g8330.d: 3.087 to 35.401 Min

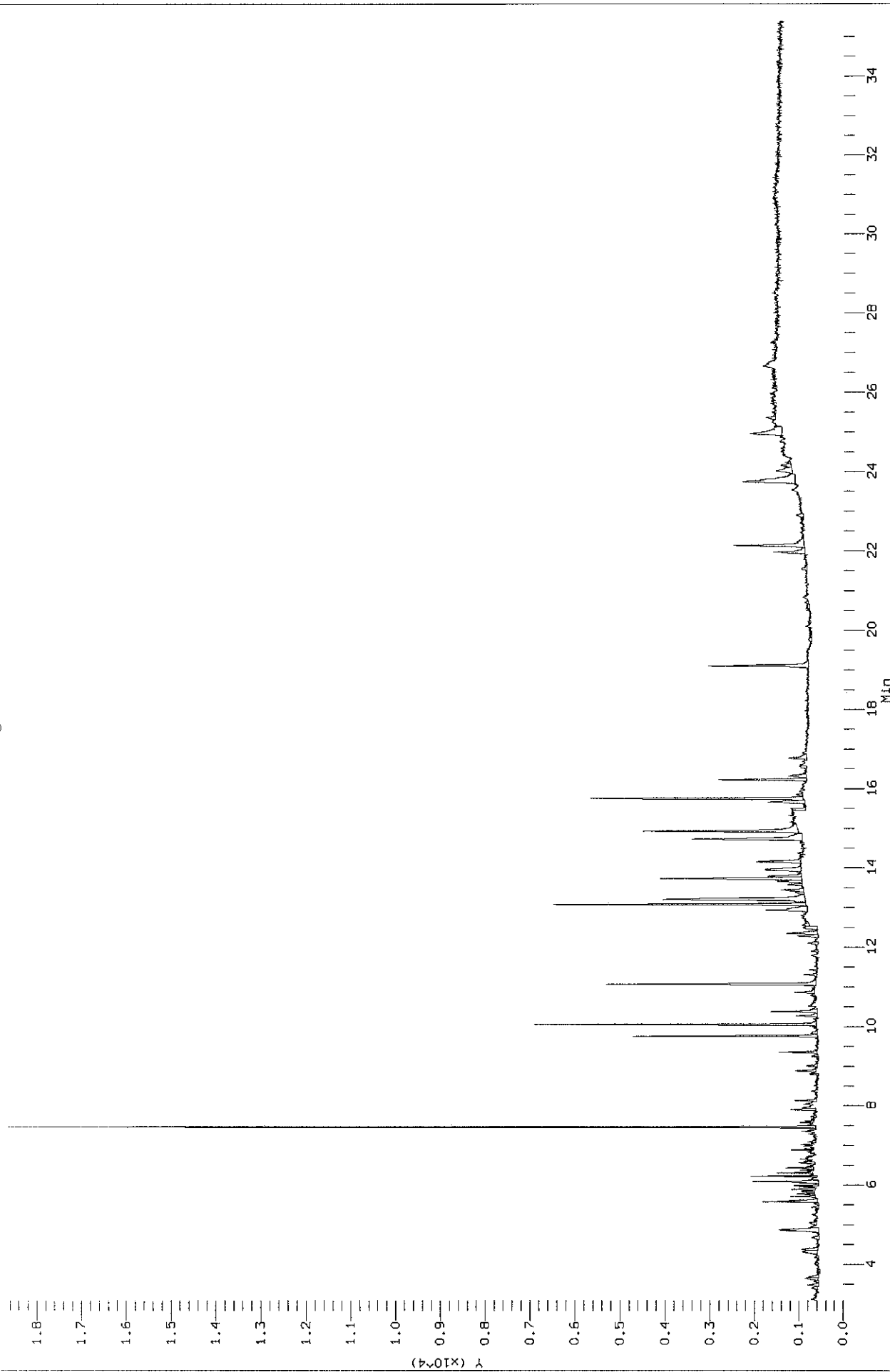


Data File: /var/chem/gcsw21b.i/2110726.b/sv21b074o.d
Injection Date: 26-JUL-2011 18:30
Instrument: gcsw21b.i
Client Sample ID: 21107202806

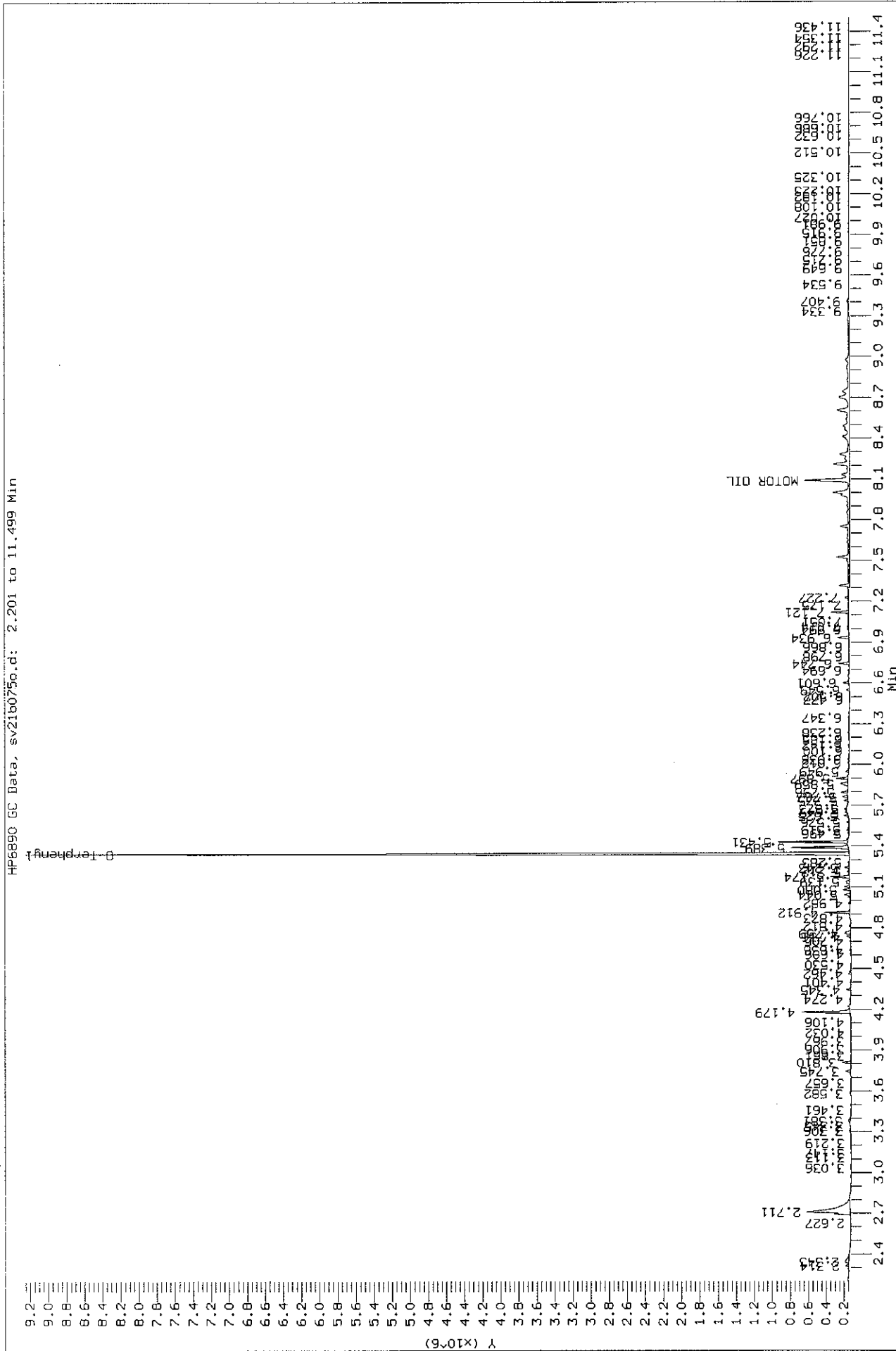


Data File: /var/chem/MSSV5.1/2110810.s.b/g8331.d
Injection Date: 10-AUG-2011 14:37
Instrument: MSSV5.1
Client Sample ID: 21107202807

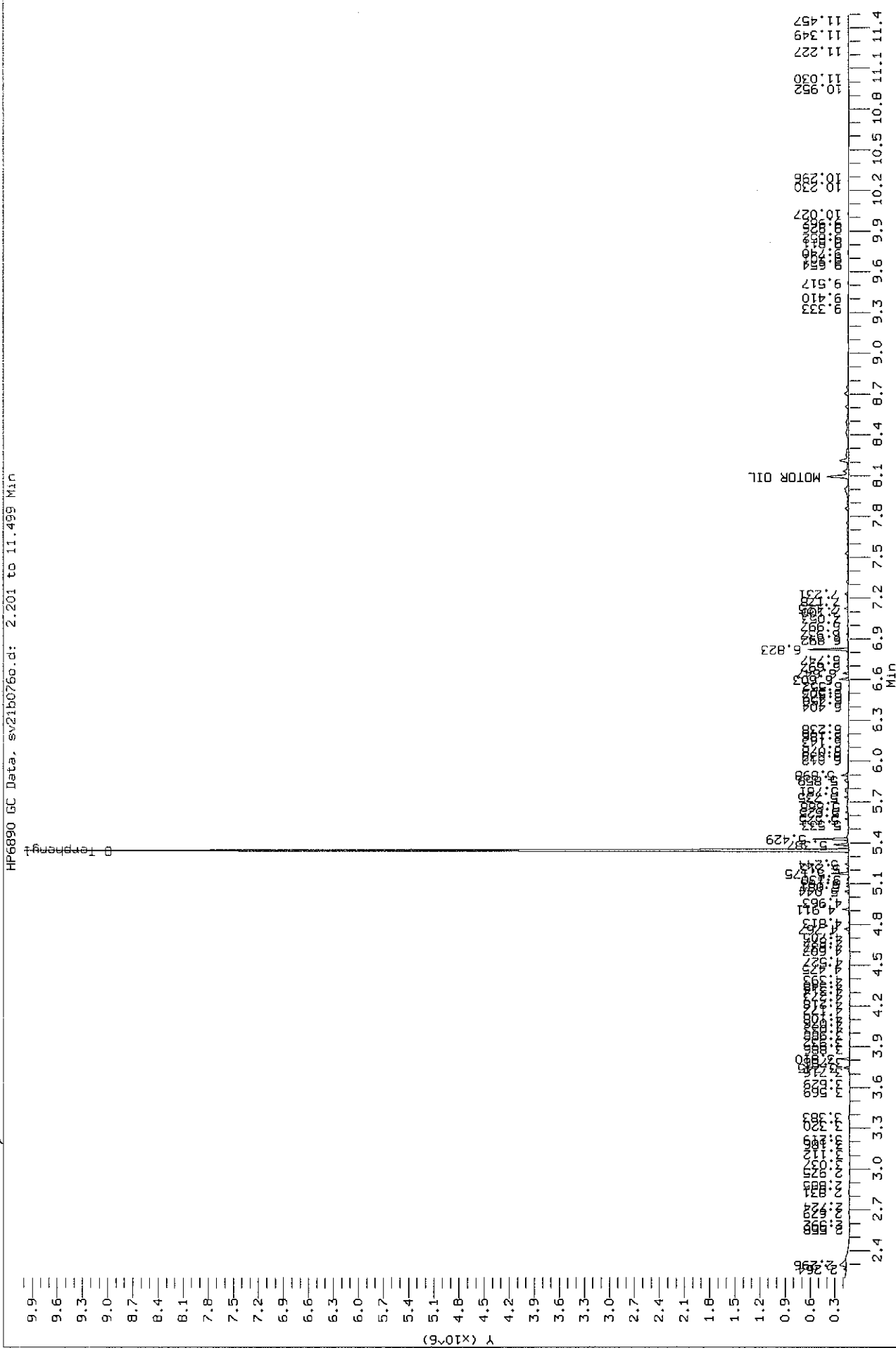
HP ChemStation MS g8331.d: 3.086 to 35.401 Min



Data File: /var/chem/gc/v21b.i/2110726.b/sv21b0750.d
Injection Date: 26-JUL-2011 18:48
Instrument: gcsv21b.i
Client Sample ID: 21107202807

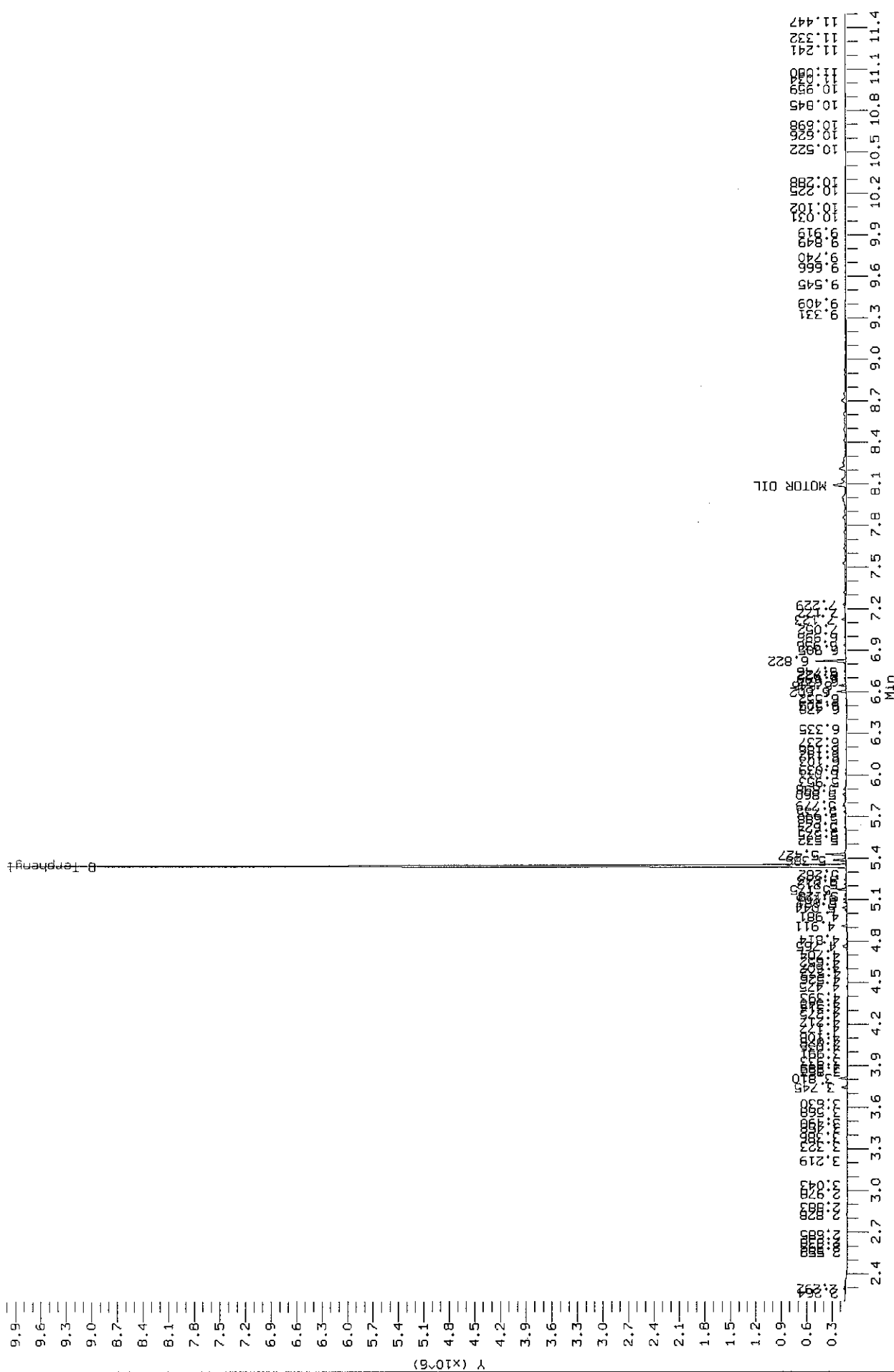


Data File: /var/chem/gcsw21b.1/2110726.b/sv21b076o.d
Injection Date: 26-JUL-2011 19:06
Instrument: gcsw21b.1
Client Sample ID: 21107202808

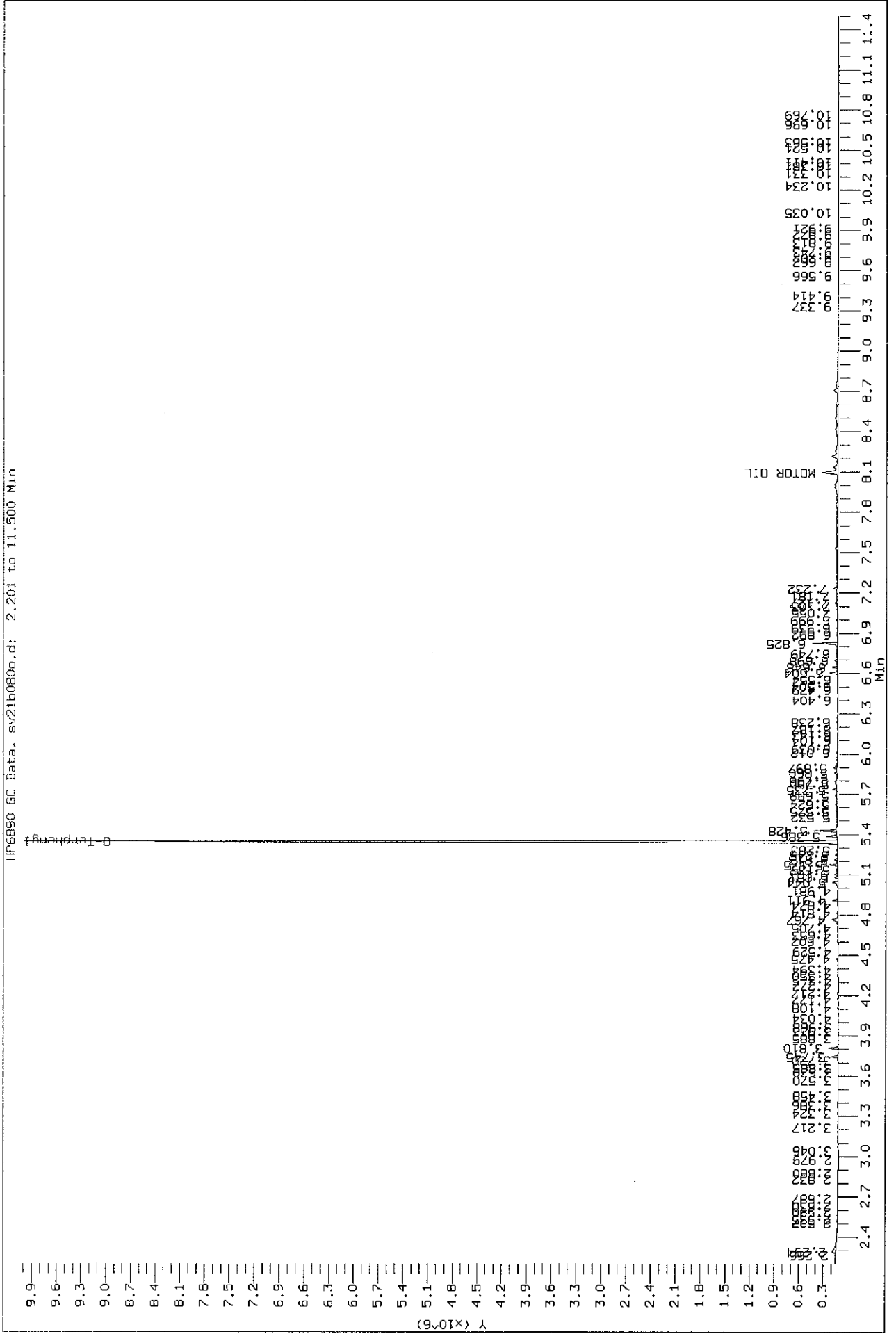


Data File: /var/chem/gc/v21b.i/2110726.b/sv21b0770.d
Injection Date: 26-JUL-2011 19:24
Instrument: gcsv21b.i
Client Sample ID: 21107202809

HP6890 GC Data, sv21b0770.d: 2.201 to 11.500 Min

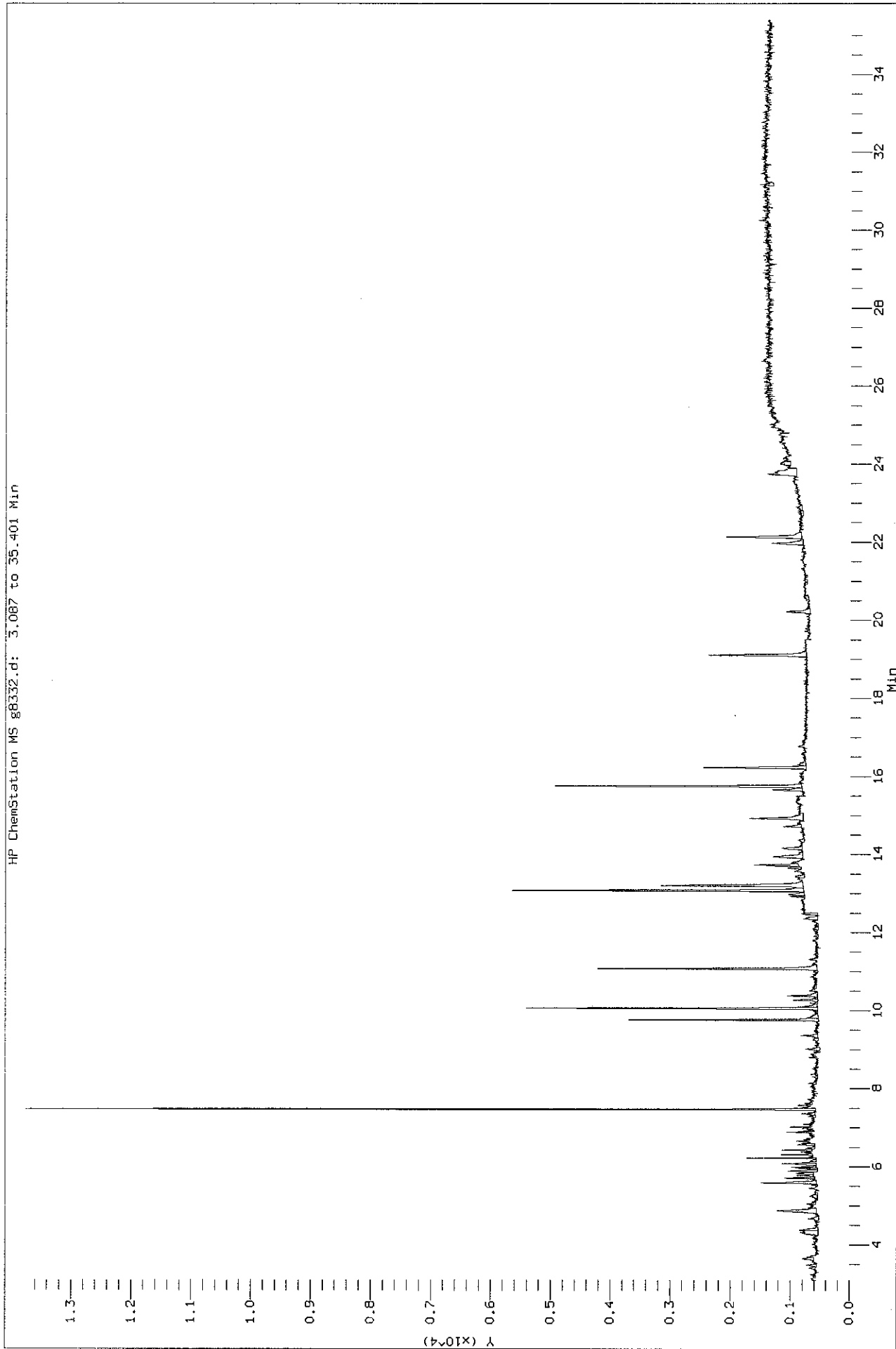


Data File: /var/chem/gc/v21b.i/2110726.b/sv21b080b.d
Injection Date: 26-JUL-2011 20:17
Instrument: gcsv21b.1
Client Sample ID: 21107202810

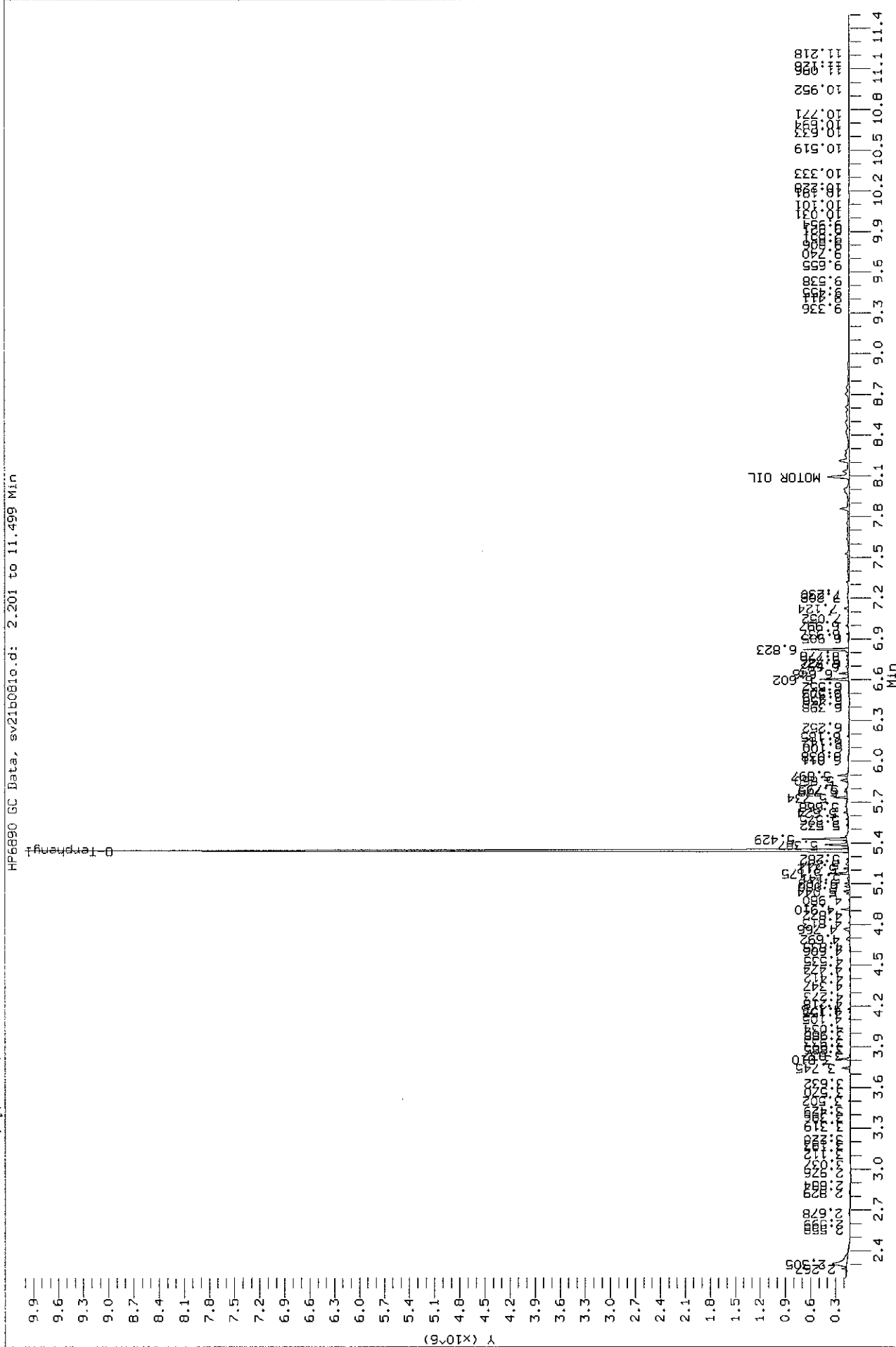


Data File: /var/chem/MSSV5.i/2110510.s.b/g8332.d
Injection Date: 10-AUG-2011 15:21
Instrument: MSSV5.i
Client Sample ID: 21107202811

HP ChemStation MS g8332.d: 3.087 to 35.401 Min



Data File: /var/chem/gc/v21b.i/2110726.b/sv21b081o.d
Injection Date: 26-JUL-2011 20:35
Instrument: gcsv21b.i
Client Sample ID: 21107202811





7975 GSR AVE, BATON ROUGE LA 70820-7402
(225) 769-4900 FAX (225) 767-5717

Chain of Custody Record

Lab use only

Surfrider

4773

21072028

8/16/11

Due Date

Client #

Client Name

Report to:

Client: Rip Kirby & Surfrider

Address: 630 Farway Ave NE

Ft Walton Beach, FL 32547

Contact: Rip Kirby

Phone: 850-217-1616

eMail: rip@nov9thgroup.com

Bill to:

Client: Surfrider Foundation

Address: PO Box 6010

San Clemente, CA 92674

Contact: Ericka Canales

Phone: 772-924-4144

eMail: ecanales@surfrider.org

P.O. Number

N/A

Project Name/Number

Surfrider SOTB - July 2011

Sampled By:

James H "Rip" Kirby III or as otherwise remarked

Analytical Requests & Methods

ORO first, then 8272 as noted

Matrix	Date	Time (2400)	C o m p	G r a b	Sample Container Nbr & Description	Pre-serva tives	No. Con- tainers	Remarks:	Lab ID
S	7/12/11	1415pm		X	000822 - Bottom sediment - Depth 60', off of Green roofed condo west of Navarre Pier	no	1	Split sample. Conduct ORO first. If positive, conduct 8272	NavarreBch001 30° 22.352N 86° 52.545W Add 8272
S	7/12/11	1605pm		X	000787 - Bottom sediment - Depth 30', off of 14th Street Beach, Pensacola Beach	no	1	Split sample. Conduct ORO first. If positive, conduct 8272	PensacolaBch002 30° 19.835N 87° 07.171W Add 8272
S	7/12/11	1610pm		X	000815 - Bottom sediment - Depth 30', off of 14th Street Beach, Pensacola Beach	no	1	Split sample. Conduct ORO first. If positive, conduct 8272	PensacolaBch001 30° 19.835N 87° 07.171W
					===== End of List =====				
					===== End of List =====				

NOTE: All times CDT

Turn Around Time:

24 - 48 hrs

3 days

1 week

X

standard

other

Relinquished by (Signature)

James H Kirby III

Received by (Signature)

FEDEX 794985415880

Date:

7/19/11

Time:

0830

Note:

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

Relinquished by (Signature)

FEDEX

Received by (Signature)

FEDEX

Date:

7/20/11

Time:

905

Note:

13.9 8272 added per client instructions du 7/20/11

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



Chain of Custody Record

Lab use only	4773	211072028	8/10/14
Client Name		Group #	Due Date

7979 GSRI AVE. BATON ROUGE LA 70820-7402
(225) 769-4900 FAX (225) 767-5717

Report to: Client: Rip Kirby & Surfrider Address: 630 Fairway Ave NE Ft Walton Beach, FL 32547 Contact: Rip Kirby Phone: 850-217-1616 eMail: rip@nov9thgroup.com		Bill to: Client: Surfrider Foundation Address: PO Box 6010 San Clemente, CA 92674 Contact: Ericka Canales Phone: 772-924-4144 eMail: ecanales@surfrider.org	
---	--	--	--

P.O. Number	Project Name/Number
N/A	Surfrider SOTB - July 2011

Sampled By: James H "Rip" Kirby III or as otherwise remarked

Matrix	Date	Time (2400)	C o n t a i n e r	Sample Container Nbr & Description	Pre-servatives	No. Containers	Remarks:	Lab ID
S	7/12/11	0915am	X	000796 - Bottom sediment - Depth 30', off of Stallworth Lake public access point between houses. Sediment ejecta from bioturbation, no apparent dark matter.	no	1	Conduct ORO only on this sample. Add 8272	4
S	7/12/11	0920am	X	000817 - Bottom sediment - Depth 30', off of Stallworth Lake public access point between houses.	no	1	Split sample. Conduct ORO first. If positive, conduct 8272	5
S	7/12/11	0925am	X	000821 - Bottom sediment - Depth 30', off of Stallworth Lake public access point between houses.	no	1	Split sample. Conduct ORO first. If positive, conduct 8272	6
S	7/12/11	0930am	X	000761 - Bottom sediment - Depth 30', off of Stallworth Lake public access point between houses.	no	1	Split sample. Conduct ORO first. If positive, conduct 8272	7
===== End of List =====								

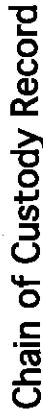
NOTE: All times CDT	Turn Around Time: 24 - 48 hrs	1 week	X	standard	other
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Relinquished by: (Signature) <i>James H Kirby III</i>	Received by: (Signature) FEDEX 794985415880	Date: 07/19/11	Time: 0830
Relinquished by: (Signature) <i>James H Kirby III</i>	Received by: (Signature) <i>James H Kirby III</i>	Date: 7/20/11	Time: 905
Relinquished by: (Signature) <i>James H Kirby III</i>	Received by: (Signature) <i>James H Kirby III</i>	Date:	Time:

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

13.9

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



Lab use only

Surfrider
Client Name

4773

829269112

Due Date

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

SAMPLE RECEIVING CHECKLIST

Workorder: 211072028

Client: 4773 - Surfrider Foundation

Profile: 210818 - Surfrider State of the Beach

Line Item: 1 - Solid

Received by: Kinchen, Anna M.

Received Date/Time: 7/20/2011 9:05:00 AM

Samples Received via: WET

Number of Coolers Received: 1

Cooler tracking numbers(s): 794985415880

Cooler temperature(s): 13.9

Were all coolers received at a temperature of 0 - 6° C?	☐ Yes	☒ No	☐ N/A
Were all custody seals intact?	☒ Yes	☐ No	☐ N/A
Were all samples received in proper containers?	☒ Yes	☐ No	☐ N/A
Were all samples properly preserved?	☒ Yes	☐ No	☐ N/A
Was preservative added to any container at the lab?	☐ Yes	☒ No	☐ N/A
Were all containers received in good condition?	☒ Yes	☐ No	☐ N/A
Were all VOA vials received with no head space?	☐ Yes	☐ No	☒ N/A
Do all sample labels match the Chain of Custody?	☒ Yes	☐ No	☐ N/A
Was the client notified about any discrepancies?	☐ Yes	☐ No	☐ N/A

Notes/Comments: _____

Appendix 6

Report Date 10/18/2011

GCAL Report 211093016

ANALYTICAL RESULTS

PERFORMED BY

GULF COAST ANALYTICAL LABORATORIES, INC.

**7979 GSRI Avenue
Baton Rouge, LA 70820**

Report Date 10/18/2011

GCAL Report 211093016

****211093016****

Deliver To The November 9th Group, LLC
630 Fairway Ave. NE
Fort Walton Beach, FL 32547
850-862-7134

Attn James Kirby

Project Surfrider State of the Beach

CASE NARRATIVE

Client: Surfrider Foundation **Report:** 211093016

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

SEMI-VOLATILES MASS SPECTROMETRY

In the SW-846 8272 Modified analysis, samples 21109301608 (005374), 21109301601 (005335), 21109301602 (005363), 21109301603 (005361), 21109301605 (005337), 21109301604 (005320), 21109301606 (005333), 21109301607 (005342), 21109301609 (005329) and 21109301610 (005340) had to be diluted to eliminate interference from non-target background. This is reflected in elevated detection limits. The recoveries for the surrogates are reported as diluted out.

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 an estimated value
U	Indicates the compound was analyzed for but not detected
B	(ORGANICS) Indicates the analyte was detected in the associated Method Blank
B	(INORGANICS) Indicates the result is between the RDL and MDL

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

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

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

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

Robyn Miguez
Technical Director
GCAL REPORT 211093016

THIS REPORT CONTAINS _____ PAGES.

Report Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21109301601	005335	Solid	09/11/2011 00:30	09/30/2011 09:15
21109301602	005363	Solid	09/11/2011 22:30	09/30/2011 09:15
21109301603	005361	Solid	09/23/2011 22:00	09/30/2011 09:15
21109301604	005320	Solid	09/29/2011 15:44	09/30/2011 09:15
21109301605	005337	Solid	09/29/2011 15:44	09/30/2011 09:15
21109301606	005333	Solid	08/30/2011 10:30	09/30/2011 09:15
21109301607	005342	Solid	08/30/2011 11:14	09/30/2011 09:15
21109301608	005374	Solid	08/30/2011 11:45	09/30/2011 09:15
21109301609	005329	Solid	08/30/2011 12:15	09/30/2011 09:15
21109301610	005340	Solid	09/01/2011 09:30	09/30/2011 09:15

Summary of Compounds Detected

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21109301601	005335	Solid	09/11/2011 00:30	09/30/2011 09:15

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
192-97-2	Benzo(e)pyrene	796J	3050	544	ug/Kg
GCSV-08-14	C1-Chrysenes	9900	3050	637	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	22700	3050	670	ug/Kg
GCSV-08-15	C2-Chrysenes	6370	3050	637	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	40100	3050	670	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	25700	3050	670	ug/Kg
218-01-9	Chrysene	6200	3050	637	ug/Kg
85-01-8	Phenanthrene	2360J	3050	670	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21109301602	005363	Solid	09/11/2011 22:30	09/30/2011 09:15

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-08-14	C1-Chrysenes	6280	3680	769	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	3840	3680	810	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	13900	3680	810	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	10300	3680	810	ug/Kg
218-01-9	Chrysene	3740	3680	769	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21109301603	005361	Solid	09/23/2011 22:00	09/30/2011 09:15

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
192-97-2	Benzo(e)pyrene	952J	4000	714	ug/Kg
GCSV-08-14	C1-Chrysenes	9900	4000	836	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	15700	4000	880	ug/Kg
GCSV-08-15	C2-Chrysenes	6320	4000	836	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	34200	4000	880	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	24100	4000	880	ug/Kg
218-01-9	Chrysene	6690	4000	836	ug/Kg
85-01-8	Phenanthrene	1580J	4000	880	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21109301604	005320	Solid	09/29/2011 15:44	09/30/2011 09:15

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-08-07	C1-Phenanthrenes/anthracenes	1040J	1200	265	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	1250	1200	265	ug/Kg
206-44-0	Fluoranthene	345J	1200	176	ug/Kg
85-01-8	Phenanthrene	380J	1200	265	ug/Kg

Summary of Compounds Detected (con't)

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21109301606	005333	Solid	08/30/2011 10:30	09/30/2011 09:15

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
192-97-2	Benzo(e)pyrene	58.4J	86.9	15.5	ug/Kg
GCSV-08-14	C1-Chrysenes	602	86.9	18.2	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	238	86.9	12.7	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	531	86.9	19.1	ug/Kg
GCSV-08-15	C2-Chrysenes	493	86.9	18.2	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	256	86.9	12.7	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	1500	86.9	19.1	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	265	86.9	12.7	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	1360	86.9	19.1	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	744	86.9	19.1	ug/Kg
218-01-9	Chrysene	334	86.9	18.2	ug/Kg
85-01-8	Phenanthrene	21.8J	86.9	19.1	ug/Kg
129-00-0	Pyrene	22.6J	86.9	16.0	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21109301607	005342	Solid	08/30/2011 11:14	09/30/2011 09:15

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
205-99-2	Benzo(b)fluoranthene	8.22J	42.7	6.19	ug/Kg
192-97-2	Benzo(e)pyrene	15.6J	42.7	7.63	ug/Kg
207-08-9	Benzo(k)fluoranthene	5.17J	42.7	4.96	ug/Kg
GCSV-08-14	C1-Chrysenes	165	42.7	8.93	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	99.6	42.7	9.40	ug/Kg
GCSV-08-15	C2-Chrysenes	137	42.7	8.93	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	330	42.7	9.40	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	309	42.7	9.40	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	195	42.7	9.40	ug/Kg
218-01-9	Chrysene	88.3	42.7	8.93	ug/Kg
129-00-0	Pyrene	8.11J	42.7	7.87	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21109301608	005374	Solid	08/30/2011 11:45	09/30/2011 09:15

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
192-97-2	Benzo(e)pyrene	125J	452	80.6	ug/Kg
GCSV-08-14	C1-Chrysenes	970	452	94.4	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	492	452	99.3	ug/Kg
GCSV-08-15	C2-Chrysenes	780	452	94.4	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	2070	452	99.3	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	2290	452	99.3	ug/Kg
218-01-9	Chrysene	579	452	94.4	ug/Kg

Summary of Compounds Detected (con't)

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21109301609	005329	Solid	08/30/2011 12:15	09/30/2011 09:15

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
192-97-2	Benzo(e)pyrene	22.5J	46.5	8.31	ug/Kg
GCSV-08-14	C1-Chrysenes	186	46.5	9.73	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	65.7	46.5	10.2	ug/Kg
GCSV-08-15	C2-Chrysenes	179	46.5	9.73	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	96.1	46.5	6.82	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	279	46.5	10.2	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	97.9	46.5	6.82	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	326	46.5	10.2	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	199	46.5	10.2	ug/Kg
218-01-9	Chrysene	97.6	46.5	9.73	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21109301610	005340	Solid	09/01/2011 09:30	09/30/2011 09:15

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
192-97-2	Benzo(e)pyrene	37.0J	45.7	8.15	ug/Kg
GCSV-08-14	C1-Chrysenes	410	45.7	9.55	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	144	45.7	6.69	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	365	45.7	10.0	ug/Kg
GCSV-08-15	C2-Chrysenes	348	45.7	9.55	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	184	45.7	6.69	ug/Kg
GCSV-08-05	C2-Fluorenes	208	45.7	5.64	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	1100	45.7	10.0	ug/Kg
GCSV-08-16	C3-Chrysenes	185	45.7	9.55	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	227	45.7	6.69	ug/Kg
GCSV-08-06	C3-Fluorenes	292	45.7	5.64	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	994	45.7	10.0	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	461	45.7	10.0	ug/Kg
218-01-9	Chrysene	256	45.7	9.55	ug/Kg
85-01-8	Phenanthrene	24.1J	45.7	10.0	ug/Kg
129-00-0	Pyrene	15.8J	45.7	8.42	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21109301601	005335	Solid	09/11/2011 00:30	09/30/2011 09:15

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
10/05/2011 14:10	466478	3550B	100	10/12/2011 15:13	DLB	466969

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	240U	3050	240	ug/Kg
91-57-6	2-Methylnaphthalene	273U	3050	273	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	266U	3050	266	ug/Kg
83-32-9	Acenaphthene	296U	3050	296	ug/Kg
208-96-8	Acenaphthylene	300U	3050	300	ug/Kg
120-12-7	Anthracene	509U	3050	509	ug/Kg
56-55-3	Benzo(a)anthracene	538U	3050	538	ug/Kg
50-32-8	Benzo(a)pyrene	521U	3050	521	ug/Kg
205-99-2	Benzo(b)fluoranthene	442U	3050	442	ug/Kg
192-97-2	Benzo(e)pyrene	796J	3050	544	ug/Kg
191-24-2	Benzo(g,h,i)perylene	644U	3050	644	ug/Kg
207-08-9	Benzo(k)fluoranthene	353U	3050	353	ug/Kg
GCSV-08-14	C1-Chrysenes	9900	3050	637	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	446U	3050	446	ug/Kg
GCSV-08-04	C1-Fluorenes	376U	3050	376	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	22700	3050	670	ug/Kg
GCSV-08-15	C2-Chrysenes	6370	3050	637	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	446U	3050	446	ug/Kg
GCSV-08-05	C2-Fluorenes	376U	3050	376	ug/Kg
GCSV-08-01	C2-Naphthalenes	347U	3050	347	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	40100	3050	670	ug/Kg
GCSV-08-16	C3-Chrysenes	637U	3050	637	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	446U	3050	446	ug/Kg
GCSV-08-06	C3-Fluorenes	376U	3050	376	ug/Kg
GCSV-08-02	C3-Naphthalenes	347U	3050	347	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	25700	3050	670	ug/Kg
GCSV-08-17	C4-Chrysenes	637U	3050	637	ug/Kg
GCSV-08-03	C4-Naphthalenes	347U	3050	347	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	670U	3050	670	ug/Kg
218-01-9	Chrysene	6200	3050	637	ug/Kg
53-70-3	Dibenz(a,h)anthracene	729U	3050	729	ug/Kg
206-44-0	Fluoranthene	446U	3050	446	ug/Kg
86-73-7	Fluorene	376U	3050	376	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	573U	3050	573	ug/Kg
91-20-3	Naphthalene	347U	3050	347	ug/Kg
77392-71-3	Perylene	624U	3050	624	ug/Kg
85-01-8	Phenanthrene	2360J	3050	670	ug/Kg
129-00-0	Pyrene	561U	3050	561	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	20.3	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	20.3	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	20.3	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	20.3	Diluted Out	ug/Kg	0*	43 - 111

RESULTS REPORTED ON A WET WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21109301602	005363	Solid	09/11/2011 22:30	09/30/2011 09:15

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
10/05/2011 14:10	466478	3550B	100	10/12/2011 15:56	DLB	466969

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	290U	3680	290	ug/Kg
91-57-6	2-Methylnaphthalene	330U	3680	330	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	322U	3680	322	ug/Kg
83-32-9	Acenaphthene	358U	3680	358	ug/Kg
208-96-8	Acenaphthylene	363U	3680	363	ug/Kg
120-12-7	Anthracene	616U	3680	616	ug/Kg
56-55-3	Benzo(a)anthracene	651U	3680	651	ug/Kg
50-32-8	Benzo(a)pyrene	629U	3680	629	ug/Kg
205-99-2	Benzo(b)fluoranthene	534U	3680	534	ug/Kg
192-97-2	Benzo(e)pyrene	657U	3680	657	ug/Kg
191-24-2	Benzo(g,h,i)perylene	779U	3680	779	ug/Kg
207-08-9	Benzo(k)fluoranthene	427U	3680	427	ug/Kg
GCSV-08-14	C1-Chrysenes	6280	3680	769	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	539U	3680	539	ug/Kg
GCSV-08-04	C1-Fluorenes	455U	3680	455	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	3840	3680	810	ug/Kg
GCSV-08-15	C2-Chrysenes	769U	3680	769	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	539U	3680	539	ug/Kg
GCSV-08-05	C2-Fluorenes	455U	3680	455	ug/Kg
GCSV-08-01	C2-Naphthalenes	420U	3680	420	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	13900	3680	810	ug/Kg
GCSV-08-16	C3-Chrysenes	769U	3680	769	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	539U	3680	539	ug/Kg
GCSV-08-06	C3-Fluorenes	455U	3680	455	ug/Kg
GCSV-08-02	C3-Naphthalenes	420U	3680	420	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	10300	3680	810	ug/Kg
GCSV-08-17	C4-Chrysenes	769U	3680	769	ug/Kg
GCSV-08-03	C4-Naphthalenes	420U	3680	420	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	810U	3680	810	ug/Kg
218-01-9	Chrysene	3740	3680	769	ug/Kg
53-70-3	Dibenz(a,h)anthracene	882U	3680	882	ug/Kg
206-44-0	Fluoranthene	539U	3680	539	ug/Kg
86-73-7	Fluorene	455U	3680	455	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	692U	3680	692	ug/Kg
91-20-3	Naphthalene	420U	3680	420	ug/Kg
77392-71-3	Perylene	754U	3680	754	ug/Kg
85-01-8	Phenanthrene	810U	3680	810	ug/Kg
129-00-0	Pyrene	678U	3680	678	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	24.5	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	24.5	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	24.5	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	24.5	Diluted Out	ug/Kg	0*	43 - 111

RESULTS REPORTED ON A WET WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21109301603	005361	Solid	09/23/2011 22:00	09/30/2011 09:15

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
10/05/2011 14:10	466478	3550B	100	10/12/2011 16:40	DLB	466969

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	315U	4000	315	ug/Kg
91-57-6	2-Methylnaphthalene	359U	4000	359	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	350U	4000	350	ug/Kg
83-32-9	Acenaphthene	389U	4000	389	ug/Kg
208-96-8	Acenaphthylene	394U	4000	394	ug/Kg
120-12-7	Anthracene	669U	4000	669	ug/Kg
56-55-3	Benzo(a)anthracene	707U	4000	707	ug/Kg
50-32-8	Benzo(a)pyrene	684U	4000	684	ug/Kg
205-99-2	Benzo(b)fluoranthene	580U	4000	580	ug/Kg
192-97-2	Benzo(e)pyrene	952J	4000	714	ug/Kg
191-24-2	Benzo(g,h,i)perylene	846U	4000	846	ug/Kg
207-08-9	Benzo(k)fluoranthene	464U	4000	464	ug/Kg
GCSV-08-14	C1-Chrysenes	9900	4000	836	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	586U	4000	586	ug/Kg
GCSV-08-04	C1-Fluorenes	494U	4000	494	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	15700	4000	880	ug/Kg
GCSV-08-15	C2-Chrysenes	6320	4000	836	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	586U	4000	586	ug/Kg
GCSV-08-05	C2-Fluorenes	494U	4000	494	ug/Kg
GCSV-08-01	C2-Naphthalenes	456U	4000	456	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	34200	4000	880	ug/Kg
GCSV-08-16	C3-Chrysenes	836U	4000	836	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	586U	4000	586	ug/Kg
GCSV-08-06	C3-Fluorenes	494U	4000	494	ug/Kg
GCSV-08-02	C3-Naphthalenes	456U	4000	456	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	24100	4000	880	ug/Kg
GCSV-08-17	C4-Chrysenes	836U	4000	836	ug/Kg
GCSV-08-03	C4-Naphthalenes	456U	4000	456	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	880U	4000	880	ug/Kg
218-01-9	Chrysene	6690	4000	836	ug/Kg
53-70-3	Dibenz(a,h)anthracene	958U	4000	958	ug/Kg
206-44-0	Fluoranthene	586U	4000	586	ug/Kg
86-73-7	Fluorene	494U	4000	494	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	752U	4000	752	ug/Kg
91-20-3	Naphthalene	456U	4000	456	ug/Kg
77392-71-3	Perylene	819U	4000	819	ug/Kg
85-01-8	Phenanthrene	1580J	4000	880	ug/Kg
129-00-0	Pyrene	737U	4000	737	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	26.7	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	26.7	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	26.7	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	26.7	Diluted Out	ug/Kg	0*	43 - 111

RESULTS REPORTED ON A WET WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21109301604	005320	Solid	09/29/2011 15:44	09/30/2011 09:15

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
10/05/2011 14:10	466478	3550B	10	10/12/2011 18:08	DLB	466969

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	94.8U	1200	94.8	ug/Kg
91-57-6	2-Methylnaphthalene	108U	1200	108	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	105U	1200	105	ug/Kg
83-32-9	Acenaphthene	117U	1200	117	ug/Kg
208-96-8	Acenaphthylene	119U	1200	119	ug/Kg
120-12-7	Anthracene	201U	1200	201	ug/Kg
56-55-3	Benzo(a)anthracene	213U	1200	213	ug/Kg
GCSV-08-14	C1-Chrysenes	252U	1200	252	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	176U	1200	176	ug/Kg
GCSV-08-04	C1-Fluorenes	149U	1200	149	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	1040J	1200	265	ug/Kg
GCSV-08-15	C2-Chrysenes	252U	1200	252	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	176U	1200	176	ug/Kg
GCSV-08-05	C2-Fluorenes	149U	1200	149	ug/Kg
GCSV-08-01	C2-Naphthalenes	137U	1200	137	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	1250	1200	265	ug/Kg
GCSV-08-16	C3-Chrysenes	252U	1200	252	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	176U	1200	176	ug/Kg
GCSV-08-06	C3-Fluorenes	149U	1200	149	ug/Kg
GCSV-08-02	C3-Naphthalenes	137U	1200	137	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	265U	1200	265	ug/Kg
GCSV-08-17	C4-Chrysenes	252U	1200	252	ug/Kg
GCSV-08-03	C4-Naphthalenes	137U	1200	137	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	265U	1200	265	ug/Kg
218-01-9	Chrysene	252U	1200	252	ug/Kg
206-44-0	Fluoranthene	345J	1200	176	ug/Kg
86-73-7	Fluorene	149U	1200	149	ug/Kg
91-20-3	Naphthalene	137U	1200	137	ug/Kg
85-01-8	Phenanthrene	380J	1200	265	ug/Kg
129-00-0	Pyrene	222U	1200	222	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	20	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	20	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	20	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	20	Diluted Out	ug/Kg	0*	43 - 111

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
10/05/2011 14:10	466478	3550B	20	10/13/2011 10:58	DLB	467045

CAS#	Parameter	Result	RDL	MDL	Units
50-32-8	Benzo(a)pyrene	412U	2410	412	ug/Kg
205-99-2	Benzo(b)fluoranthene	349U	2410	349	ug/Kg
192-97-2	Benzo(e)pyrene	430U	2410	430	ug/Kg
191-24-2	Benzo(g,h,i)perylene	509U	2410	509	ug/Kg
207-08-9	Benzo(k)fluoranthene	279U	2410	279	ug/Kg
53-70-3	Dibenz(a,h)anthracene	577U	2410	577	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21109301604	005320	Solid	09/29/2011 15:44	09/30/2011 09:15

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
10/05/2011 14:10	466478	3550B	20	10/13/2011 10:58	DLB	467045

CAS#	Parameter	Result	RDL	MDL	Units
193-39-5	Indeno(1,2,3-cd)pyrene	453U	2410	453	ug/Kg
77392-71-3	Perylene	493U	2410	493	ug/Kg

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21109301605	005337	Solid	09/29/2011 15:44	09/30/2011 09:15

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
10/05/2011 14:10	466478	3550B	10	10/12/2011 17:24	DLB	466969

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	527U	6690	527	ug/Kg
91-57-6	2-Methylnaphthalene	600U	6690	600	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	585U	6690	585	ug/Kg
83-32-9	Acenaphthene	651U	6690	651	ug/Kg
208-96-8	Acenaphthylene	659U	6690	659	ug/Kg
120-12-7	Anthracene	1120U	6690	1120	ug/Kg
56-55-3	Benzo(a)anthracene	1180U	6690	1180	ug/Kg
50-32-8	Benzo(a)pyrene	1140U	6690	1140	ug/Kg
205-99-2	Benzo(b)fluoranthene	970U	6690	970	ug/Kg
192-97-2	Benzo(e)pyrene	1190U	6690	1190	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1410U	6690	1410	ug/Kg
207-08-9	Benzo(k)fluoranthene	776U	6690	776	ug/Kg
GCSV-08-14	C1-Chrysenes	1400U	6690	1400	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	980U	6690	980	ug/Kg
GCSV-08-04	C1-Fluorenes	826U	6690	826	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	1470U	6690	1470	ug/Kg
GCSV-08-15	C2-Chrysenes	1400U	6690	1400	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	980U	6690	980	ug/Kg
GCSV-08-05	C2-Fluorenes	826U	6690	826	ug/Kg
GCSV-08-01	C2-Naphthalenes	763U	6690	763	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	1470U	6690	1470	ug/Kg
GCSV-08-16	C3-Chrysenes	1400U	6690	1400	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	980U	6690	980	ug/Kg
GCSV-08-06	C3-Fluorenes	826U	6690	826	ug/Kg
GCSV-08-02	C3-Naphthalenes	763U	6690	763	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	1470U	6690	1470	ug/Kg
GCSV-08-17	C4-Chrysenes	1400U	6690	1400	ug/Kg
GCSV-08-03	C4-Naphthalenes	763U	6690	763	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	1470U	6690	1470	ug/Kg
218-01-9	Chrysene	1400U	6690	1400	ug/Kg
53-70-3	Dibenz(a,h)anthracene	1600U	6690	1600	ug/Kg
206-44-0	Fluoranthene	980U	6690	980	ug/Kg
86-73-7	Fluorene	826U	6690	826	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1260U	6690	1260	ug/Kg
91-20-3	Naphthalene	763U	6690	763	ug/Kg
77392-71-3	Perylene	1370U	6690	1370	ug/Kg
85-01-8	Phenanthrene	1470U	6690	1470	ug/Kg
129-00-0	Pyrene	1230U	6690	1230	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	222	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	222	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	222	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	222	Diluted Out	ug/Kg	0*	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21109301606	005333	Solid	08/30/2011 10:30	09/30/2011 09:15

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
10/05/2011 14:10	466478	3550B	20	10/13/2011 12:26	DLB	467045

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	6.84U	86.9	6.84	ug/Kg
91-57-6	2-Methylnaphthalene	7.80U	86.9	7.80	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	7.60U	86.9	7.60	ug/Kg
83-32-9	Acenaphthene	8.45U	86.9	8.45	ug/Kg
208-96-8	Acenaphthylene	8.56U	86.9	8.56	ug/Kg
120-12-7	Anthracene	14.5U	86.9	14.5	ug/Kg
56-55-3	Benzo(a)anthracene	15.4U	86.9	15.4	ug/Kg
50-32-8	Benzo(a)pyrene	14.9U	86.9	14.9	ug/Kg
205-99-2	Benzo(b)fluoranthene	12.6U	86.9	12.6	ug/Kg
192-97-2	Benzo(e)pyrene	58.4J	86.9	15.5	ug/Kg
191-24-2	Benzo(g,h,i)perylene	18.4U	86.9	18.4	ug/Kg
207-08-9	Benzo(k)fluoranthene	10.1U	86.9	10.1	ug/Kg
GCSV-08-14	C1-Chrysenes	602	86.9	18.2	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	238	86.9	12.7	ug/Kg
GCSV-08-04	C1-Fluorenes	10.7U	86.9	10.7	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	531	86.9	19.1	ug/Kg
GCSV-08-15	C2-Chrysenes	493	86.9	18.2	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	256	86.9	12.7	ug/Kg
GCSV-08-05	C2-Fluorenes	10.7U	86.9	10.7	ug/Kg
GCSV-08-01	C2-Naphthalenes	9.90U	86.9	9.90	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	1500	86.9	19.1	ug/Kg
GCSV-08-16	C3-Chrysenes	18.2U	86.9	18.2	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	265	86.9	12.7	ug/Kg
GCSV-08-06	C3-Fluorenes	10.7U	86.9	10.7	ug/Kg
GCSV-08-02	C3-Naphthalenes	9.90U	86.9	9.90	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	1360	86.9	19.1	ug/Kg
GCSV-08-17	C4-Chrysenes	18.2U	86.9	18.2	ug/Kg
GCSV-08-03	C4-Naphthalenes	9.90U	86.9	9.90	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	744	86.9	19.1	ug/Kg
218-01-9	Chrysene	334	86.9	18.2	ug/Kg
53-70-3	Dibenz(a,h)anthracene	20.8U	86.9	20.8	ug/Kg
206-44-0	Fluoranthene	12.7U	86.9	12.7	ug/Kg
86-73-7	Fluorene	10.7U	86.9	10.7	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	16.3U	86.9	16.3	ug/Kg
91-20-3	Naphthalene	9.90U	86.9	9.90	ug/Kg
77392-71-3	Perylene	17.8U	86.9	17.8	ug/Kg
85-01-8	Phenanthrene	21.8J	86.9	19.1	ug/Kg
129-00-0	Pyrene	22.6J	86.9	16.0	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	13.2	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	13.2	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	13.2	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	13.2	Diluted Out	ug/Kg	0*	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21109301607	005342	Solid	08/30/2011 11:14	09/30/2011 09:15

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
10/05/2011 14:10	466478	3550B	10	10/13/2011 13:10	DLB	467045

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	3.36U	42.7	3.36	ug/Kg
91-57-6	2-Methylnaphthalene	3.83U	42.7	3.83	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	3.74U	42.7	3.74	ug/Kg
83-32-9	Acenaphthene	4.15U	42.7	4.15	ug/Kg
208-96-8	Acenaphthylene	4.21U	42.7	4.21	ug/Kg
120-12-7	Anthracene	7.14U	42.7	7.14	ug/Kg
56-55-3	Benzo(a)anthracene	7.55U	42.7	7.55	ug/Kg
50-32-8	Benzo(a)pyrene	7.31U	42.7	7.31	ug/Kg
205-99-2	Benzo(b)fluoranthene	8.22J	42.7	6.19	ug/Kg
192-97-2	Benzo(e)pyrene	15.6J	42.7	7.63	ug/Kg
191-24-2	Benzo(g,h,i)perylene	9.04U	42.7	9.04	ug/Kg
207-08-9	Benzo(k)fluoranthene	5.17J	42.7	4.96	ug/Kg
GCSV-08-14	C1-Chrysenes	165	42.7	8.93	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	6.26U	42.7	6.26	ug/Kg
GCSV-08-04	C1-Fluorenes	5.28U	42.7	5.28	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	99.6	42.7	9.40	ug/Kg
GCSV-08-15	C2-Chrysenes	137	42.7	8.93	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	6.26U	42.7	6.26	ug/Kg
GCSV-08-05	C2-Fluorenes	5.28U	42.7	5.28	ug/Kg
GCSV-08-01	C2-Naphthalenes	4.87U	42.7	4.87	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	330	42.7	9.40	ug/Kg
GCSV-08-16	C3-Chrysenes	8.93U	42.7	8.93	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	6.26U	42.7	6.26	ug/Kg
GCSV-08-06	C3-Fluorenes	5.28U	42.7	5.28	ug/Kg
GCSV-08-02	C3-Naphthalenes	4.87U	42.7	4.87	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	309	42.7	9.40	ug/Kg
GCSV-08-17	C4-Chrysenes	8.93U	42.7	8.93	ug/Kg
GCSV-08-03	C4-Naphthalenes	4.87U	42.7	4.87	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	195	42.7	9.40	ug/Kg
218-01-9	Chrysene	88.3	42.7	8.93	ug/Kg
53-70-3	Dibenz(a,h)anthracene	10.2U	42.7	10.2	ug/Kg
206-44-0	Fluoranthene	6.26U	42.7	6.26	ug/Kg
86-73-7	Fluorene	5.28U	42.7	5.28	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	8.03U	42.7	8.03	ug/Kg
91-20-3	Naphthalene	4.87U	42.7	4.87	ug/Kg
77392-71-3	Perylene	8.75U	42.7	8.75	ug/Kg
85-01-8	Phenanthrene	9.40U	42.7	9.40	ug/Kg
129-00-0	Pyrene	8.11J	42.7	7.87	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	13.1	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	13.1	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	13.1	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	13.1	Diluted Out	ug/Kg	0*	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21109301608	005374	Solid	08/30/2011 11:45	09/30/2011 09:15

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
10/05/2011 14:10	466478	3550B	100	10/12/2011 13:04	DLB	466969

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	35.6U	452	35.6	ug/Kg
91-57-6	2-Methylnaphthalene	40.5U	452	40.5	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	39.5U	452	39.5	ug/Kg
83-32-9	Acenaphthene	43.9U	452	43.9	ug/Kg
208-96-8	Acenaphthylene	44.5U	452	44.5	ug/Kg
120-12-7	Anthracene	75.5U	452	75.5	ug/Kg
56-55-3	Benzo(a)anthracene	79.8U	452	79.8	ug/Kg
50-32-8	Benzo(a)pyrene	77.2U	452	77.2	ug/Kg
205-99-2	Benzo(b)fluoranthene	65.5U	452	65.5	ug/Kg
192-97-2	Benzo(e)pyrene	125J	452	80.6	ug/Kg
191-24-2	Benzo(g,h,i)perylene	95.5U	452	95.5	ug/Kg
207-08-9	Benzo(k)fluoranthene	52.4U	452	52.4	ug/Kg
GCSV-08-14	C1-Chrysenes	970	452	94.4	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	66.2U	452	66.2	ug/Kg
GCSV-08-04	C1-Fluorenes	55.8U	452	55.8	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	492	452	99.3	ug/Kg
GCSV-08-15	C2-Chrysenes	780	452	94.4	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	66.2U	452	66.2	ug/Kg
GCSV-08-05	C2-Fluorenes	55.8U	452	55.8	ug/Kg
GCSV-08-01	C2-Naphthalenes	51.5U	452	51.5	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	2070	452	99.3	ug/Kg
GCSV-08-16	C3-Chrysenes	94.4U	452	94.4	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	66.2U	452	66.2	ug/Kg
GCSV-08-06	C3-Fluorenes	55.8U	452	55.8	ug/Kg
GCSV-08-02	C3-Naphthalenes	51.5U	452	51.5	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	2290	452	99.3	ug/Kg
GCSV-08-17	C4-Chrysenes	94.4U	452	94.4	ug/Kg
GCSV-08-03	C4-Naphthalenes	51.5U	452	51.5	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	99.3U	452	99.3	ug/Kg
218-01-9	Chrysene	579	452	94.4	ug/Kg
53-70-3	Dibenz(a,h)anthracene	108U	452	108	ug/Kg
206-44-0	Fluoranthene	66.2U	452	66.2	ug/Kg
86-73-7	Fluorene	55.8U	452	55.8	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	84.9U	452	84.9	ug/Kg
91-20-3	Naphthalene	51.5U	452	51.5	ug/Kg
77392-71-3	Perylene	92.5U	452	92.5	ug/Kg
85-01-8	Phenanthrene	99.3U	452	99.3	ug/Kg
129-00-0	Pyrene	83.2U	452	83.2	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	13.3	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	13.3	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	13.3	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	13.3	Diluted Out	ug/Kg	0*	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21109301609	005329	Solid	08/30/2011 12:15	09/30/2011 09:15

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
10/05/2011 14:10	466478	3550B	10	10/13/2011 13:53	DLB	467045

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	3.66U	46.5	3.66	ug/Kg
91-57-6	2-Methylnaphthalene	4.18U	46.5	4.18	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	4.07U	46.5	4.07	ug/Kg
83-32-9	Acenaphthene	4.53U	46.5	4.53	ug/Kg
208-96-8	Acenaphthylene	4.58U	46.5	4.58	ug/Kg
120-12-7	Anthracene	7.78U	46.5	7.78	ug/Kg
56-55-3	Benzo(a)anthracene	8.22U	46.5	8.22	ug/Kg
50-32-8	Benzo(a)pyrene	7.96U	46.5	7.96	ug/Kg
205-99-2	Benzo(b)fluoranthene	6.75U	46.5	6.75	ug/Kg
192-97-2	Benzo(e)pyrene	22.5J	46.5	8.31	ug/Kg
191-24-2	Benzo(g,h,i)perylene	9.84U	46.5	9.84	ug/Kg
207-08-9	Benzo(k)fluoranthene	5.40U	46.5	5.40	ug/Kg
GCSV-08-14	C1-Chrysenes	186	46.5	9.73	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	6.82U	46.5	6.82	ug/Kg
GCSV-08-04	C1-Fluorenes	5.75U	46.5	5.75	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	65.7	46.5	10.2	ug/Kg
GCSV-08-15	C2-Chrysenes	179	46.5	9.73	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	96.1	46.5	6.82	ug/Kg
GCSV-08-05	C2-Fluorenes	5.75U	46.5	5.75	ug/Kg
GCSV-08-01	C2-Naphthalenes	5.30U	46.5	5.30	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	279	46.5	10.2	ug/Kg
GCSV-08-16	C3-Chrysenes	9.73U	46.5	9.73	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	97.9	46.5	6.82	ug/Kg
GCSV-08-06	C3-Fluorenes	5.75U	46.5	5.75	ug/Kg
GCSV-08-02	C3-Naphthalenes	5.30U	46.5	5.30	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	326	46.5	10.2	ug/Kg
GCSV-08-17	C4-Chrysenes	9.73U	46.5	9.73	ug/Kg
GCSV-08-03	C4-Naphthalenes	5.30U	46.5	5.30	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	199	46.5	10.2	ug/Kg
218-01-9	Chrysene	97.6	46.5	9.73	ug/Kg
53-70-3	Dibenz(a,h)anthracene	11.1U	46.5	11.1	ug/Kg
206-44-0	Fluoranthene	6.82U	46.5	6.82	ug/Kg
86-73-7	Fluorene	5.75U	46.5	5.75	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	8.75U	46.5	8.75	ug/Kg
91-20-3	Naphthalene	5.30U	46.5	5.30	ug/Kg
77392-71-3	Perylene	9.53U	46.5	9.53	ug/Kg
85-01-8	Phenanthrene	10.2U	46.5	10.2	ug/Kg
129-00-0	Pyrene	8.57U	46.5	8.57	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	13.2	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	13.2	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	13.2	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	13.2	Diluted Out	ug/Kg	0*	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21109301610	005340	Solid	09/01/2011 09:30	09/30/2011 09:15

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
10/05/2011 14:10	466478	3550B	10	10/13/2011 14:38	DLB	467045

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	3.60U	45.7	3.60	ug/Kg
91-57-6	2-Methylnaphthalene	4.10U	45.7	4.10	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	4.00U	45.7	4.00	ug/Kg
83-32-9	Acenaphthene	4.44U	45.7	4.44	ug/Kg
208-96-8	Acenaphthylene	4.50U	45.7	4.50	ug/Kg
120-12-7	Anthracene	7.64U	45.7	7.64	ug/Kg
56-55-3	Benzo(a)anthracene	8.07U	45.7	8.07	ug/Kg
50-32-8	Benzo(a)pyrene	7.81U	45.7	7.81	ug/Kg
205-99-2	Benzo(b)fluoranthene	6.62U	45.7	6.62	ug/Kg
192-97-2	Benzo(e)pyrene	37.0J	45.7	8.15	ug/Kg
191-24-2	Benzo(g,h,i)perylene	9.66U	45.7	9.66	ug/Kg
207-08-9	Benzo(k)fluoranthene	5.30U	45.7	5.30	ug/Kg
GCSV-08-14	C1-Chrysenes	410	45.7	9.55	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	144	45.7	6.69	ug/Kg
GCSV-08-04	C1-Fluorenes	5.64U	45.7	5.64	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	365	45.7	10.0	ug/Kg
GCSV-08-15	C2-Chrysenes	348	45.7	9.55	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	184	45.7	6.69	ug/Kg
GCSV-08-05	C2-Fluorenes	208	45.7	5.64	ug/Kg
GCSV-08-01	C2-Naphthalenes	5.21U	45.7	5.21	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	1100	45.7	10.0	ug/Kg
GCSV-08-16	C3-Chrysenes	185	45.7	9.55	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	227	45.7	6.69	ug/Kg
GCSV-08-06	C3-Fluorenes	292	45.7	5.64	ug/Kg
GCSV-08-02	C3-Naphthalenes	5.21U	45.7	5.21	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	994	45.7	10.0	ug/Kg
GCSV-08-17	C4-Chrysenes	9.55U	45.7	9.55	ug/Kg
GCSV-08-03	C4-Naphthalenes	5.21U	45.7	5.21	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	461	45.7	10.0	ug/Kg
218-01-9	Chrysene	256	45.7	9.55	ug/Kg
53-70-3	Dibenz(a,h)anthracene	10.9U	45.7	10.9	ug/Kg
206-44-0	Fluoranthene	6.69U	45.7	6.69	ug/Kg
86-73-7	Fluorene	5.64U	45.7	5.64	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	8.59U	45.7	8.59	ug/Kg
91-20-3	Naphthalene	5.21U	45.7	5.21	ug/Kg
77392-71-3	Perylene	9.35U	45.7	9.35	ug/Kg
85-01-8	Phenanthrene	24.1J	45.7	10.0	ug/Kg
129-00-0	Pyrene	15.8J	45.7	8.42	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	13.3	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	13.3	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	13.3	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	13.3	Diluted Out	ug/Kg	0*	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GC/MS Semi-Volatiles Quality Control Summary

Analytical Batch 466903 Prep Batch 466478 Prep Method 3550B		Client ID MB466478 GCAL ID 992988 Sample Type Method Blank Prep Date 10/05/2011 14:10 Analytical Date 10/12/2011 10:52 Matrix Solid		LCS466478 992989 LCS 10/05/2011 14:10 10/11/2011 19:28 Solid			LCSD466478 992990 LCSD 10/05/2011 14:10 10/11/2011 20:12 Solid				
SW-846 8272 Modified Solid		Units	ug/Kg	Spike	Result		Control	Result		RPD	RPD
		Result	RDL	Added		% R	Limits % R		% R	RPD	Limit
91-20-3	Naphthalene	0.456U	0.456	13.3	9.20	69	50 - 150	8.53	64	8	40
91-57-6	2-Methylnaphthalene	0.359U	0.359								
90-12-0	1-Methylnaphthalene	0.315U	0.315								
GCSV-08-01	C2-Naphthalenes	0.456U	0.456								
GCSV-08-02	C3-Naphthalenes	0.456U	0.456								
GCSV-08-03	C4-Naphthalenes	0.456U	0.456								
7297-45-2	2-Methylnaphthalene-d10	0.350U	0.350								
208-96-8	Acenaphthylene	0.394U	0.394								
83-32-9	Acenaphthene	0.389U	0.389								
86-73-7	Fluorene	0.494U	0.494								
GCSV-08-04	C1-Fluorenes	0.494U	0.494								
GCSV-08-05	C2-Fluorenes	0.494U	0.494								
GCSV-08-06	C3-Fluorenes	0.494U	0.494								
85-01-8	Phenanthrene	0.880U	0.880								
GCSV-08-07	C1-Phenanthrenes/anthracenes	0.880U	0.880								
GCSV-08-08	C2-Phenanthrenes/anthracenes	0.880U	0.880								
GCSV-08-09	C3-Phenanthrenes/anthracenes	0.880U	0.880								
GCSV-08-10	C4-Phenanthrenes/anthracenes	0.880U	0.880								
120-12-7	Anthracene	0.669U	0.669								
206-44-0	Fluoranthene	0.586U	0.586								
129-00-0	Pyrene	0.737U	0.737								
GCSV-08-11	C1-Fluoranthenes/pyrenes	0.586U	0.586								
GCSV-08-12	C2-Fluoranthenes/pyrenes	0.586U	0.586								
GCSV-08-13	C3-Fluoranthenes/pyrenes	0.586U	0.586								
218-01-9	Chrysene	0.836U	0.836								
GCSV-08-14	C1-Chrysenes	0.836U	0.836								
GCSV-08-15	C2-Chrysenes	0.836U	0.836								
GCSV-08-16	C3-Chrysenes	0.836U	0.836								
GCSV-08-17	C4-Chrysenes	0.836U	0.836								
56-55-3	Benzo(a)anthracene	0.707U	0.707								
205-99-2	Benzo(b)fluoranthene	0.580U	0.580								
207-08-9	Benzo(k)fluoranthene	0.464U	0.464								

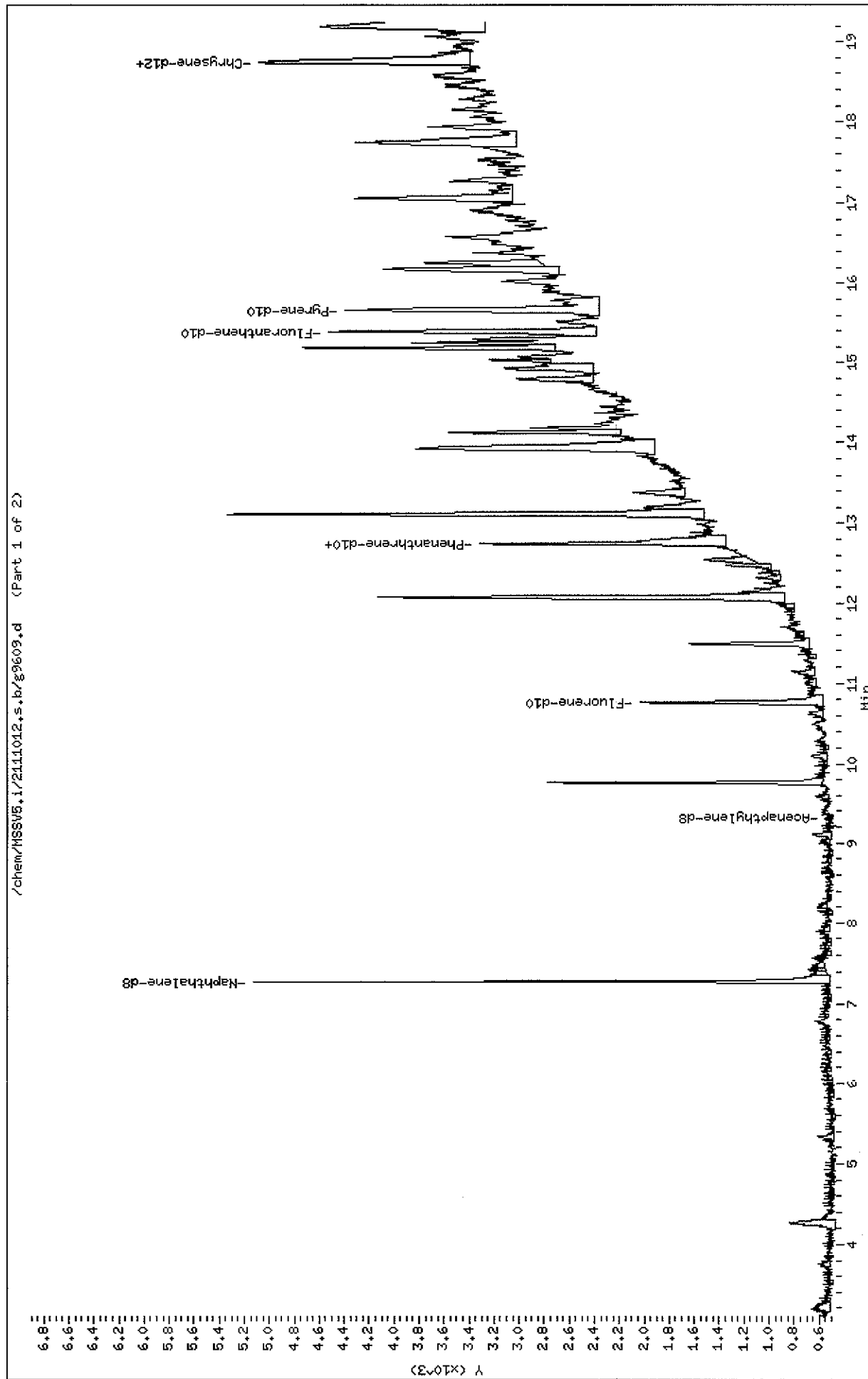
GC/MS Semi-Volatiles Quality Control Summary

Analytical Batch 466903 Prep Batch 466478 Prep Method 3550B		Client ID MB466478 GCAL ID 992988 Sample Type Method Blank Prep Date 10/05/2011 14:10 Analytical Date 10/12/2011 10:52 Matrix Solid			LCS466478 992989 LCS 10/05/2011 14:10 10/11/2011 19:28 Solid			LCSD466478 992990 LCSD 10/05/2011 14:10 10/11/2011 20:12 Solid			
SW-846 8272 Modified Solid		Units ug/Kg Result RDL		Spike Added	Result	% R	Control Limits % R	Result	% R	RPD	RPD Limit
192-97-2	Benzo(e)pyrene	0.714U	0.714								
50-32-8	Benzo(a)pyrene	0.684U	0.684								
77392-71-3	Perylene	0.819U	0.819								
193-39-5	Indeno(1,2,3-cd)pyrene	0.752U	0.752								
53-70-3	Dibenz(a,h)anthracene	0.958U	0.958								
191-24-2	Benzo(g,h,i)perylene	0.846U	0.846								
Surrogate											
93951-97-4	Acenaphthylene-d8	9.43	71	13.3	11.3	85	20 - 97	10.7	80		
1719-06-8	Anthracene-d10	7.49	56	13.3	11.9	89	22 - 98	10.1	76		
1718-52-1	Pyrene-d10	10.4	78	13.3	11.8	89	51 - 120	10.6	80		
63466-71-7	Benzo(a)pyrene-d12	6.82	51	13.3	14.4	108	43 - 111	11.5	86		

Data File: /chem/MSSV5.i/2111012.s.b/g9609.d
Date : 12-OCT-2011 15:13
Client ID: 21109301601
Sample Info: 21109301601*4773*
Volume Injected (uL): 1.0
Column phase: hp-5MS

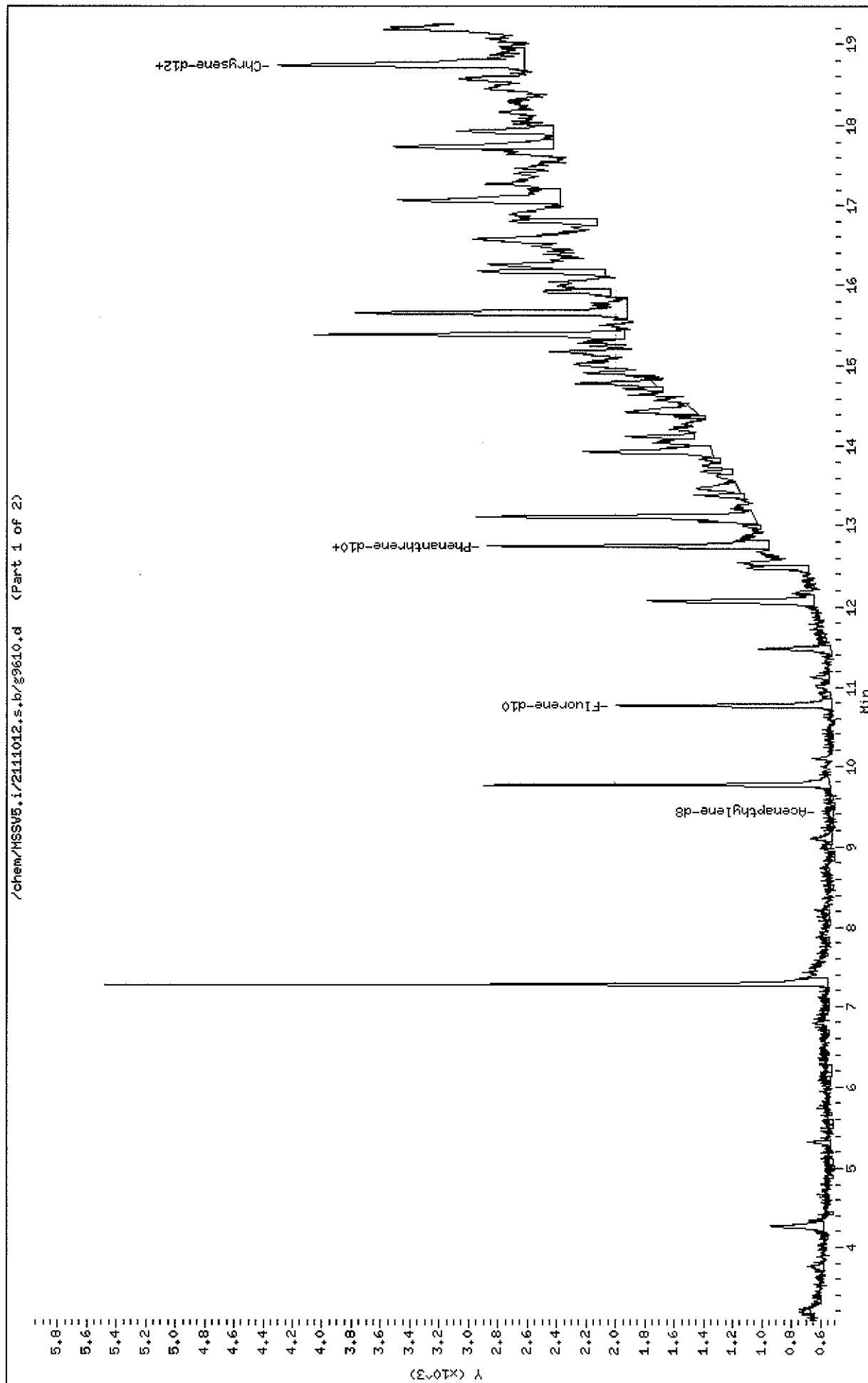
Instrument: MSSV5.i
Operator: dlb
Column diameter: 0.25

Page 1



Data File: /chem/HSSV5.i/2111012.s.b/g9610.d
Date : 12-OCT-2011 15:56
Client ID: 21109301602
Sample Info: 21109301602*4773*
Volume Injected (uL): 1.0
Column phase: hp-5HS

Instrument: HSSV5.i
Operator: dlb
Column diameter: 0.25

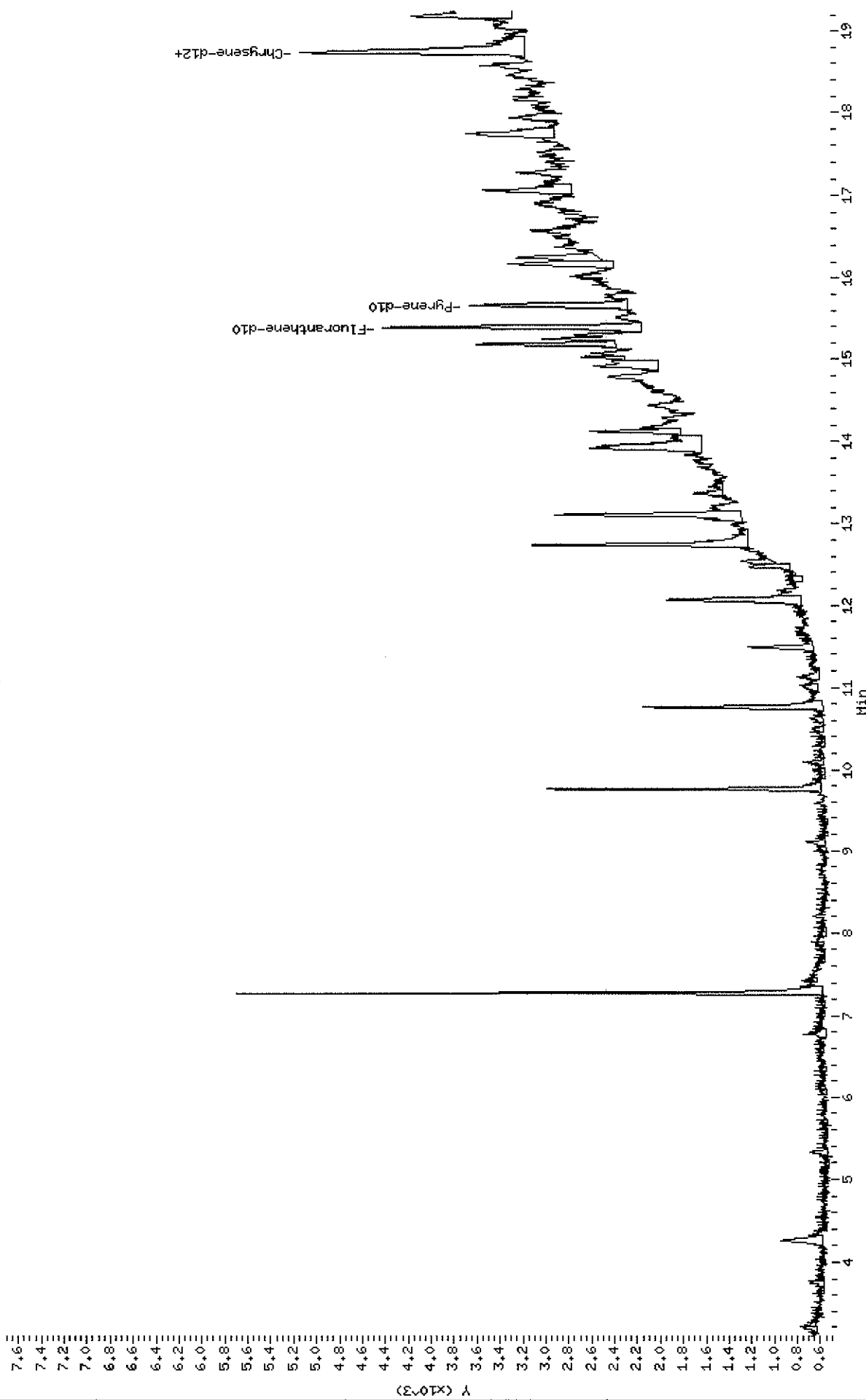


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Date : 12-OCT-2011 16:40
Client ID: 21109301603
Sample Info: 21109301603*4773*
Volume Injected (uL): 1.0
Column phase: hp-5MS

Instrument: HSSV5.i

Operator: dlb
Column diameter: 0.25

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Data File: /chem/MSSV5.i/2111013.s.b/g9620.d

Date : 13-OCT-2011 10:58

Client ID: 21109301604

Sample Info: 21109301604*4773*

Volume Injected (uL): 1.0

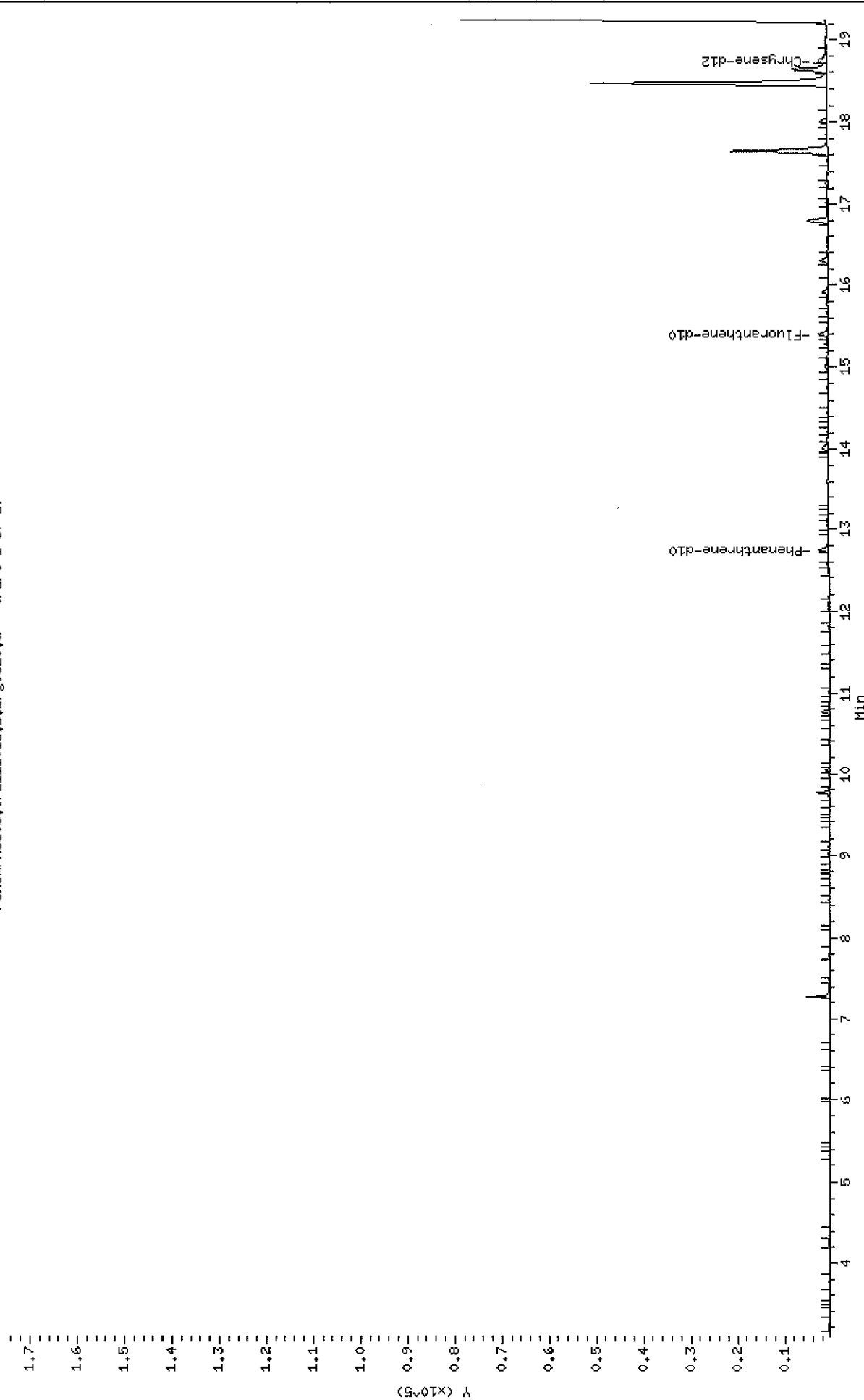
Column phase: hp-5MS

Instrument: MSSV5.i

Operator: dlb

Column diameter: 0.25

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Data File: /chem/HSSV5.i/21101012.s.b/g9612.d

Date : 12-OCT-2011 17:24

Client ID: 21109301605

Sample Info: 21109301605M4773M

Volume Injected (uL): 1.0

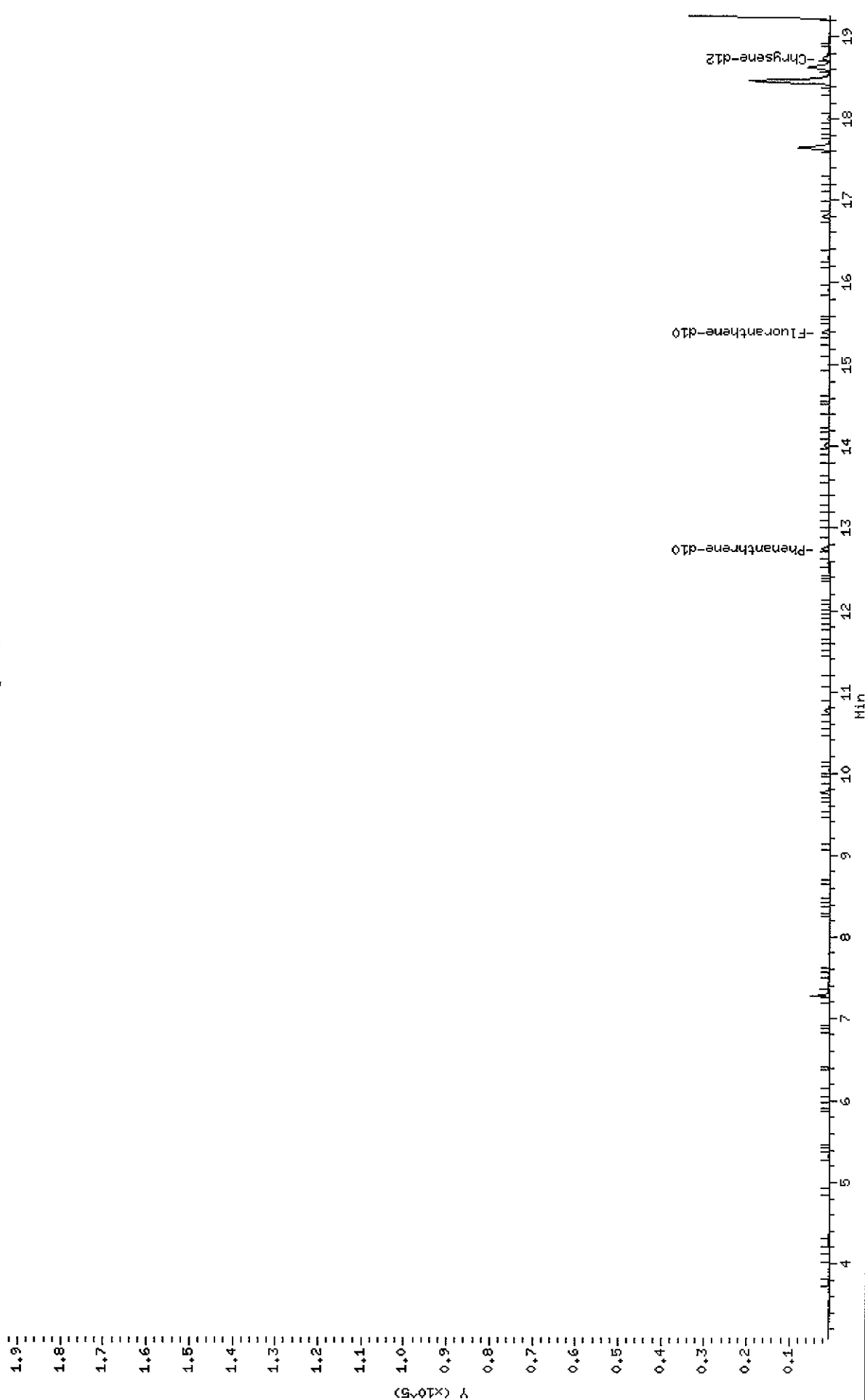
Column phase: hp-5MS

Instrument: HSSV5.i

Operator: dlb

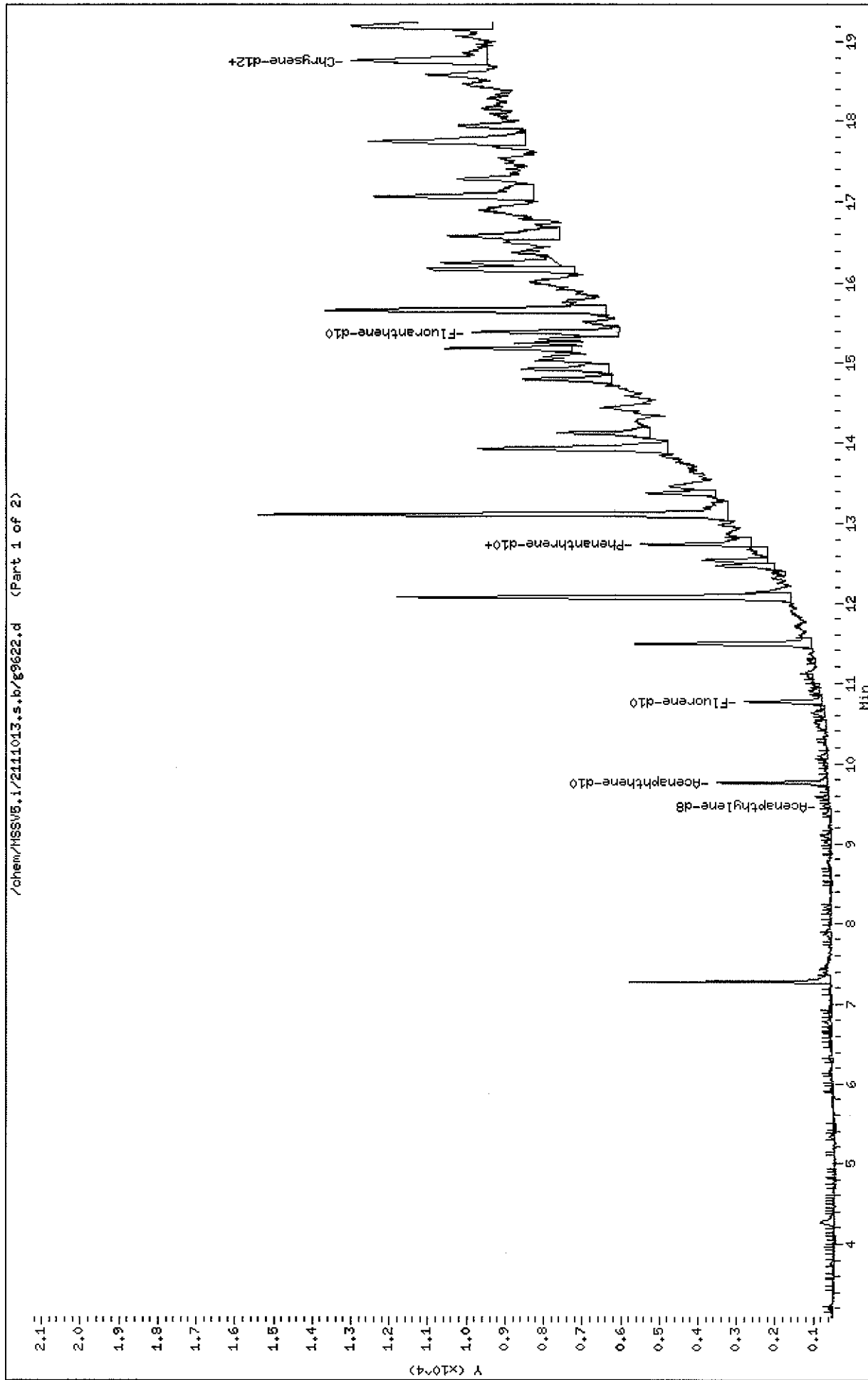
Column diameter: 0.25

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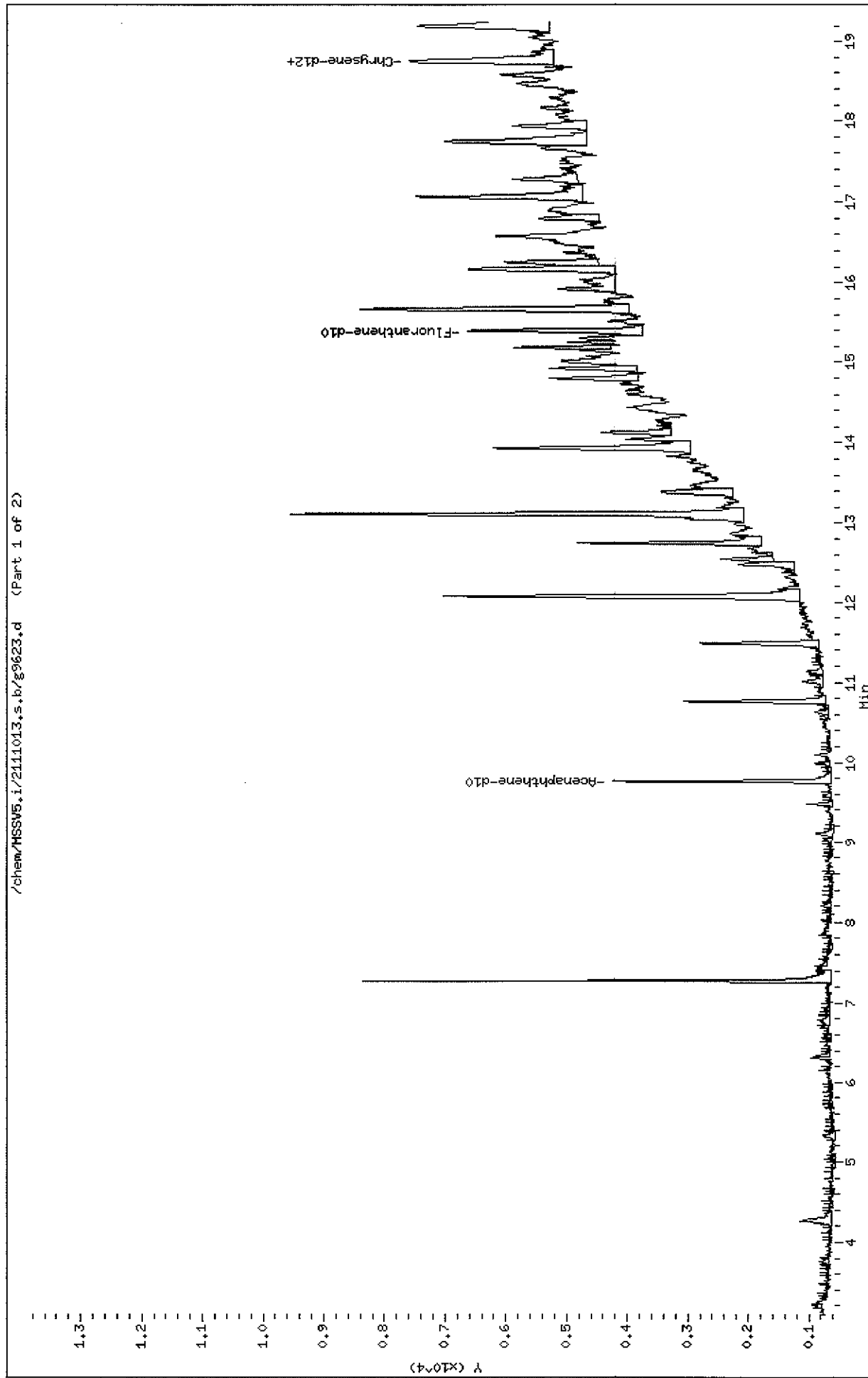
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Date : 13-OCT-2011 12:26
Client ID: 21109301606
Sample Info: 21109301606*4773*
Volume Injected (uL): 1.0
Column phase: hp-5MS

Instrument: HSSV5.i
Operator: dlb
Column diameter: 0.25



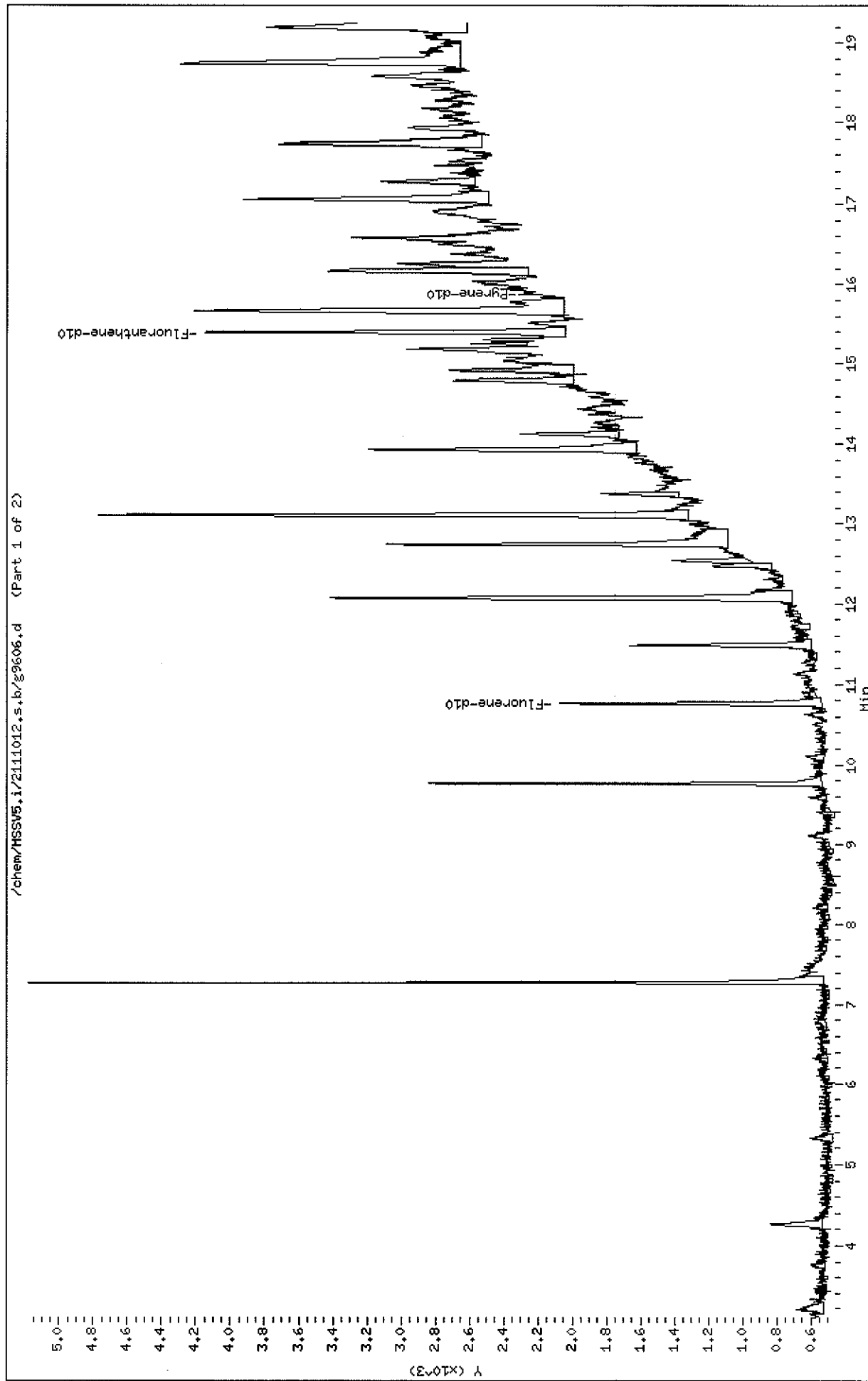
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Date : 13-OCT-2011 13:10
Client ID: 21109301607
Sample Info: 21109301607*4773*
Volume Injected (uL): 1.0
Column phase: hp-5MS

Instrument: HSSV5.1
Operator: dlb
Column diameter: 0.25



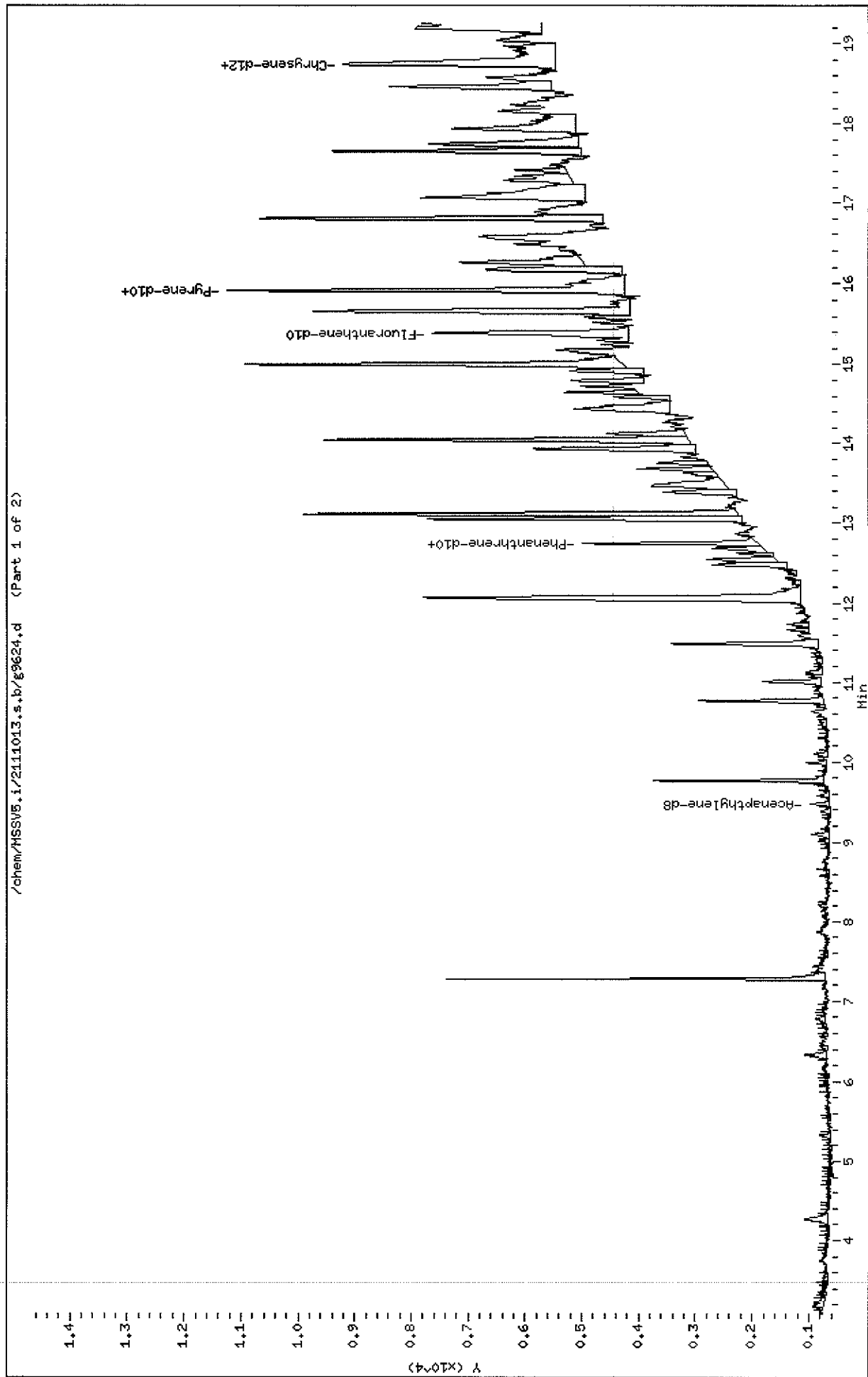
Data File: /chem/HSSV5.i/2111012.s.b/g9606.d
Date : 12-OCT-2011 13:04
Client ID: 21109301608
Sample Info: 21109301608*4773*
Volume Injected (uL): 1.0
Column phase: hp-5MS

Instrument: HSSV5.i
Operator: dlb
Column diameter: 0.25



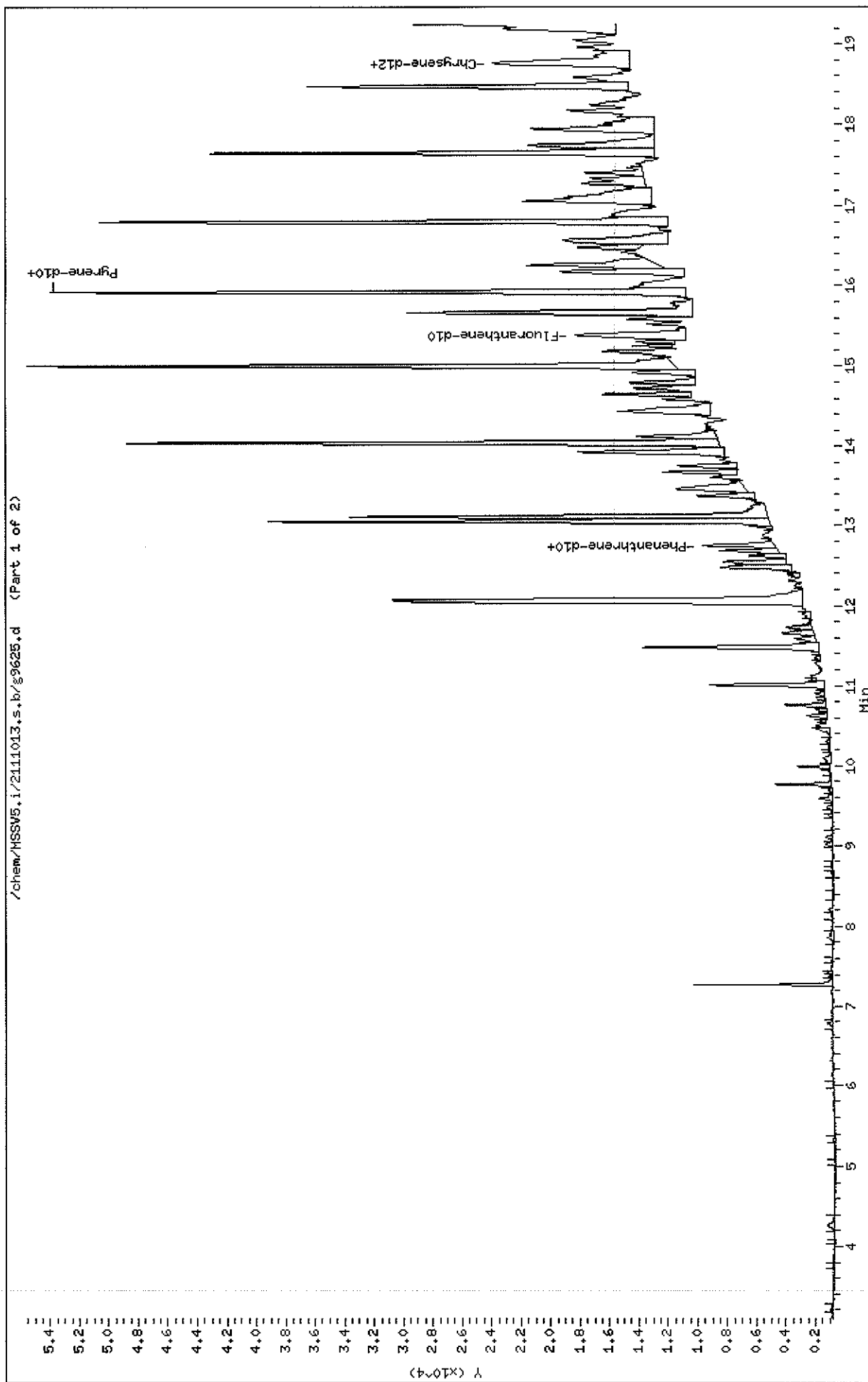
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Date : 13-OCT-2011 13:53
Client ID: 21109301609
Sample Info: 21109301609*4773*
Volume Injected (uL): 1.0
Column phase: hp-5MS

Instrument: MSSV5.i
Operator: dlb
Column diameter: 0.25



Data File: /chem/MSSV5.i/2111013.s.b/g9625.d
Date: 13-OCT-2011 14:38
Client ID: 21109301610
Sample Info: 21109301610x4773*
Volume Injected (uL): 1.0
Column phase: hp-5MS

Instrument: MSSV5.i
Operator: dlb
Column diameter: 0.25



Chain of Custody Record

7979 GSRI AVE, BATON ROUGE LA 70820-7402
(225) 769-4900 FAX (225) 767-5717

Lab use only

use only
Gutierrez
Client Name

Client Name _____

4773

Group#

Due Date

Report to:

Client: **Rip Kirby & Surfrider**
Address: **630 Fairway Ave NE**
Ft Walton Beach, FL 32547
Contact: **Rip Kirby**
Phone: **850-217-1616**
eMail: **rip@nov9thgroup.com**

Bill to:

Client: Surfrider Foundation
Address: PO Box 6010
San Clemente, CA 92674
Contact: Ericka Canales
Phone: 772-924-4144
eMail: ecanales@surfrider.org

P.O. Number	Project Name/Number
-------------	---------------------

Surfrider SOTB - SEPTEMBER 2011

Sampled By: James H "Rip" Kirby III or as otherwise remarked

Matrix	Date	Time (2400)	C o m p	G r a b	Sample Container Nbr & Description	Pre-serva tives	No. Con- tainers
SD	9/29/11	1544pm		X	005320 - CRPT001 - FFT CLEAN	no	1
SD	9/29/11	1544pm		X	005337 - CRPT002 - No FFT cleaning	no	1
					===== End of List =====		

NOTE: All times CDT

Turn Around Time: 24 - 48 hrs

Delivered by: (Signature) _____ Received by: (Signature) _____

James H Kirby III
FEDEX

James H Kirby III
Received by: (Signature)

1945

3 days

Date: 9/29/11

Time: 1800

Time: 2

Time: _____

Note:

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

Matrix: W = water S = Soil SN = Solid I = liquid, SI = Sludge, O = Oil, CT = Charcoal Tube, OVM = Organic Vapor Monitor, XT = XAD Tube, A = Air Bag, SUM = Summa Canister



7979 GSRI AVE, BATON ROUGE, LA 70820-7402
(225) 769-4900 FAX (225) 767-5717

Chain of Custody Record

Lab use only

Surfrider

24093016

10/26/11

Due Date

Group#

Client #

Client Name

Report to:				Bill to:			
Client: Rip Kirby & Surfrider				Client: Surfrider Foundation			
Address: 630 Fairway Ave NE				Address: PO Box 6010			
Ft Walton Beach, FL 32547				San Clemente, CA 92674			
Contact: Rip Kirby				Contact: Ericka Canales			
Phone: 850-217-1616				Phone: 772-924-4144			
eMail: rip@nov9thgroup.com				eMail: ecanales@surfrider.org			
P.O. Number				Project Name/Number			
N/A				Surfrider SOTB - September 2011			
Sampled By: James H "Rip" Kirby III or as otherwise remarked							
Matrix	Date	Time (2400)	C o m p	G r a b	Sample Container Nbr & Description	Pre-servatives	No. Containers
S	8/30/11	1030am		X	005333 - SL-001; Shell with tar balls from plunge step	no	1
S	8/30/11	1114AM	X		005342 - SL002; Shell with tar balls from plunge step	no	1
S	8/30/11	1145AM	X		005374 - SL003; Shell with tar balls from plunge step	no	1
S	8/30/11	1215PM	X		005329 - SL004; Shell with tar balls from plunge step	no	1
S	9/1/11	0930am		X	005340 - PBW-001; Shell with tar balls from plunge step	no	1
NOTE: All times CDT							
Turn Around Time: 24 - 48 hrs 3 days 1 week X standard other							
Relinquished by: (Signature) <i>James H Kirby III</i> Date: 9/29/11 Time: 1800							
Relinquished by: (Signature) <i>James H Kirby III</i> Date: 9/30/11 Time: 1800							
Relinquished by: (Signature) <i>Redex</i> Date: 9/30/11 Time: 1800							
Relinquished by: (Signature) <i>Redex</i> Date: 9/30/11 Time: 1800							

Analytical Requests & Methods	Remarks:	Lab ID
STALLWORTH LAKE, FL; PUBLIC BEACH ACCESS AREA	SL001 30° 19' 38"N 86° 10' 26"W	6
STALLWORTH LAKE, FL; PUBLIC BEACH ACCESS AREA	SL002 30° 19' 38"N 86° 10' 26"W	7
STALLWORTH LAKE, FL; PUBLIC BEACH ACCESS AREA	SL003 30° 19' 38"N 86° 10' 26"W	8
STALLWORTH LAKE, FL; PUBLIC BEACH ACCESS AREA	SL004 30° 19' 38"N 86° 10' 26"W	9
WEST END OF P'COLA BEACH, FL	PBW-001 30° 19' 28.75"N 87° 10' 53.08"W	10

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

**SAMPLE RECEIVING CHECKLIST**Workorder: 211093016Client: 4773 - Surfrider FoundationProfile: 210818 - Surfrider State of the BeachLine Item: 1 - SolidReceived by: Kinchen, Anna M.Received Date/Time: 9/30/2011 9:15:00 AMSamples Received via: FEDEXNumber of Coolers Received: 1Cooler tracking numbers(s): 7952 4498 4940Cooler temperature(s): 4.6°C

Were all coolers received at a temperature of 0 - 6° C?

☒ Yes☐ No☐ N/A

Were all custody seals intact?

☒ Yes☐ No☐ N/A

Were all samples received in proper containers?

☒ Yes☐ No☐ N/A

Were all samples properly preserved?

☒ Yes☐ No☐ N/A

Was preservative added to any container at the lab?

☐ Yes☒ No☐ N/A

Were all containers received in good condition?

☒ Yes☐ No☐ N/A

Were all VOA vials received with no head space?

☐ Yes☐ No☒ N/A

Do all sample labels match the Chain of Custody?

☒ Yes☐ No☐ N/A

Was the client notified about any discrepancies?

☐ Yes☐ No☒ N/A

Notes/Comments: _____

Appendix 7

Report Date 12/19/2011

GCAL Report 21111116

ANALYTICAL RESULTS

PERFORMED BY

GULF COAST ANALYTICAL LABORATORIES, INC.

**7979 GSRI Avenue
Baton Rouge, LA 70820**

Report Date 12/19/2011

GCAL Report 211111116

****211111116****

Deliver To The November 9th Group, LLC
630 Fairway Ave. NE
Fort Walton Beach, FL 32547
850-862-7134

Attn James Kirby

Project Surfrider State of the Beach

CASE NARRATIVE

Client: Surfrider Foundation **Report:** 211111116

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

SEMI-VOLATILES MASS SPECTROMETRY

In the SW-846 8272 Modified analysis, samples 21111111601 (1365-DA 001-TAR BALLS), 21111111604 (1335-FP001-TAR BALLS), 21111111606 (0460-R49-TAR BALLS) 21111111608 (1341-R58-TAR BALLS), 21111111609 (1347-R56-TAR BALLS), 21111111610 (0454-R66 PLUNGE STEP), 21111111611 (1329-R66A-TAR BALLS), 21111111613 (1351-R53-BLACK JELLY BEAN), 21111111614 (0463-R47-TAR BALLS), and 21111111615 (0438-R48R51-TAR BALLS) had to be diluted to eliminate interference from non-target background. Samples 21111111610 (0454-R66 PLUNGE STEP), 21111111611 (1329-R66A-TAR BALLS), and 21111111613 (1351-R53-BLACK JELLY BEAN) required additional dilutions for compounds associated with failed internal standards in the lower dilution. The dilution are reflected in elevated detection limits. The recoveries for the surrogates are reported as diluted out.

In the SW-846 8272 Modified analysis, the recovery for the surrogate Acenaphthylene-d8 is outside the control limits for sample 21111111607 (0458-R46-TARBALLS WITH SAND). All other surrogate recoveries are acceptable.

Laboratory Endorsement

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

Common Abbreviations Utilized in this Report

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

Reporting Flags Utilized in this Report

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

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

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

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

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

Robyn Miguez
Technical Director
GCAL REPORT 211111116

THIS REPORT CONTAINS _____ PAGES.

Report Sample Summary

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111601	1365-DA 001-TAR BALLS	Solid	11/04/2011 00:30	11/11/2011 08:40
21111111602	0486 -DA 002-SAND-CARB HOLE	Solid	11/04/2011 01:00	11/11/2011 08:40
21111111603	0471-NB001-SAND	Solid	11/03/2011 18:00	11/11/2011 08:40
21111111604	1335-FP001-TAR BALLS	Solid	10/15/2011 10:15	11/11/2011 08:40
21111111605	0457-PB001-WEST-SAND	Solid	11/03/2011 21:00	11/11/2011 08:40
21111111606	0460-R49-TAR BALLS	Solid	11/03/2011 09:20	11/11/2011 08:40
21111111607	0458-R46-TARBALLS WITH SAND	Solid	11/03/2011 08:45	11/11/2011 08:40
21111111608	1341-R58-TAR BALLS	Solid	11/04/2011 09:15	11/11/2011 08:40
21111111609	1347-R56-TAR BALLS	Solid	11/04/2011 08:30	11/11/2011 08:40
21111111610	0454-R66 PLUNGE STEP	Solid	11/04/2011 11:00	11/11/2011 08:40
21111111611	1329-R66A-TAR BALLS	Solid	11/04/2011 10:15	11/11/2011 08:40
21111111612	1339-R66B-TAR BALLS	Solid	11/04/2011 10:15	11/11/2011 08:40
21111111613	1351-R53-BLACK JELLY BEAN	Solid	11/03/2011 21:30	11/11/2011 08:40
21111111614	0463-R47- TAR BALLS	Solid	11/03/2011 09:00	11/11/2011 08:40
21111111615	0438-R48R51-TAR BALLS	Solid	11/03/2011 09:15	11/11/2011 08:40

Summary of Compounds Detected

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111601	1365-DA 001-TAR BALLS	Solid	11/04/2011 00:30	11/11/2011 08:40

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-08-07	C1-Phenanthrenes/anthracenes	1890J	6270	1380	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	6520	6270	1380	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	5560J	6270	1380	ug/Kg
218-01-9	Chrysene	3140J	6270	1310	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111602	0486 -DA 002-SAND-CARB HOLE	Solid	11/04/2011 01:00	11/11/2011 08:40

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
56-55-3	Benzo(a)anthracene	1.13J	4.11	0.727	ug/Kg
50-32-8	Benzo(a)pyrene	1.75J	4.11	0.704	ug/Kg
205-99-2	Benzo(b)fluoranthene	2.40J	4.11	0.597	ug/Kg
207-08-9	Benzo(k)fluoranthene	1.82J	4.11	0.477	ug/Kg
218-01-9	Chrysene	1.43J	4.11	0.860	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111606	0460-R49-TAR BALLS	Solid	11/03/2011 09:20	11/11/2011 08:40

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-08-08	C2-Phenanthrenes/anthracenes	4500	3070	675	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	5940	3070	675	ug/Kg
218-01-9	Chrysene	2530J	3070	641	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111608	1341-R58-TAR BALLS	Solid	11/04/2011 09:15	11/11/2011 08:40

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-08-07	C1-Phenanthrenes/anthracenes	1790J	6040	1330	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	8070	6040	1330	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	7490	6040	1330	ug/Kg
218-01-9	Chrysene	3610J	6040	1260	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111609	1347-R56-TAR BALLS	Solid	11/04/2011 08:30	11/11/2011 08:40

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-08-08	C2-Phenanthrenes/anthracenes	7190	6040	1330	ug/Kg

Summary of Compounds Detected (con't)

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111609	1347-R56-TAR BALLS	Solid	11/04/2011 08:30	11/11/2011 08:40

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-08-09	C3-Phenanthrenes/anthracenes	6610	6040	1330	ug/Kg
218-01-9	Chrysene	2640J	6040	1260	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111610	0454-R66 PLUNGE STEP	Solid	11/04/2011 11:00	11/11/2011 08:40

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-08-07	C1-Phenanthrenes/anthracenes	15600	7650	1680	ug/Kg
GCSV-08-05	C2-Fluorenes	4810J	7650	944	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	36300	7650	1680	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	25800	7650	1680	ug/Kg

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
218-01-9	Chrysene	4040J	15300	3200	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111611	1329-R66A-TAR BALLS	Solid	11/04/2011 10:15	11/11/2011 08:40

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-08-07	C1-Phenanthrenes/anthracenes	156000	63500	14000	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	472000	63500	14000	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	368000	63500	14000	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	212000	63500	14000	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111612	1339-R66B-TAR BALLS	Solid	11/04/2011 10:15	11/11/2011 08:40

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
83-32-9	Acenaphthene	34.0J	70.4	6.85	ug/Kg
206-44-0	Fluoranthene	15.8J	70.4	10.3	ug/Kg

Summary of Compounds Detected (con't)

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111613	1351-R53-BLACK JELLY BEAN	Solid	11/03/2011 21:30	11/11/2011 08:40

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-08-08	C2-Phenanthrenes/anthracenes	88600	60200	13200	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	132000	60200	13200	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111614	0463-R47- TAR BALLS	Solid	11/03/2011 09:00	11/11/2011 08:40

SW-846 8272 Modified Solid

CAS#	Parameter	Result	RDL	MDL	Units
GCSV-08-07	C1-Phenanthrenes/anthracenes	25900J	31500	6940	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	51200	31500	6940	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	36500	31500	6940	ug/Kg
218-01-9	Chrysene	7370J	31500	6590	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111601	1365-DA 001-TAR BALLS	Solid	11/04/2011 00:30	11/11/2011 08:40

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
11/22/2011 07:20	469322	3550C	100	12/08/2011 16:09	JEW	470697

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	493U	6270	493	ug/Kg
91-57-6	2-Methylnaphthalene	562U	6270	562	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	548U	6270	548	ug/Kg
83-32-9	Acenaphthene	609U	6270	609	ug/Kg
208-96-8	Acenaphthylene	617U	6270	617	ug/Kg
120-12-7	Anthracene	1050U	6270	1050	ug/Kg
56-55-3	Benzo(a)anthracene	1110U	6270	1110	ug/Kg
50-32-8	Benzo(a)pyrene	1070U	6270	1070	ug/Kg
205-99-2	Benzo(b)fluoranthene	909U	6270	909	ug/Kg
192-97-2	Benzo(e)pyrene	1120U	6270	1120	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1330U	6270	1330	ug/Kg
207-08-9	Benzo(k)fluoranthene	727U	6270	727	ug/Kg
GCSV-08-14	C1-Chrysenes	1310U	6270	1310	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	918U	6270	918	ug/Kg
GCSV-08-04	C1-Fluorenes	774U	6270	774	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	1890J	6270	1380	ug/Kg
GCSV-08-15	C2-Chrysenes	1310U	6270	1310	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	918U	6270	918	ug/Kg
GCSV-08-05	C2-Fluorenes	774U	6270	774	ug/Kg
GCSV-08-01	C2-Naphthalenes	714U	6270	714	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	6520	6270	1380	ug/Kg
GCSV-08-16	C3-Chrysenes	1310U	6270	1310	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	918U	6270	918	ug/Kg
GCSV-08-06	C3-Fluorenes	774U	6270	774	ug/Kg
GCSV-08-02	C3-Naphthalenes	714U	6270	714	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	5560J	6270	1380	ug/Kg
GCSV-08-17	C4-Chrysenes	1310U	6270	1310	ug/Kg
GCSV-08-03	C4-Naphthalenes	714U	6270	714	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	1380U	6270	1380	ug/Kg
218-01-9	Chrysene	3140J	6270	1310	ug/Kg
53-70-3	Dibenz(a,h)anthracene	1500U	6270	1500	ug/Kg
206-44-0	Fluoranthene	918U	6270	918	ug/Kg
86-73-7	Fluorene	774U	6270	774	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1180U	6270	1180	ug/Kg
91-20-3	Naphthalene	714U	6270	714	ug/Kg
77392-71-3	Perylene	1280U	6270	1280	ug/Kg
85-01-8	Phenanthrene	1380U	6270	1380	ug/Kg
129-00-0	Pyrene	1150U	6270	1150	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	200	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	200	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	200	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	200	Diluted Out	ug/Kg	0*	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111602	0486 -DA 002-SAND-CARB HOLE	Solid	11/04/2011 01:00	11/11/2011 08:40

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
11/22/2011 07:20	469322	3550C	1	12/07/2011 20:43	JEW	470615

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	0.324U	4.11	0.324	ug/Kg
91-57-6	2-Methylnaphthalene	0.369U	4.11	0.369	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	0.360U	4.11	0.360	ug/Kg
83-32-9	Acenaphthene	0.400U	4.11	0.400	ug/Kg
208-96-8	Acenaphthylene	0.405U	4.11	0.405	ug/Kg
120-12-7	Anthracene	0.688U	4.11	0.688	ug/Kg
56-55-3	Benzo(a)anthracene	1.13J	4.11	0.727	ug/Kg
50-32-8	Benzo(a)pyrene	1.75J	4.11	0.704	ug/Kg
205-99-2	Benzo(b)fluoranthene	2.40J	4.11	0.597	ug/Kg
192-97-2	Benzo(e)pyrene	0.734U	4.11	0.734	ug/Kg
191-24-2	Benzo(g,h,i)perylene	0.870U	4.11	0.870	ug/Kg
207-08-9	Benzo(k)fluoranthene	1.82J	4.11	0.477	ug/Kg
GCSV-08-14	C1-Chrysenes	0.860U	4.11	0.860	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	0.603U	4.11	0.603	ug/Kg
GCSV-08-04	C1-Fluorenes	0.508U	4.11	0.508	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	0.905U	4.11	0.905	ug/Kg
GCSV-08-15	C2-Chrysenes	0.860U	4.11	0.860	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	0.603U	4.11	0.603	ug/Kg
GCSV-08-05	C2-Fluorenes	0.508U	4.11	0.508	ug/Kg
GCSV-08-01	C2-Naphthalenes	0.469U	4.11	0.469	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	0.905U	4.11	0.905	ug/Kg
GCSV-08-16	C3-Chrysenes	0.860U	4.11	0.860	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	0.603U	4.11	0.603	ug/Kg
GCSV-08-06	C3-Fluorenes	0.508U	4.11	0.508	ug/Kg
GCSV-08-02	C3-Naphthalenes	0.469U	4.11	0.469	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	0.905U	4.11	0.905	ug/Kg
GCSV-08-17	C4-Chrysenes	0.860U	4.11	0.860	ug/Kg
GCSV-08-03	C4-Naphthalenes	0.469U	4.11	0.469	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	0.905U	4.11	0.905	ug/Kg
218-01-9	Chrysene	1.43J	4.11	0.860	ug/Kg
53-70-3	Dibenz(a,h)anthracene	0.985U	4.11	0.985	ug/Kg
206-44-0	Fluoranthene	0.603U	4.11	0.603	ug/Kg
86-73-7	Fluorene	0.508U	4.11	0.508	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	0.773U	4.11	0.773	ug/Kg
91-20-3	Naphthalene	0.469U	4.11	0.469	ug/Kg
77392-71-3	Perylene	0.842U	4.11	0.842	ug/Kg
85-01-8	Phenanthrene	0.905U	4.11	0.905	ug/Kg
129-00-0	Pyrene	0.758U	4.11	0.758	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	13.2	12.2	ug/Kg	92	20 - 97
1719-06-8	Anthracene-d10	13.2	11.3	ug/Kg	86	22 - 98
1718-52-1	Pyrene-d10	13.2	10.2	ug/Kg	77	51 - 120
63466-71-7	Benzo(a)pyrene-d12	13.2	8.93	ug/Kg	68	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111603	0471-NB001-SAND	Solid	11/03/2011 18:00	11/11/2011 08:40

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
11/22/2011 07:20	469322	3550C	1	12/07/2011 21:27	JEW	470615

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	0.319U	4.05	0.319	ug/Kg
91-57-6	2-Methylnaphthalene	0.363U	4.05	0.363	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	0.354U	4.05	0.354	ug/Kg
83-32-9	Acenaphthene	0.394U	4.05	0.394	ug/Kg
208-96-8	Acenaphthylene	0.399U	4.05	0.399	ug/Kg
120-12-7	Anthracene	0.677U	4.05	0.677	ug/Kg
56-55-3	Benzo(a)anthracene	0.716U	4.05	0.716	ug/Kg
50-32-8	Benzo(a)pyrene	0.692U	4.05	0.692	ug/Kg
205-99-2	Benzo(b)fluoranthene	0.587U	4.05	0.587	ug/Kg
192-97-2	Benzo(e)pyrene	0.723U	4.05	0.723	ug/Kg
191-24-2	Benzo(g,h,i)perylene	0.856U	4.05	0.856	ug/Kg
207-08-9	Benzo(k)fluoranthene	0.470U	4.05	0.470	ug/Kg
GCSV-08-14	C1-Chrysenes	0.846U	4.05	0.846	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	0.593U	4.05	0.593	ug/Kg
GCSV-08-04	C1-Fluorenes	0.500U	4.05	0.500	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	0.891U	4.05	0.891	ug/Kg
GCSV-08-15	C2-Chrysenes	0.846U	4.05	0.846	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	0.593U	4.05	0.593	ug/Kg
GCSV-08-05	C2-Fluorenes	0.500U	4.05	0.500	ug/Kg
GCSV-08-01	C2-Naphthalenes	0.462U	4.05	0.462	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	0.891U	4.05	0.891	ug/Kg
GCSV-08-16	C3-Chrysenes	0.846U	4.05	0.846	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	0.593U	4.05	0.593	ug/Kg
GCSV-08-06	C3-Fluorenes	0.500U	4.05	0.500	ug/Kg
GCSV-08-02	C3-Naphthalenes	0.462U	4.05	0.462	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	0.891U	4.05	0.891	ug/Kg
GCSV-08-17	C4-Chrysenes	0.846U	4.05	0.846	ug/Kg
GCSV-08-03	C4-Naphthalenes	0.462U	4.05	0.462	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	0.891U	4.05	0.891	ug/Kg
218-01-9	Chrysene	0.846U	4.05	0.846	ug/Kg
53-70-3	Dibenz(a,h)anthracene	0.970U	4.05	0.970	ug/Kg
206-44-0	Fluoranthene	0.593U	4.05	0.593	ug/Kg
86-73-7	Fluorene	0.500U	4.05	0.500	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	0.761U	4.05	0.761	ug/Kg
91-20-3	Naphthalene	0.462U	4.05	0.462	ug/Kg
77392-71-3	Perylene	0.829U	4.05	0.829	ug/Kg
85-01-8	Phenanthrene	0.891U	4.05	0.891	ug/Kg
129-00-0	Pyrene	0.746U	4.05	0.746	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	13.1	9.87	ug/Kg	75	20 - 97
1719-06-8	Anthracene-d10	13.1	7.55	ug/Kg	58	22 - 98
1718-52-1	Pyrene-d10	13.1	8.72	ug/Kg	66	51 - 120
63466-71-7	Benzo(a)pyrene-d12	13.1	5.88	ug/Kg	45	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111604	1335-FP001-TAR BALLS	Solid	10/15/2011 10:15	11/11/2011 08:40

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
11/22/2011 07:20	469322	3550C	100	12/08/2011 19:46	JEW	470697

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	495U	6290	495	ug/Kg
91-57-6	2-Methylnaphthalene	564U	6290	564	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	550U	6290	550	ug/Kg
83-32-9	Acenaphthene	611U	6290	611	ug/Kg
208-96-8	Acenaphthylene	619U	6290	619	ug/Kg
120-12-7	Anthracene	1050U	6290	1050	ug/Kg
56-55-3	Benzo(a)anthracene	1110U	6290	1110	ug/Kg
50-32-8	Benzo(a)pyrene	1070U	6290	1070	ug/Kg
205-99-2	Benzo(b)fluoranthene	911U	6290	911	ug/Kg
192-97-2	Benzo(e)pyrene	1120U	6290	1120	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1330U	6290	1330	ug/Kg
207-08-9	Benzo(k)fluoranthene	729U	6290	729	ug/Kg
GCSV-08-14	C1-Chrysenes	1310U	6290	1310	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	921U	6290	921	ug/Kg
GCSV-08-04	C1-Fluorenes	776U	6290	776	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	1380U	6290	1380	ug/Kg
GCSV-08-15	C2-Chrysenes	1310U	6290	1310	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	921U	6290	921	ug/Kg
GCSV-08-05	C2-Fluorenes	776U	6290	776	ug/Kg
GCSV-08-01	C2-Naphthalenes	717U	6290	717	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	1380U	6290	1380	ug/Kg
GCSV-08-16	C3-Chrysenes	1310U	6290	1310	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	921U	6290	921	ug/Kg
GCSV-08-06	C3-Fluorenes	776U	6290	776	ug/Kg
GCSV-08-02	C3-Naphthalenes	717U	6290	717	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	1380U	6290	1380	ug/Kg
GCSV-08-17	C4-Chrysenes	1310U	6290	1310	ug/Kg
GCSV-08-03	C4-Naphthalenes	717U	6290	717	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	1380U	6290	1380	ug/Kg
218-01-9	Chrysene	1310U	6290	1310	ug/Kg
53-70-3	Dibenz(a,h)anthracene	1510U	6290	1510	ug/Kg
206-44-0	Fluoranthene	921U	6290	921	ug/Kg
86-73-7	Fluorene	776U	6290	776	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1180U	6290	1180	ug/Kg
91-20-3	Naphthalene	717U	6290	717	ug/Kg
77392-71-3	Perylene	1290U	6290	1290	ug/Kg
85-01-8	Phenanthrene	1380U	6290	1380	ug/Kg
129-00-0	Pyrene	1160U	6290	1160	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	200	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	200	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	200	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	200	Diluted Out	ug/Kg	0*	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111605	0457-PB001-WEST-SAND	Solid	11/03/2011 21:00	11/11/2011 08:40

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
11/22/2011 07:20	469322	3550C	1	12/07/2011 22:11	JEW	470615

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	0.322U	4.09	0.322	ug/Kg
91-57-6	2-Methylnaphthalene	0.367U	4.09	0.367	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	0.358U	4.09	0.358	ug/Kg
83-32-9	Acenaphthene	0.398U	4.09	0.398	ug/Kg
208-96-8	Acenaphthylene	0.403U	4.09	0.403	ug/Kg
120-12-7	Anthracene	0.685U	4.09	0.685	ug/Kg
56-55-3	Benzo(a)anthracene	0.724U	4.09	0.724	ug/Kg
50-32-8	Benzo(a)pyrene	0.700U	4.09	0.700	ug/Kg
205-99-2	Benzo(b)fluoranthene	0.594U	4.09	0.594	ug/Kg
192-97-2	Benzo(e)pyrene	0.731U	4.09	0.731	ug/Kg
191-24-2	Benzo(g,h,i)perylene	0.866U	4.09	0.866	ug/Kg
207-08-9	Benzo(k)fluoranthene	0.475U	4.09	0.475	ug/Kg
GCSV-08-14	C1-Chrysenes	0.856U	4.09	0.856	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	0.600U	4.09	0.600	ug/Kg
GCSV-08-04	C1-Fluorenes	0.506U	4.09	0.506	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	0.901U	4.09	0.901	ug/Kg
GCSV-08-15	C2-Chrysenes	0.856U	4.09	0.856	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	0.600U	4.09	0.600	ug/Kg
GCSV-08-05	C2-Fluorenes	0.506U	4.09	0.506	ug/Kg
GCSV-08-01	C2-Naphthalenes	0.467U	4.09	0.467	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	0.901U	4.09	0.901	ug/Kg
GCSV-08-16	C3-Chrysenes	0.856U	4.09	0.856	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	0.600U	4.09	0.600	ug/Kg
GCSV-08-06	C3-Fluorenes	0.506U	4.09	0.506	ug/Kg
GCSV-08-02	C3-Naphthalenes	0.467U	4.09	0.467	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	0.901U	4.09	0.901	ug/Kg
GCSV-08-17	C4-Chrysenes	0.856U	4.09	0.856	ug/Kg
GCSV-08-03	C4-Naphthalenes	0.467U	4.09	0.467	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	0.901U	4.09	0.901	ug/Kg
218-01-9	Chrysene	0.856U	4.09	0.856	ug/Kg
53-70-3	Dibenz(a,h)anthracene	0.980U	4.09	0.980	ug/Kg
206-44-0	Fluoranthene	0.600U	4.09	0.600	ug/Kg
86-73-7	Fluorene	0.506U	4.09	0.506	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	0.770U	4.09	0.770	ug/Kg
91-20-3	Naphthalene	0.467U	4.09	0.467	ug/Kg
77392-71-3	Perylene	0.838U	4.09	0.838	ug/Kg
85-01-8	Phenanthrene	0.901U	4.09	0.901	ug/Kg
129-00-0	Pyrene	0.754U	4.09	0.754	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	13.3	9.37	ug/Kg	70	20 - 97
1719-06-8	Anthracene-d10	13.3	10.3	ug/Kg	77	22 - 98
1718-52-1	Pyrene-d10	13.3	10.2	ug/Kg	77	51 - 120
63466-71-7	Benzo(a)pyrene-d12	13.3	9.32	ug/Kg	70	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111606	0460-R49-TAR BALLS	Solid	11/03/2011 09:20	11/11/2011 08:40

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
11/22/2011 07:20	469322	3550C	50	12/12/2011 09:18	JEW	470897

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	241U	3070	241	ug/Kg
91-57-6	2-Methylnaphthalene	275U	3070	275	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	268U	3070	268	ug/Kg
83-32-9	Acenaphthene	298U	3070	298	ug/Kg
208-96-8	Acenaphthylene	302U	3070	302	ug/Kg
120-12-7	Anthracene	513U	3070	513	ug/Kg
56-55-3	Benzo(a)anthracene	542U	3070	542	ug/Kg
50-32-8	Benzo(a)pyrene	524U	3070	524	ug/Kg
205-99-2	Benzo(b)fluoranthene	445U	3070	445	ug/Kg
192-97-2	Benzo(e)pyrene	547U	3070	547	ug/Kg
191-24-2	Benzo(g,h,i)perylene	648U	3070	648	ug/Kg
207-08-9	Benzo(k)fluoranthene	356U	3070	356	ug/Kg
GCSV-08-14	C1-Chrysenes	641U	3070	641	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	449U	3070	449	ug/Kg
GCSV-08-04	C1-Fluorenes	379U	3070	379	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	675U	3070	675	ug/Kg
GCSV-08-15	C2-Chrysenes	641U	3070	641	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	449U	3070	449	ug/Kg
GCSV-08-05	C2-Fluorenes	379U	3070	379	ug/Kg
GCSV-08-01	C2-Naphthalenes	350U	3070	350	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	4500	3070	675	ug/Kg
GCSV-08-16	C3-Chrysenes	641U	3070	641	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	449U	3070	449	ug/Kg
GCSV-08-06	C3-Fluorenes	379U	3070	379	ug/Kg
GCSV-08-02	C3-Naphthalenes	350U	3070	350	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	5940	3070	675	ug/Kg
GCSV-08-17	C4-Chrysenes	641U	3070	641	ug/Kg
GCSV-08-03	C4-Naphthalenes	350U	3070	350	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	675U	3070	675	ug/Kg
218-01-9	Chrysene	2530J	3070	641	ug/Kg
53-70-3	Dibenz(a,h)anthracene	734U	3070	734	ug/Kg
206-44-0	Fluoranthene	449U	3070	449	ug/Kg
86-73-7	Fluorene	379U	3070	379	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	576U	3070	576	ug/Kg
91-20-3	Naphthalene	350U	3070	350	ug/Kg
77392-71-3	Perylene	628U	3070	628	ug/Kg
85-01-8	Phenanthrene	675U	3070	675	ug/Kg
129-00-0	Pyrene	565U	3070	565	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	200	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	200	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	200	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	200	Diluted Out	ug/Kg	0*	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111607	0458-R46-TARBALLS WITH SAND	Solid	11/03/2011 08:45	11/11/2011 08:40

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
11/22/2011 07:20	469322	3550C	1	12/07/2011 16:19	JEW	470615

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	4.81U	61.1	4.81	ug/Kg
91-57-6	2-Methylnaphthalene	5.48U	61.1	5.48	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	5.34U	61.1	5.34	ug/Kg
83-32-9	Acenaphthene	5.94U	61.1	5.94	ug/Kg
208-96-8	Acenaphthylene	6.02U	61.1	6.02	ug/Kg
120-12-7	Anthracene	10.2U	61.1	10.2	ug/Kg
56-55-3	Benzo(a)anthracene	10.8U	61.1	10.8	ug/Kg
50-32-8	Benzo(a)pyrene	10.4U	61.1	10.4	ug/Kg
205-99-2	Benzo(b)fluoranthene	8.86U	61.1	8.86	ug/Kg
192-97-2	Benzo(e)pyrene	10.9U	61.1	10.9	ug/Kg
191-24-2	Benzo(g,h,i)perylene	12.9U	61.1	12.9	ug/Kg
207-08-9	Benzo(k)fluoranthene	7.08U	61.1	7.08	ug/Kg
GCSV-08-14	C1-Chrysenes	12.8U	61.1	12.8	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	8.95U	61.1	8.95	ug/Kg
GCSV-08-04	C1-Fluorenes	7.54U	61.1	7.54	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	13.4U	61.1	13.4	ug/Kg
GCSV-08-15	C2-Chrysenes	12.8U	61.1	12.8	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	8.95U	61.1	8.95	ug/Kg
GCSV-08-05	C2-Fluorenes	7.54U	61.1	7.54	ug/Kg
GCSV-08-01	C2-Naphthalenes	6.96U	61.1	6.96	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	13.4U	61.1	13.4	ug/Kg
GCSV-08-16	C3-Chrysenes	12.8U	61.1	12.8	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	8.95U	61.1	8.95	ug/Kg
GCSV-08-06	C3-Fluorenes	7.54U	61.1	7.54	ug/Kg
GCSV-08-02	C3-Naphthalenes	6.96U	61.1	6.96	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	13.4U	61.1	13.4	ug/Kg
GCSV-08-17	C4-Chrysenes	12.8U	61.1	12.8	ug/Kg
GCSV-08-03	C4-Naphthalenes	6.96U	61.1	6.96	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	13.4U	61.1	13.4	ug/Kg
218-01-9	Chrysene	12.8U	61.1	12.8	ug/Kg
53-70-3	Dibenz(a,h)anthracene	14.6U	61.1	14.6	ug/Kg
206-44-0	Fluoranthene	8.95U	61.1	8.95	ug/Kg
86-73-7	Fluorene	7.54U	61.1	7.54	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	11.5U	61.1	11.5	ug/Kg
91-20-3	Naphthalene	6.96U	61.1	6.96	ug/Kg
77392-71-3	Perylene	12.5U	61.1	12.5	ug/Kg
85-01-8	Phenanthrene	13.4U	61.1	13.4	ug/Kg
129-00-0	Pyrene	11.3U	61.1	11.3	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	200	205	ug/Kg	103*	20 - 97
1719-06-8	Anthracene-d10	200	194	ug/Kg	97	22 - 98
1718-52-1	Pyrene-d10	200	172	ug/Kg	86	51 - 120
63466-71-7	Benzo(a)pyrene-d12	200	151	ug/Kg	76	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111608	1341-R58-TAR BALLS	Solid	11/04/2011 09:15	11/11/2011 08:40

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
11/22/2011 07:20	469322	3550C	100	12/08/2011 15:25	JEW	470697

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	476U	6040	476	ug/Kg
91-57-6	2-Methylnaphthalene	542U	6040	542	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	528U	6040	528	ug/Kg
83-32-9	Acenaphthene	587U	6040	587	ug/Kg
208-96-8	Acenaphthylene	595U	6040	595	ug/Kg
120-12-7	Anthracene	1010U	6040	1010	ug/Kg
56-55-3	Benzo(a)anthracene	1070U	6040	1070	ug/Kg
50-32-8	Benzo(a)pyrene	1030U	6040	1030	ug/Kg
205-99-2	Benzo(b)fluoranthene	876U	6040	876	ug/Kg
192-97-2	Benzo(e)pyrene	1080U	6040	1080	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1280U	6040	1280	ug/Kg
207-08-9	Benzo(k)fluoranthene	701U	6040	701	ug/Kg
GCSV-08-14	C1-Chrysenes	1260U	6040	1260	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	885U	6040	885	ug/Kg
GCSV-08-04	C1-Fluorenes	746U	6040	746	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	1790J	6040	1330	ug/Kg
GCSV-08-15	C2-Chrysenes	1260U	6040	1260	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	885U	6040	885	ug/Kg
GCSV-08-05	C2-Fluorenes	746U	6040	746	ug/Kg
GCSV-08-01	C2-Naphthalenes	688U	6040	688	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	8070	6040	1330	ug/Kg
GCSV-08-16	C3-Chrysenes	1260U	6040	1260	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	885U	6040	885	ug/Kg
GCSV-08-06	C3-Fluorenes	746U	6040	746	ug/Kg
GCSV-08-02	C3-Naphthalenes	688U	6040	688	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	7490	6040	1330	ug/Kg
GCSV-08-17	C4-Chrysenes	1260U	6040	1260	ug/Kg
GCSV-08-03	C4-Naphthalenes	688U	6040	688	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	1330U	6040	1330	ug/Kg
218-01-9	Chrysene	3610J	6040	1260	ug/Kg
53-70-3	Dibenz(a,h)anthracene	1450U	6040	1450	ug/Kg
206-44-0	Fluoranthene	885U	6040	885	ug/Kg
86-73-7	Fluorene	746U	6040	746	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1140U	6040	1140	ug/Kg
91-20-3	Naphthalene	688U	6040	688	ug/Kg
77392-71-3	Perylene	1240U	6040	1240	ug/Kg
85-01-8	Phenanthrene	1330U	6040	1330	ug/Kg
129-00-0	Pyrene	1110U	6040	1110	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	200	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	200	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	200	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	200	Diluted Out	ug/Kg	0*	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111609	1347-R56-TAR BALLS	Solid	11/04/2011 08:30	11/11/2011 08:40

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
11/22/2011 07:20	469322	3550C	100	12/08/2011 14:40	JEW	470697

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	476U	6040	476	ug/Kg
91-57-6	2-Methylnaphthalene	542U	6040	542	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	529U	6040	529	ug/Kg
83-32-9	Acenaphthene	588U	6040	588	ug/Kg
208-96-8	Acenaphthylene	595U	6040	595	ug/Kg
120-12-7	Anthracene	1010U	6040	1010	ug/Kg
56-55-3	Benzo(a)anthracene	1070U	6040	1070	ug/Kg
50-32-8	Benzo(a)pyrene	1030U	6040	1030	ug/Kg
205-99-2	Benzo(b)fluoranthene	876U	6040	876	ug/Kg
192-97-2	Benzo(e)pyrene	1080U	6040	1080	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1280U	6040	1280	ug/Kg
207-08-9	Benzo(k)fluoranthene	701U	6040	701	ug/Kg
GCSV-08-14	C1-Chrysenes	1260U	6040	1260	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	885U	6040	885	ug/Kg
GCSV-08-04	C1-Fluorenes	746U	6040	746	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	1330U	6040	1330	ug/Kg
GCSV-08-15	C2-Chrysenes	1260U	6040	1260	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	885U	6040	885	ug/Kg
GCSV-08-05	C2-Fluorenes	746U	6040	746	ug/Kg
GCSV-08-01	C2-Naphthalenes	689U	6040	689	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	7190	6040	1330	ug/Kg
GCSV-08-16	C3-Chrysenes	1260U	6040	1260	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	885U	6040	885	ug/Kg
GCSV-08-06	C3-Fluorenes	746U	6040	746	ug/Kg
GCSV-08-02	C3-Naphthalenes	689U	6040	689	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	6610	6040	1330	ug/Kg
GCSV-08-17	C4-Chrysenes	1260U	6040	1260	ug/Kg
GCSV-08-03	C4-Naphthalenes	689U	6040	689	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	1330U	6040	1330	ug/Kg
218-01-9	Chrysene	2640J	6040	1260	ug/Kg
53-70-3	Dibenz(a,h)anthracene	1450U	6040	1450	ug/Kg
206-44-0	Fluoranthene	885U	6040	885	ug/Kg
86-73-7	Fluorene	746U	6040	746	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1140U	6040	1140	ug/Kg
91-20-3	Naphthalene	689U	6040	689	ug/Kg
77392-71-3	Perylene	1240U	6040	1240	ug/Kg
85-01-8	Phenanthrene	1330U	6040	1330	ug/Kg
129-00-0	Pyrene	1110U	6040	1110	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	200	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	200	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	200	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	200	Diluted Out	ug/Kg	0*	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111610	0454-R66 PLUNGE STEP	Solid	11/04/2011 11:00	11/11/2011 08:40

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
11/22/2011 07:20	469322	3550C	100	12/08/2011 16:53	JEW	470697

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	602U	7650	602	ug/Kg
91-57-6	2-Methylnaphthalene	686U	7650	686	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	669U	7650	669	ug/Kg
83-32-9	Acenaphthene	744U	7650	744	ug/Kg
208-96-8	Acenaphthylene	753U	7650	753	ug/Kg
120-12-7	Anthracene	1280U	7650	1280	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	1120U	7650	1120	ug/Kg
GCSV-08-04	C1-Fluorenes	944U	7650	944	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	15600	7650	1680	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	1120U	7650	1120	ug/Kg
GCSV-08-05	C2-Fluorenes	4810J	7650	944	ug/Kg
GCSV-08-01	C2-Naphthalenes	872U	7650	872	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	36300	7650	1680	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	1120U	7650	1120	ug/Kg
GCSV-08-06	C3-Fluorenes	944U	7650	944	ug/Kg
GCSV-08-02	C3-Naphthalenes	872U	7650	872	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	25800	7650	1680	ug/Kg
GCSV-08-03	C4-Naphthalenes	872U	7650	872	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	1680U	7650	1680	ug/Kg
206-44-0	Fluoranthene	1120U	7650	1120	ug/Kg
86-73-7	Fluorene	944U	7650	944	ug/Kg
91-20-3	Naphthalene	872U	7650	872	ug/Kg
85-01-8	Phenanthrene	1680U	7650	1680	ug/Kg
129-00-0	Pyrene	1410U	7650	1410	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	235	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	235	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	235	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	235	Diluted Out	ug/Kg	0*	43 - 111

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
11/22/2011 07:20	469322	3550C	200	12/09/2011 09:33	JEW	470787

CAS#	Parameter	Result	RDL	MDL	Units
56-55-3	Benzo(a)anthracene	2700U	15300	2700	ug/Kg
50-32-8	Benzo(a)pyrene	2620U	15300	2620	ug/Kg
205-99-2	Benzo(b)fluoranthene	2220U	15300	2220	ug/Kg
192-97-2	Benzo(e)pyrene	2730U	15300	2730	ug/Kg
191-24-2	Benzo(g,h,i)perylene	3230U	15300	3230	ug/Kg
207-08-9	Benzo(k)fluoranthene	1770U	15300	1770	ug/Kg
GCSV-08-14	C1-Chrysenes	3200U	15300	3200	ug/Kg
GCSV-08-15	C2-Chrysenes	3200U	15300	3200	ug/Kg
GCSV-08-16	C3-Chrysenes	3200U	15300	3200	ug/Kg
GCSV-08-17	C4-Chrysenes	3200U	15300	3200	ug/Kg
218-01-9	Chrysene	4040J	15300	3200	ug/Kg
53-70-3	Dibenz(a,h)anthracene	3660U	15300	3660	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111610	0454-R66 PLUNGE STEP	Solid	11/04/2011 11:00	11/11/2011 08:40

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
11/22/2011 07:20	469322	3550C	200	12/09/2011 09:33	JEW	470787

CAS#	Parameter	Result	RDL	MDL	Units
193-39-5	Indeno(1,2,3-cd)pyrene	2880U	15300	2880	ug/Kg
77392-71-3	Perylene	3130U	15300	3130	ug/Kg

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111611	1329-R66A-TAR BALLS	Solid	11/04/2011 10:15	11/11/2011 08:40

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
11/22/2011 07:20	469322	3550C	100	12/08/2011 19:02	JEW	470697

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	5000U	63500	5000	ug/Kg
91-57-6	2-Methylnaphthalene	5700U	63500	5700	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	5550U	63500	5550	ug/Kg
83-32-9	Acenaphthene	6170U	63500	6170	ug/Kg
208-96-8	Acenaphthylene	6250U	63500	6250	ug/Kg
120-12-7	Anthracene	10600U	63500	10600	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	9300U	63500	9300	ug/Kg
GCSV-08-04	C1-Fluorenes	7840U	63500	7840	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	156000	63500	14000	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	9300U	63500	9300	ug/Kg
GCSV-08-05	C2-Fluorenes	7840U	63500	7840	ug/Kg
GCSV-08-01	C2-Naphthalenes	7240U	63500	7240	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	472000	63500	14000	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	9300U	63500	9300	ug/Kg
GCSV-08-06	C3-Fluorenes	7840U	63500	7840	ug/Kg
GCSV-08-02	C3-Naphthalenes	7240U	63500	7240	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	368000	63500	14000	ug/Kg
GCSV-08-03	C4-Naphthalenes	7240U	63500	7240	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	212000	63500	14000	ug/Kg
206-44-0	Fluoranthene	9300U	63500	9300	ug/Kg
86-73-7	Fluorene	7840U	63500	7840	ug/Kg
91-20-3	Naphthalene	7240U	63500	7240	ug/Kg
85-01-8	Phenanthrene	14000U	63500	14000	ug/Kg
129-00-0	Pyrene	11700U	63500	11700	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	200	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	200	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	200	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	200	Diluted Out	ug/Kg	0*	43 - 111

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
11/22/2011 07:20	469322	3550C	200	12/09/2011 11:02	JEW	470787

CAS#	Parameter	Result	RDL	MDL	Units
56-55-3	Benzo(a)anthracene	22400U	127000	22400	ug/Kg
50-32-8	Benzo(a)pyrene	21700U	127000	21700	ug/Kg
205-99-2	Benzo(b)fluoranthene	18400U	127000	18400	ug/Kg
192-97-2	Benzo(e)pyrene	22700U	127000	22700	ug/Kg
191-24-2	Benzo(g,h,i)perylene	26900U	127000	26900	ug/Kg
207-08-9	Benzo(k)fluoranthene	14700U	127000	14700	ug/Kg
GCSV-08-14	C1-Chrysenes	26500U	127000	26500	ug/Kg
GCSV-08-15	C2-Chrysenes	26500U	127000	26500	ug/Kg
GCSV-08-16	C3-Chrysenes	26500U	127000	26500	ug/Kg
GCSV-08-17	C4-Chrysenes	26500U	127000	26500	ug/Kg
218-01-9	Chrysene	26500U	127000	26500	ug/Kg
53-70-3	Dibenz(a,h)anthracene	30400U	127000	30400	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111611	1329-R66A-TAR BALLS	Solid	11/04/2011 10:15	11/11/2011 08:40

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
11/22/2011 07:20	469322	3550C	200	12/09/2011 11:02	JEW	470787

CAS#	Parameter	Result	RDL	MDL	Units
193-39-5	Indeno(1,2,3-cd)pyrene	23900U	127000	23900	ug/Kg
77392-71-3	Perylene	26000U	127000	26000	ug/Kg

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111612	1339-R66B-TAR BALLS	Solid	11/04/2011 10:15	11/11/2011 08:40

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
11/22/2011 07:20	469322	3550C	1	12/07/2011 22:55	JEW	470615

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	5.55U	70.4	5.55	ug/Kg
91-57-6	2-Methylnaphthalene	6.32U	70.4	6.32	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	6.16U	70.4	6.16	ug/Kg
83-32-9	Acenaphthene	34.0J	70.4	6.85	ug/Kg
208-96-8	Acenaphthylene	6.94U	70.4	6.94	ug/Kg
120-12-7	Anthracene	11.8U	70.4	11.8	ug/Kg
56-55-3	Benzo(a)anthracene	12.4U	70.4	12.4	ug/Kg
50-32-8	Benzo(a)pyrene	12.0U	70.4	12.0	ug/Kg
205-99-2	Benzo(b)fluoranthene	10.2U	70.4	10.2	ug/Kg
192-97-2	Benzo(e)pyrene	12.6U	70.4	12.6	ug/Kg
191-24-2	Benzo(g,h,i)perylene	14.9U	70.4	14.9	ug/Kg
207-08-9	Benzo(k)fluoranthene	8.17U	70.4	8.17	ug/Kg
GCSV-08-14	C1-Chrysenes	14.7U	70.4	14.7	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	10.3U	70.4	10.3	ug/Kg
GCSV-08-04	C1-Fluorenes	8.70U	70.4	8.70	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	15.5U	70.4	15.5	ug/Kg
GCSV-08-15	C2-Chrysenes	14.7U	70.4	14.7	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	10.3U	70.4	10.3	ug/Kg
GCSV-08-05	C2-Fluorenes	8.70U	70.4	8.70	ug/Kg
GCSV-08-01	C2-Naphthalenes	8.03U	70.4	8.03	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	15.5U	70.4	15.5	ug/Kg
GCSV-08-16	C3-Chrysenes	14.7U	70.4	14.7	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	10.3U	70.4	10.3	ug/Kg
GCSV-08-06	C3-Fluorenes	8.70U	70.4	8.70	ug/Kg
GCSV-08-02	C3-Naphthalenes	8.03U	70.4	8.03	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	15.5U	70.4	15.5	ug/Kg
GCSV-08-17	C4-Chrysenes	14.7U	70.4	14.7	ug/Kg
GCSV-08-03	C4-Naphthalenes	8.03U	70.4	8.03	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	15.5U	70.4	15.5	ug/Kg
218-01-9	Chrysene	14.7U	70.4	14.7	ug/Kg
53-70-3	Dibenz(a,h)anthracene	16.9U	70.4	16.9	ug/Kg
206-44-0	Fluoranthene	15.8J	70.4	10.3	ug/Kg
86-73-7	Fluorene	8.70U	70.4	8.70	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	13.2U	70.4	13.2	ug/Kg
91-20-3	Naphthalene	8.03U	70.4	8.03	ug/Kg
77392-71-3	Perylene	14.4U	70.4	14.4	ug/Kg
85-01-8	Phenanthrene	15.5U	70.4	15.5	ug/Kg
129-00-0	Pyrene	13.0U	70.4	13.0	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	200	158	ug/Kg	79	20 - 97
1719-06-8	Anthracene-d10	200	146	ug/Kg	73	22 - 98
1718-52-1	Pyrene-d10	200	148	ug/Kg	74	51 - 120
63466-71-7	Benzo(a)pyrene-d12	200	128	ug/Kg	64	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111613	1351-R53-BLACK JELLY BEAN	Solid	11/03/2011 21:30	11/11/2011 08:40

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
11/22/2011 07:20	469322	3550C	100	12/08/2011 17:36	JEW	470697

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	4740U	60200	4740	ug/Kg
91-57-6	2-Methylnaphthalene	5400U	60200	5400	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	5260U	60200	5260	ug/Kg
83-32-9	Acenaphthene	5850U	60200	5850	ug/Kg
208-96-8	Acenaphthylene	5930U	60200	5930	ug/Kg
120-12-7	Anthracene	10100U	60200	10100	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	8810U	60200	8810	ug/Kg
GCSV-08-04	C1-Fluorenes	7430U	60200	7430	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	13200U	60200	13200	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	8810U	60200	8810	ug/Kg
GCSV-08-05	C2-Fluorenes	7430U	60200	7430	ug/Kg
GCSV-08-01	C2-Naphthalenes	6860U	60200	6860	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	88600	60200	13200	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	8810U	60200	8810	ug/Kg
GCSV-08-06	C3-Fluorenes	7430U	60200	7430	ug/Kg
GCSV-08-02	C3-Naphthalenes	6860U	60200	6860	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	132000	60200	13200	ug/Kg
GCSV-08-03	C4-Naphthalenes	6860U	60200	6860	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	13200U	60200	13200	ug/Kg
206-44-0	Fluoranthene	8810U	60200	8810	ug/Kg
86-73-7	Fluorene	7430U	60200	7430	ug/Kg
91-20-3	Naphthalene	6860U	60200	6860	ug/Kg
85-01-8	Phenanthrene	13200U	60200	13200	ug/Kg
129-00-0	Pyrene	11100U	60200	11100	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	200	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	200	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	200	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	200	Diluted Out	ug/Kg	0*	43 - 111

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
11/22/2011 07:20	469322	3550C	200	12/09/2011 10:17	JEW	470787

CAS#	Parameter	Result	RDL	MDL	Units
56-55-3	Benzo(a)anthracene	21300U	120000	21300	ug/Kg
50-32-8	Benzo(a)pyrene	20600U	120000	20600	ug/Kg
205-99-2	Benzo(b)fluoranthene	17400U	120000	17400	ug/Kg
192-97-2	Benzo(e)pyrene	21500U	120000	21500	ug/Kg
191-24-2	Benzo(g,h,i)perylene	25400U	120000	25400	ug/Kg
207-08-9	Benzo(k)fluoranthene	14000U	120000	14000	ug/Kg
GCSV-08-14	C1-Chrysenes	25100U	120000	25100	ug/Kg
GCSV-08-15	C2-Chrysenes	25100U	120000	25100	ug/Kg
GCSV-08-16	C3-Chrysenes	25100U	120000	25100	ug/Kg
GCSV-08-17	C4-Chrysenes	25100U	120000	25100	ug/Kg
218-01-9	Chrysene	25100U	120000	25100	ug/Kg
53-70-3	Dibenz(a,h)anthracene	28800U	120000	28800	ug/Kg

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111613	1351-R53-BLACK JELLY BEAN	Solid	11/03/2011 21:30	11/11/2011 08:40

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
11/22/2011 07:20	469322	3550C	200	12/09/2011 10:17	JEW	470787

CAS#	Parameter	Result	RDL	MDL	Units
193-39-5	Indeno(1,2,3-cd)pyrene	22600U	120000	22600	ug/Kg
77392-71-3	Perylene	24600U	120000	24600	ug/Kg

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111614	0463-R47- TAR BALLS	Solid	11/03/2011 09:00	11/11/2011 08:40

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
11/22/2011 07:20	469322	3550C	50	12/09/2011 15:25	JEW	470787

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	2480U	31500	2480	ug/Kg
91-57-6	2-Methylnaphthalene	2830U	31500	2830	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	2760U	31500	2760	ug/Kg
83-32-9	Acenaphthene	3070U	31500	3070	ug/Kg
208-96-8	Acenaphthylene	3110U	31500	3110	ug/Kg
120-12-7	Anthracene	5280U	31500	5280	ug/Kg
56-55-3	Benzo(a)anthracene	5580U	31500	5580	ug/Kg
50-32-8	Benzo(a)pyrene	5390U	31500	5390	ug/Kg
205-99-2	Benzo(b)fluoranthene	4570U	31500	4570	ug/Kg
192-97-2	Benzo(e)pyrene	5630U	31500	5630	ug/Kg
191-24-2	Benzo(g,h,i)perylene	6670U	31500	6670	ug/Kg
207-08-9	Benzo(k)fluoranthene	3660U	31500	3660	ug/Kg
GCSV-08-14	C1-Chrysenes	6590U	31500	6590	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	4620U	31500	4620	ug/Kg
GCSV-08-04	C1-Fluorenes	3900U	31500	3900	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	25900J	31500	6940	ug/Kg
GCSV-08-15	C2-Chrysenes	6590U	31500	6590	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	4620U	31500	4620	ug/Kg
GCSV-08-05	C2-Fluorenes	3900U	31500	3900	ug/Kg
GCSV-08-01	C2-Naphthalenes	3600U	31500	3600	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	51200	31500	6940	ug/Kg
GCSV-08-16	C3-Chrysenes	6590U	31500	6590	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	4620U	31500	4620	ug/Kg
GCSV-08-06	C3-Fluorenes	3900U	31500	3900	ug/Kg
GCSV-08-02	C3-Naphthalenes	3600U	31500	3600	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	36500	31500	6940	ug/Kg
GCSV-08-17	C4-Chrysenes	6590U	31500	6590	ug/Kg
GCSV-08-03	C4-Naphthalenes	3600U	31500	3600	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	6940U	31500	6940	ug/Kg
218-01-9	Chrysene	7370J	31500	6590	ug/Kg
53-70-3	Dibenz(a,h)anthracene	7560U	31500	7560	ug/Kg
206-44-0	Fluoranthene	4620U	31500	4620	ug/Kg
86-73-7	Fluorene	3900U	31500	3900	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	5930U	31500	5930	ug/Kg
91-20-3	Naphthalene	3600U	31500	3600	ug/Kg
77392-71-3	Perylene	6460U	31500	6460	ug/Kg
85-01-8	Phenanthrene	6940U	31500	6940	ug/Kg
129-00-0	Pyrene	5810U	31500	5810	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	200	Diluted Out	ug/Kg	0*	20 - 97
1719-06-8	Anthracene-d10	200	Diluted Out	ug/Kg	0*	22 - 98
1718-52-1	Pyrene-d10	200	Diluted Out	ug/Kg	0*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	200	Diluted Out	ug/Kg	0*	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GCAL ID	Client ID	Matrix	Collect Date/Time	Receive Date/Time
21111111615	0438-R48R51-TAR BALLS	Solid	11/03/2011 09:15	11/11/2011 08:40

SW-846 8272 Modified Solid

Prep Date	Prep Batch	Prep Method	Dilution	Analyzed	By	Analytical Batch
11/22/2011 07:20	469322	3550C	100	12/08/2011 18:19	JEW	470697

CAS#	Parameter	Result	RDL	MDL	Units
90-12-0	1-Methylnaphthalene	492U	6250	492	ug/Kg
91-57-6	2-Methylnaphthalene	561U	6250	561	ug/Kg
7297-45-2	2-Methylnaphthalene-d10	547U	6250	547	ug/Kg
83-32-9	Acenaphthene	608U	6250	608	ug/Kg
208-96-8	Acenaphthylene	616U	6250	616	ug/Kg
120-12-7	Anthracene	1050U	6250	1050	ug/Kg
56-55-3	Benzo(a)anthracene	1110U	6250	1110	ug/Kg
50-32-8	Benzo(a)pyrene	1070U	6250	1070	ug/Kg
205-99-2	Benzo(b)fluoranthene	907U	6250	907	ug/Kg
192-97-2	Benzo(e)pyrene	1120U	6250	1120	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1320U	6250	1320	ug/Kg
207-08-9	Benzo(k)fluoranthene	725U	6250	725	ug/Kg
GCSV-08-14	C1-Chrysenes	1310U	6250	1310	ug/Kg
GCSV-08-11	C1-Fluoranthenes/pyrenes	916U	6250	916	ug/Kg
GCSV-08-04	C1-Fluorenes	772U	6250	772	ug/Kg
GCSV-08-07	C1-Phenanthrenes/anthracenes	1380U	6250	1380	ug/Kg
GCSV-08-15	C2-Chrysenes	1310U	6250	1310	ug/Kg
GCSV-08-12	C2-Fluoranthenes/pyrenes	916U	6250	916	ug/Kg
GCSV-08-05	C2-Fluorenes	772U	6250	772	ug/Kg
GCSV-08-01	C2-Naphthalenes	713U	6250	713	ug/Kg
GCSV-08-08	C2-Phenanthrenes/anthracenes	1380U	6250	1380	ug/Kg
GCSV-08-16	C3-Chrysenes	1310U	6250	1310	ug/Kg
GCSV-08-13	C3-Fluoranthenes/pyrenes	916U	6250	916	ug/Kg
GCSV-08-06	C3-Fluorenes	772U	6250	772	ug/Kg
GCSV-08-02	C3-Naphthalenes	713U	6250	713	ug/Kg
GCSV-08-09	C3-Phenanthrenes/anthracenes	1380U	6250	1380	ug/Kg
GCSV-08-17	C4-Chrysenes	1310U	6250	1310	ug/Kg
GCSV-08-03	C4-Naphthalenes	713U	6250	713	ug/Kg
GCSV-08-10	C4-Phenanthrenes/anthracenes	1380U	6250	1380	ug/Kg
218-01-9	Chrysene	1310U	6250	1310	ug/Kg
53-70-3	Dibenz(a,h)anthracene	1500U	6250	1500	ug/Kg
206-44-0	Fluoranthene	916U	6250	916	ug/Kg
86-73-7	Fluorene	772U	6250	772	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1180U	6250	1180	ug/Kg
91-20-3	Naphthalene	713U	6250	713	ug/Kg
77392-71-3	Perylene	1280U	6250	1280	ug/Kg
85-01-8	Phenanthrene	1380U	6250	1380	ug/Kg
129-00-0	Pyrene	1150U	6250	1150	ug/Kg

CAS#	Surrogate	Conc. Spiked	Conc. Rec	Units	% Recovery	Rec Limits
93951-97-4	Acenaphthylene-d8	200	37.8	ug/Kg	19*	20 - 97
1719-06-8	Anthracene-d10	200	26300	ug/Kg	13200*	22 - 98
1718-52-1	Pyrene-d10	200	242	ug/Kg	121*	51 - 120
63466-71-7	Benzo(a)pyrene-d12	200	22300	ug/Kg	11200*	43 - 111

RESULTS REPORTED ON A DRY WEIGHT BASIS

GC/MS Semi-Volatiles Quality Control Summary

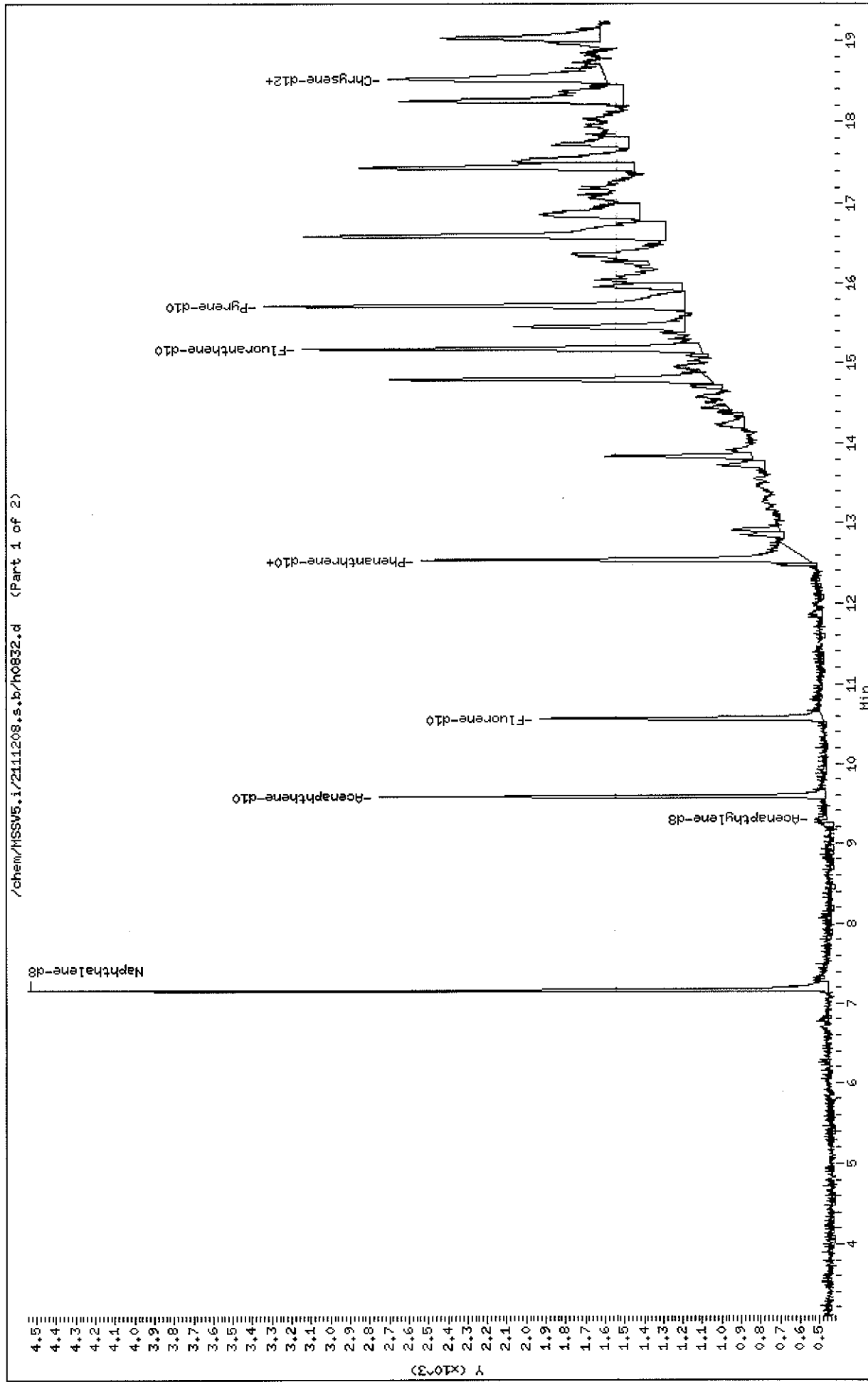
Analytical Batch 470375 Prep Batch 469322 Prep Method 3550C		Client ID MB469322 GCAL ID 1006924 Sample Type Method Blank Prep Date 11/22/2011 07:20 Analytical Date 12/06/2011 14:55 Matrix Solid		LCS469322 1006925 LCS 11/22/2011 07:20 12/06/2011 15:38 Solid			LCSD469322 1006926 LCSD 11/22/2011 07:20 12/06/2011 16:21 Solid				
SW-846 8272 Modified Solid		Units	ug/Kg	Spike	Result		Control	Result			RPD
		Result	RDL	Added		% R	Limits % R		% R	RPD	Limit
91-20-3	Naphthalene	0.456U	0.456	13.3	11.1	83	50 - 150	11.8	89	6	40
91-57-6	2-Methylnaphthalene	0.359U	0.359								
90-12-0	1-Methylnaphthalene	0.315U	0.315								
GCSV-08-01	C2-Naphthalenes	0.456U	0.456								
GCSV-08-02	C3-Naphthalenes	0.456U	0.456								
GCSV-08-03	C4-Naphthalenes	0.456U	0.456								
7297-45-2	2-Methylnaphthalene-d10	0.350U	0.350								
208-96-8	Acenaphthylene	0.394U	0.394								
83-32-9	Acenaphthene	0.389U	0.389								
86-73-7	Fluorene	0.494U	0.494								
GCSV-08-04	C1-Fluorenes	0.494U	0.494								
GCSV-08-05	C2-Fluorenes	0.494U	0.494								
GCSV-08-06	C3-Fluorenes	0.494U	0.494								
85-01-8	Phenanthrene	0.880U	0.880								
GCSV-08-07	C1-Phenanthrenes/anthracenes	0.880U	0.880								
GCSV-08-08	C2-Phenanthrenes/anthracenes	0.880U	0.880								
GCSV-08-09	C3-Phenanthrenes/anthracenes	0.880U	0.880								
GCSV-08-10	C4-Phenanthrenes/anthracenes	0.880U	0.880								
120-12-7	Anthracene	0.669U	0.669								
206-44-0	Fluoranthene	0.586U	0.586								
129-00-0	Pyrene	0.737U	0.737								
GCSV-08-11	C1-Fluoranthenes/pyrenes	0.586U	0.586								
GCSV-08-12	C2-Fluoranthenes/pyrenes	0.586U	0.586								
GCSV-08-13	C3-Fluoranthenes/pyrenes	0.586U	0.586								
218-01-9	Chrysene	0.836U	0.836								
GCSV-08-14	C1-Chrysenes	0.836U	0.836								
GCSV-08-15	C2-Chrysenes	0.836U	0.836								
GCSV-08-16	C3-Chrysenes	0.836U	0.836								
GCSV-08-17	C4-Chrysenes	0.836U	0.836								
56-55-3	Benzo(a)anthracene	0.707U	0.707								
205-99-2	Benzo(b)fluoranthene	0.580U	0.580								
207-08-9	Benzo(k)fluoranthene	0.464U	0.464								

GC/MS Semi-Volatiles Quality Control Summary

Analytical Batch 470375 Prep Batch 469322 Prep Method 3550C		Client ID MB469322 GCAL ID 1006924 Sample Type Method Blank Prep Date 11/22/2011 07:20 Analytical Date 12/06/2011 14:55 Matrix Solid		LCS469322 1006925 LCS 11/22/2011 07:20 12/06/2011 15:38 Solid			LCSD469322 1006926 LCSD 11/22/2011 07:20 12/06/2011 16:21 Solid						
SW-846 8272 Modified Solid				Units Result	ug/Kg RDL	Spike Added	Result	% R	Control Limits % R	Result	% R	RPD	RPD Limit
192-97-2		Benzo(e)pyrene		0.714U	0.714								
50-32-8		Benzo(a)pyrene		0.684U	0.684								
77392-71-3		Perylene		0.819U	0.819								
193-39-5		Indeno(1,2,3-cd)pyrene		0.752U	0.752								
53-70-3		Dibenz(a,h)anthracene		0.958U	0.958								
191-24-2		Benzo(g,h,i)perylene		0.846U	0.846								
Surrogate													
93951-97-4		Acenaphthylene-d8		11.7	88	13.3	12.1	91	20 - 97	10.8	81		
1719-06-8		Anthracene-d10		10.1	76	13.3	8.17	61	22 - 98	9.57	72		
1718-52-1		Pyrene-d10		11.3	85	13.3	12.1	91	51 - 120	10.4	78		
63466-71-7		Benzo(a)pyrene-d12		8.38	63	13.3	12.4	93	43 - 111	10.8	81		

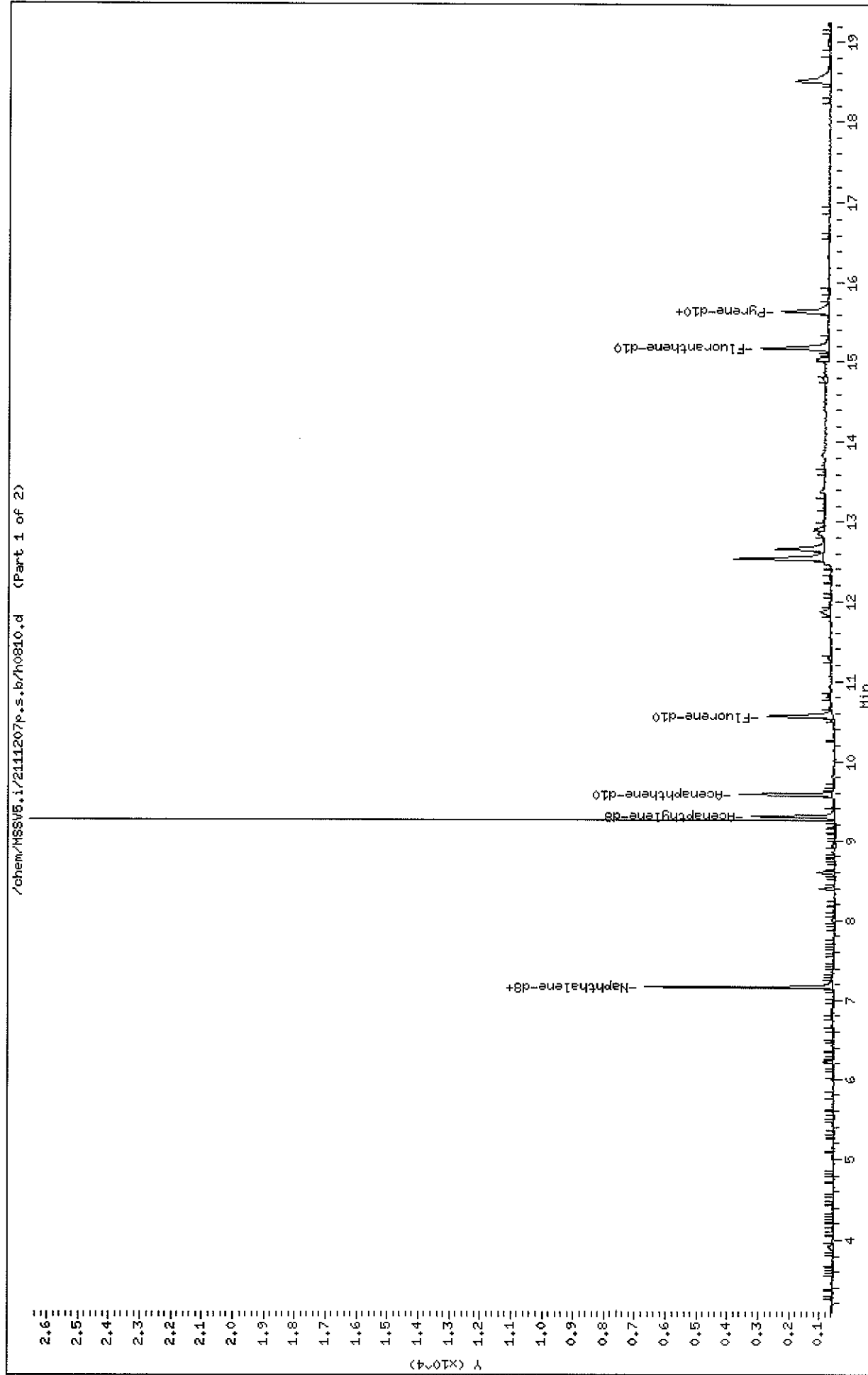
Data File: /chem/MSSV5.i/21111208.s.b/h0832.d
Date : 08-DEC-2011 16:09
Client ID: 21111111604
Sample Info: 21111111604*4773*
Volume Injected (uL): 1.0
Column phase: hp-5MS

Instrument: MSSV5.i
Operator: JEW
Column diameter: 0.25



Data File: /chem/HSSV5.i/21111207e.s.b/h0810.d
Date : 07-DEC-2011 20:43
Client ID: 21111111602
Sample Info: 21111111602*4773*
Volume Injected (uL): 1.0
Column phase: hp-5MS

Instrument: HSSV5.i
Operator: JEW
Column diameter: 0.25



Data File: /chem/HSSV5.1/21111207p.s.b/h0811.d

Page 1

Date : 07-DEC-2011 21:27

Client ID: 21111111603

Sample Info: 21111111603*4773*

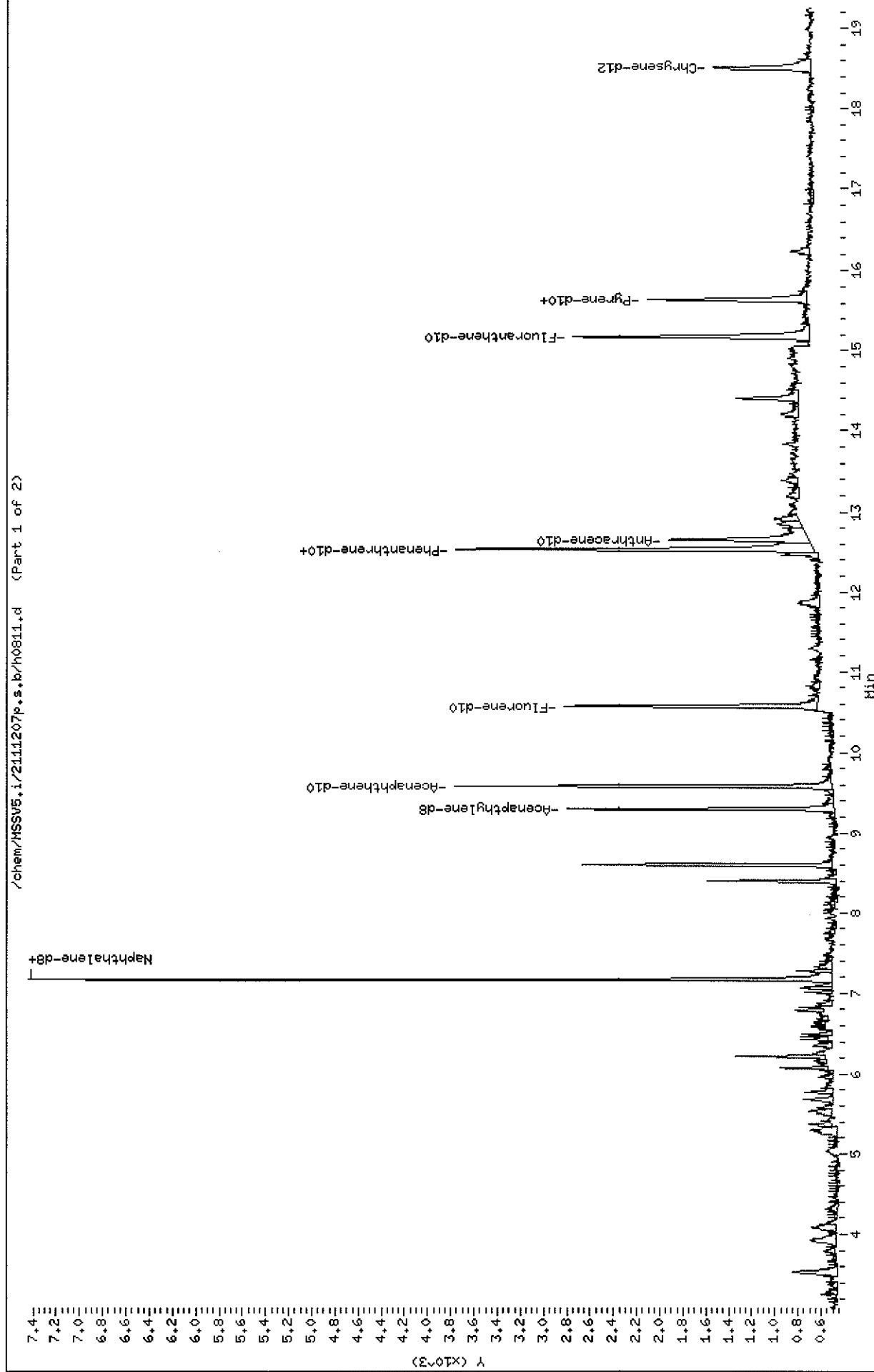
Volume Injected (uL): 1.0

Column phase: hp-5MS

Instrument: HSSV5.1

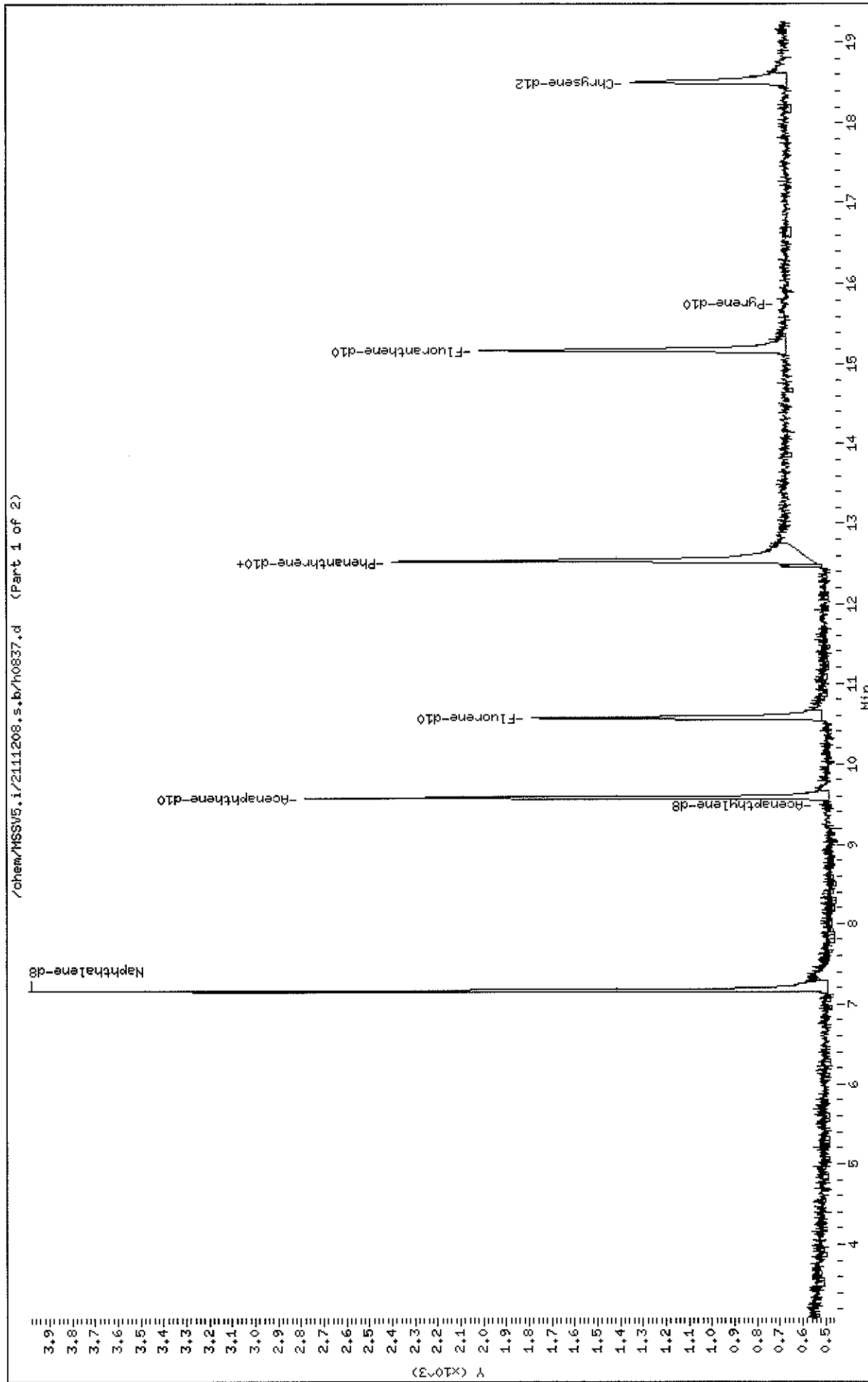
Operator: JEW

Column diameter: 0.25



Data File: /chem/HSSV5.i/2111208.s.b/h0837.d
 Date : 08-DEC-2011 19:46
 Client ID: 2111111604
 Sample Info: 2111111604#4773M
 Volume Injected (uL): 1.0
 Column phase: hp-5MS

Instrument: HSSV5.i
 Operator: JEM
 Column diameter: 0.25



Data File: /chem/HSSV5.i/21111207p.s.b/h0812.d

Date : 07-DEC-2011 22:11

Client ID: 21111111605

Sample Info: 21111111605*4773*

Volume Injected (uL): 1.0

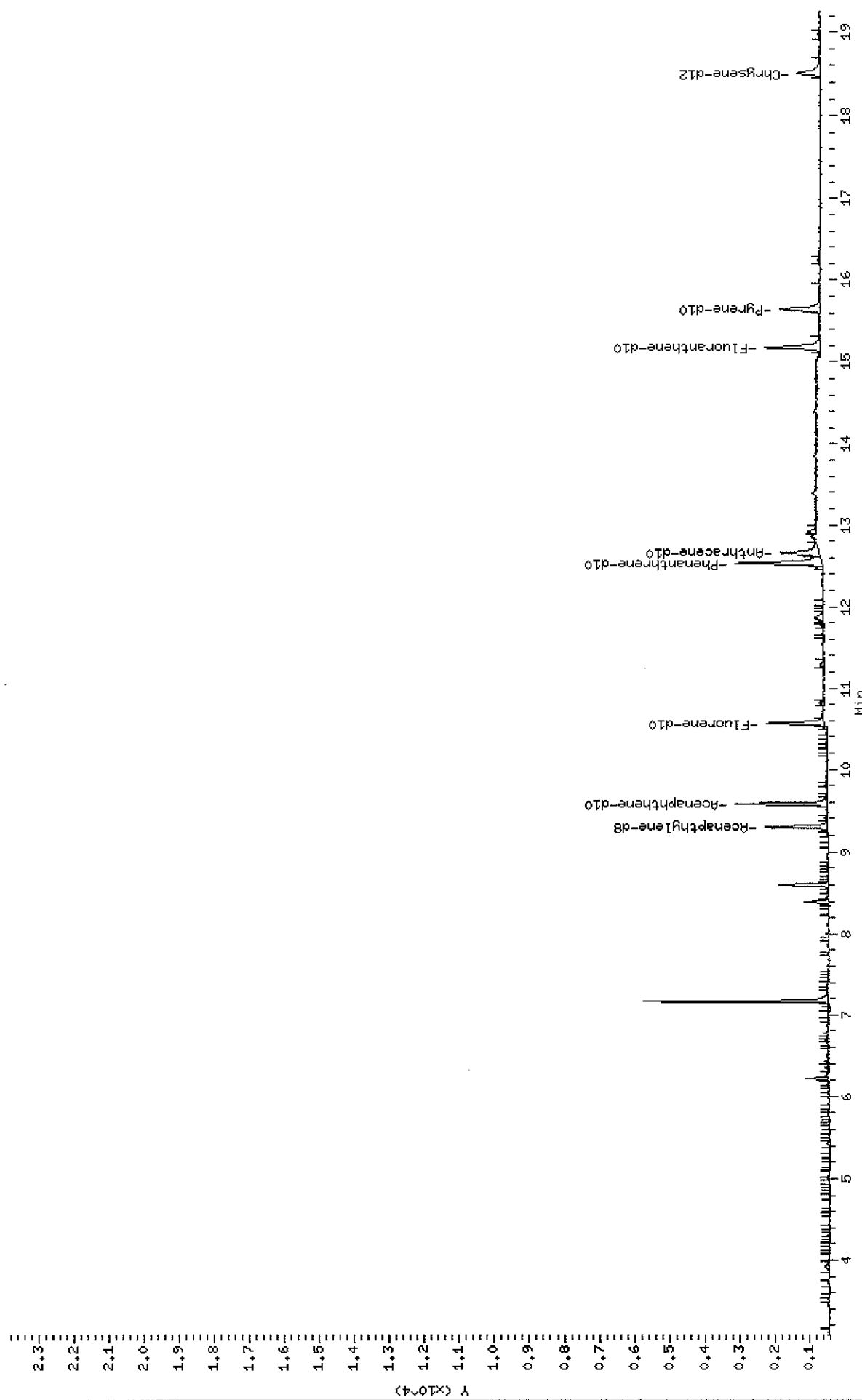
Column phase: hp-5MS

Instrument: HSSV5.i

Operator: JEW

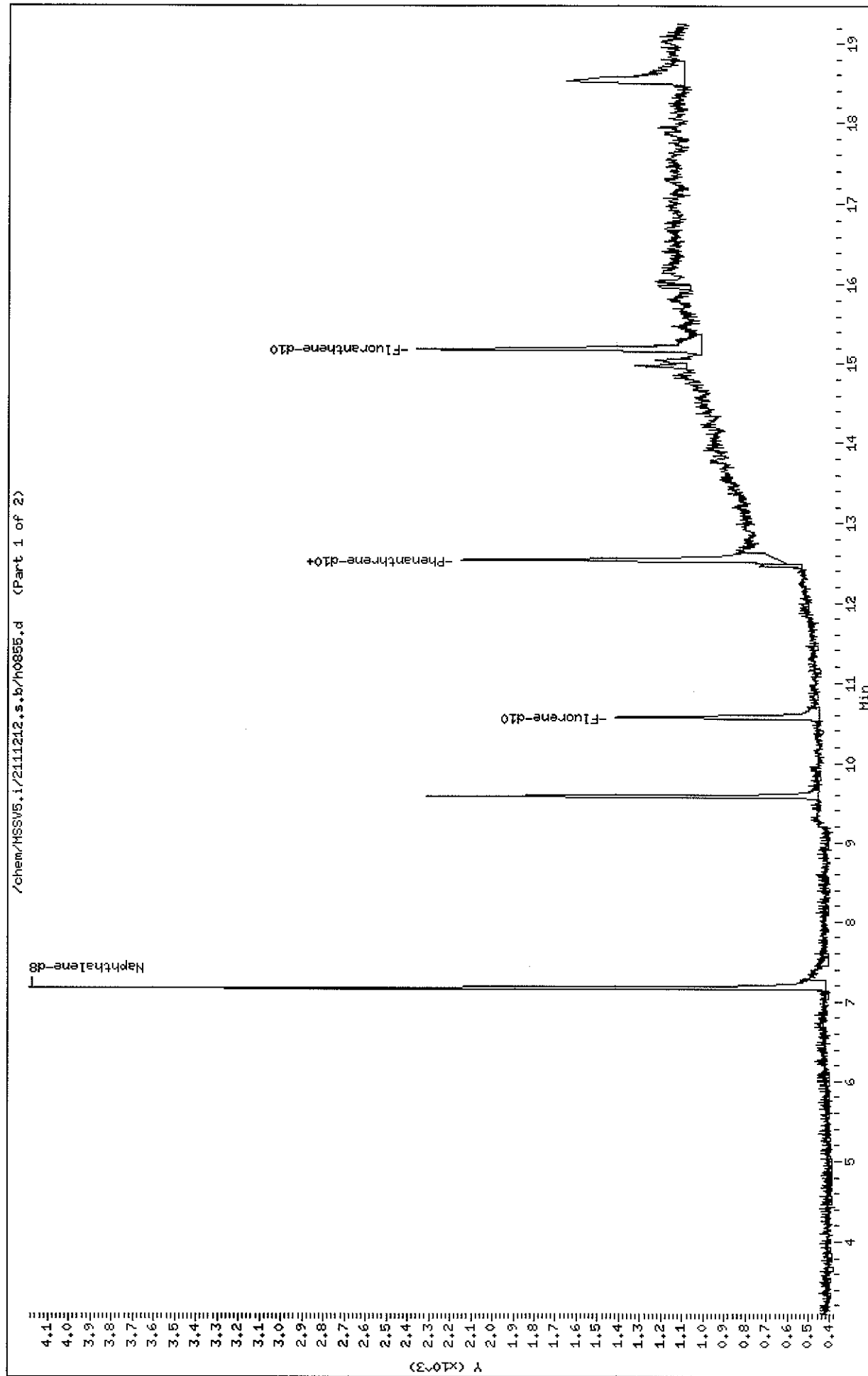
Column diameter: 0.25

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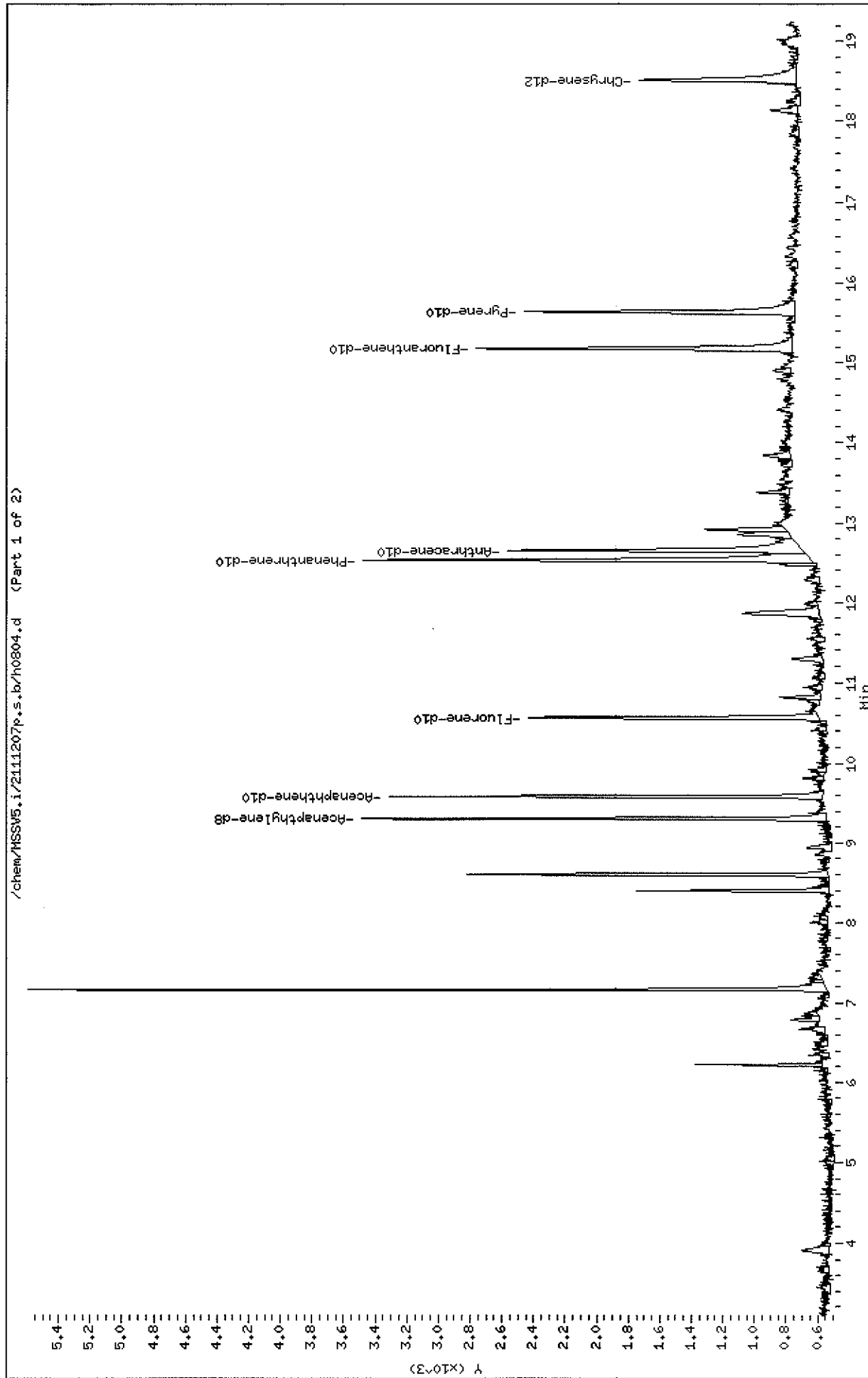
Data File: /chem/HSSV5.i/21111212.s.b/h0855.d
Date : 12-DEC-2011 09:18
Client ID: 21111111606
Sample Info: 21111111606*4773*
Volume Injected (uL): 1.0
Column phase: hp-5MS

Instrument: HSSV5.i
Operator: JEW
Column diameter: 0.25



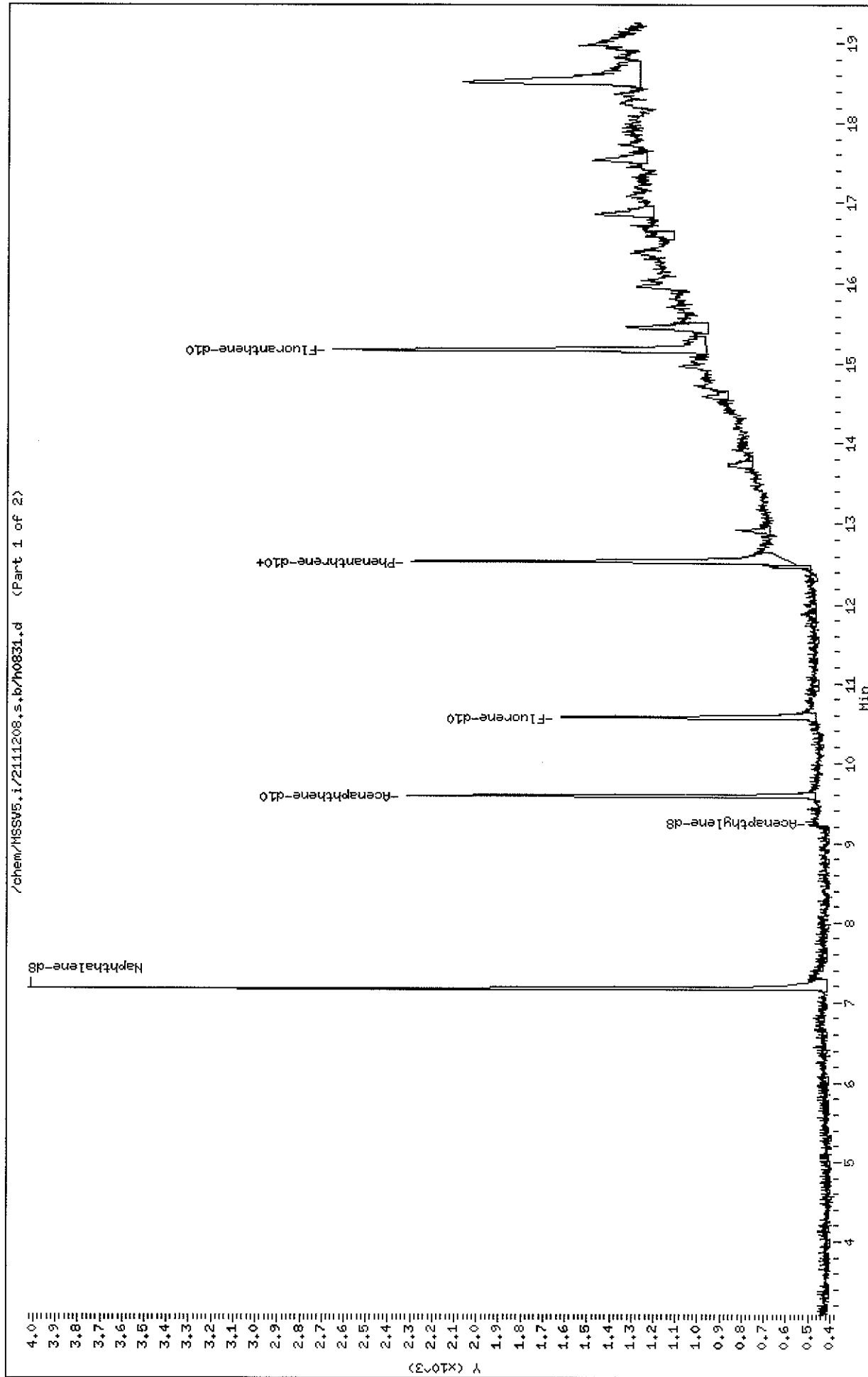
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 Date : 07-DEC-2011 16:19
 Client ID: 21111111607
 Sample Info: 21111111607*4773*
 Volume Injected (uL): 1.0
 Column phase: hp-5MS

Instrument: HSSV5.i
 Operator: JEW
 Column diameter: 0.25



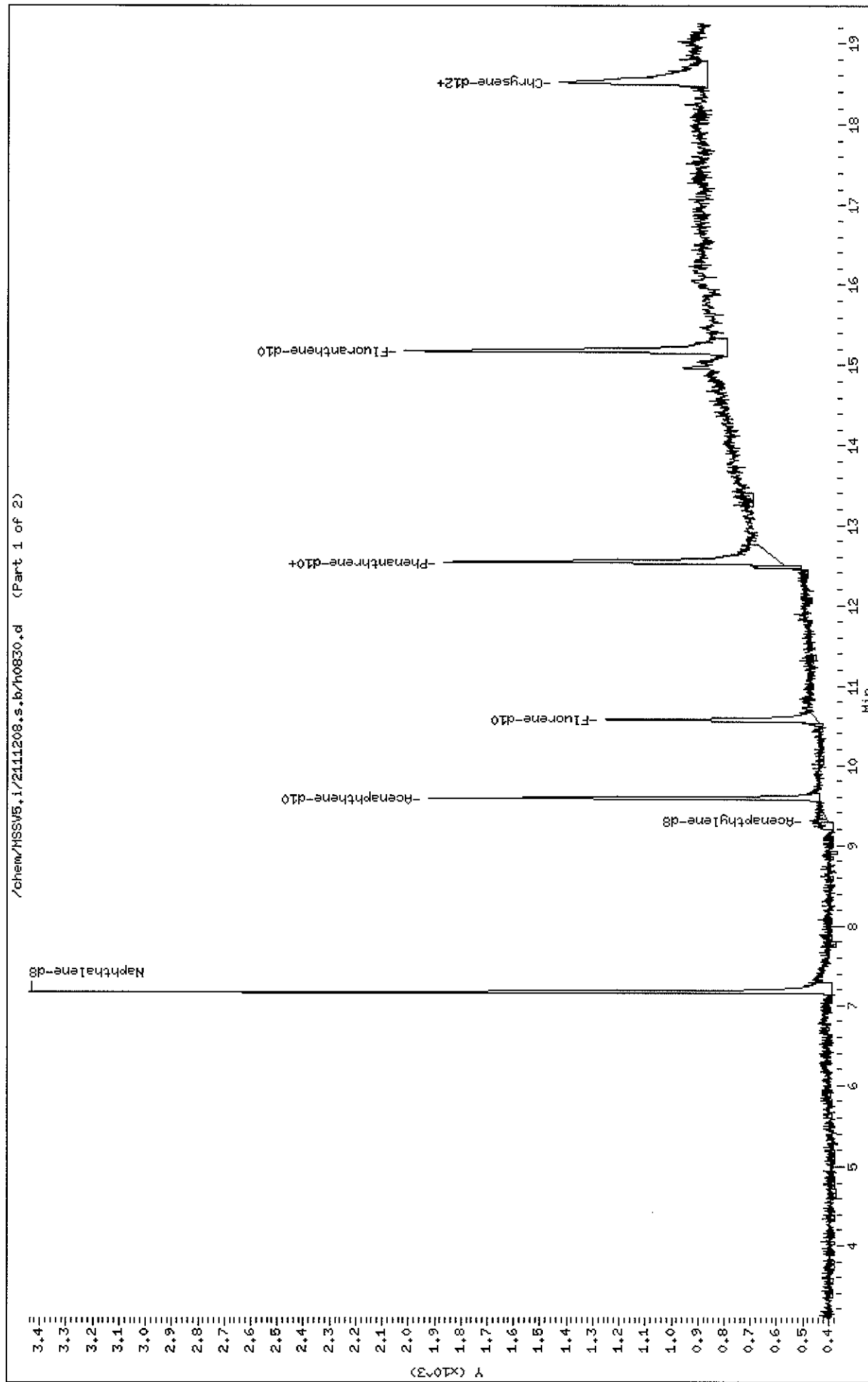
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Date : 08-DEC-2011 15:25
Client ID: 21111111608
Sample Info: 21111111608M4773M
Volume Injected (uL): 1.0
Column phase: hp-5MS

Instrument: HSSV5.1
Operator: JEW
Column diameter: 0.25



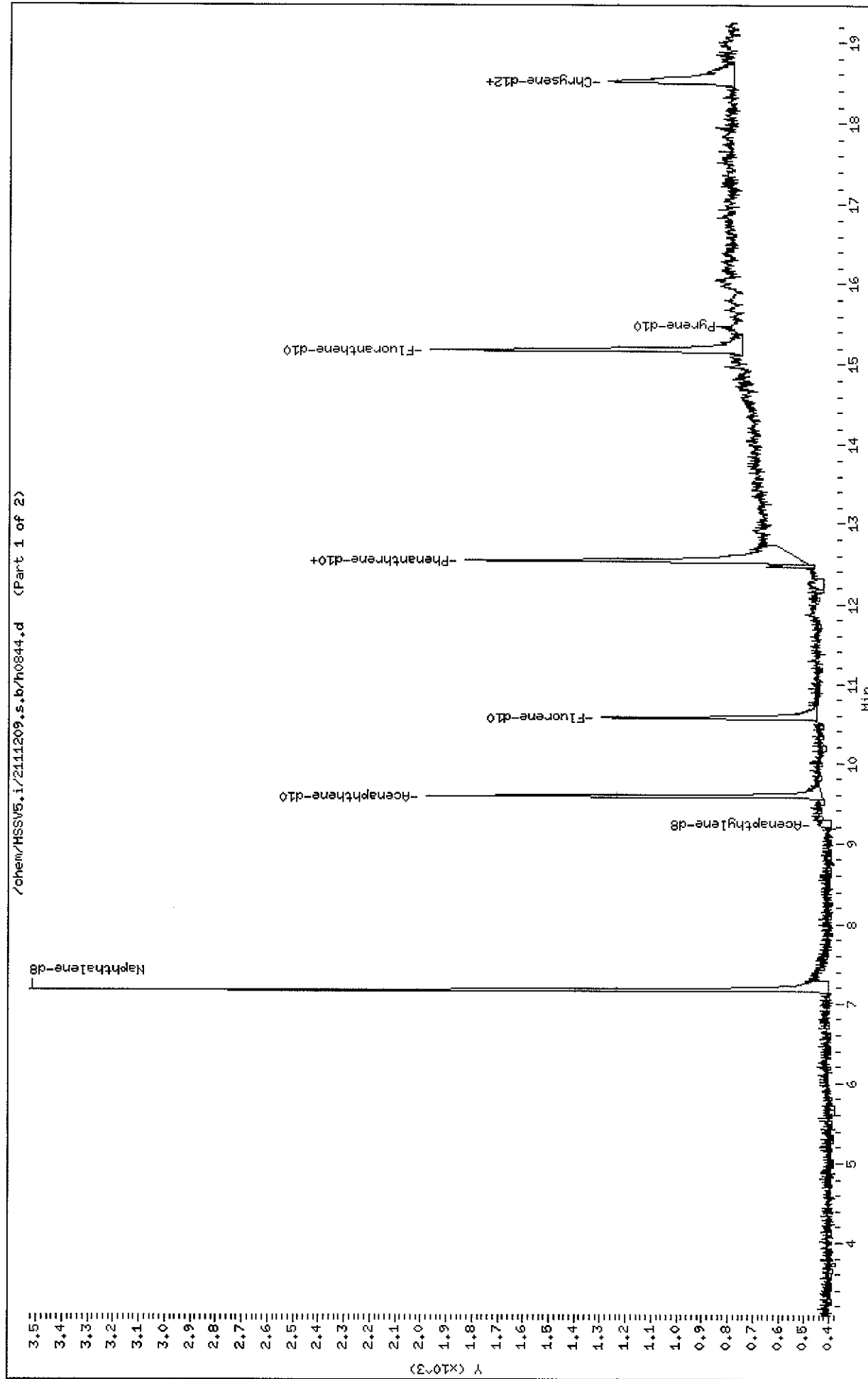
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Date : 08-DEC-2011 14:40
Client ID: 21111111609
Sample Info: 21111111609*4773*
Volume Injected (uL): 1.0
Column phase: hp-5MS

Instrument: HSSV5.i
Operator: JEW
Column diameter: 0.25



Data File: /chem/HSSV5.i/2111209.s.b/h0844.d
Date : 09-DEC-2011 09:33
Client ID: 21111111610
Sample Info: 21111111610*4773*
Volume Injected (uL): 1.0
Column phase: hp-5MS

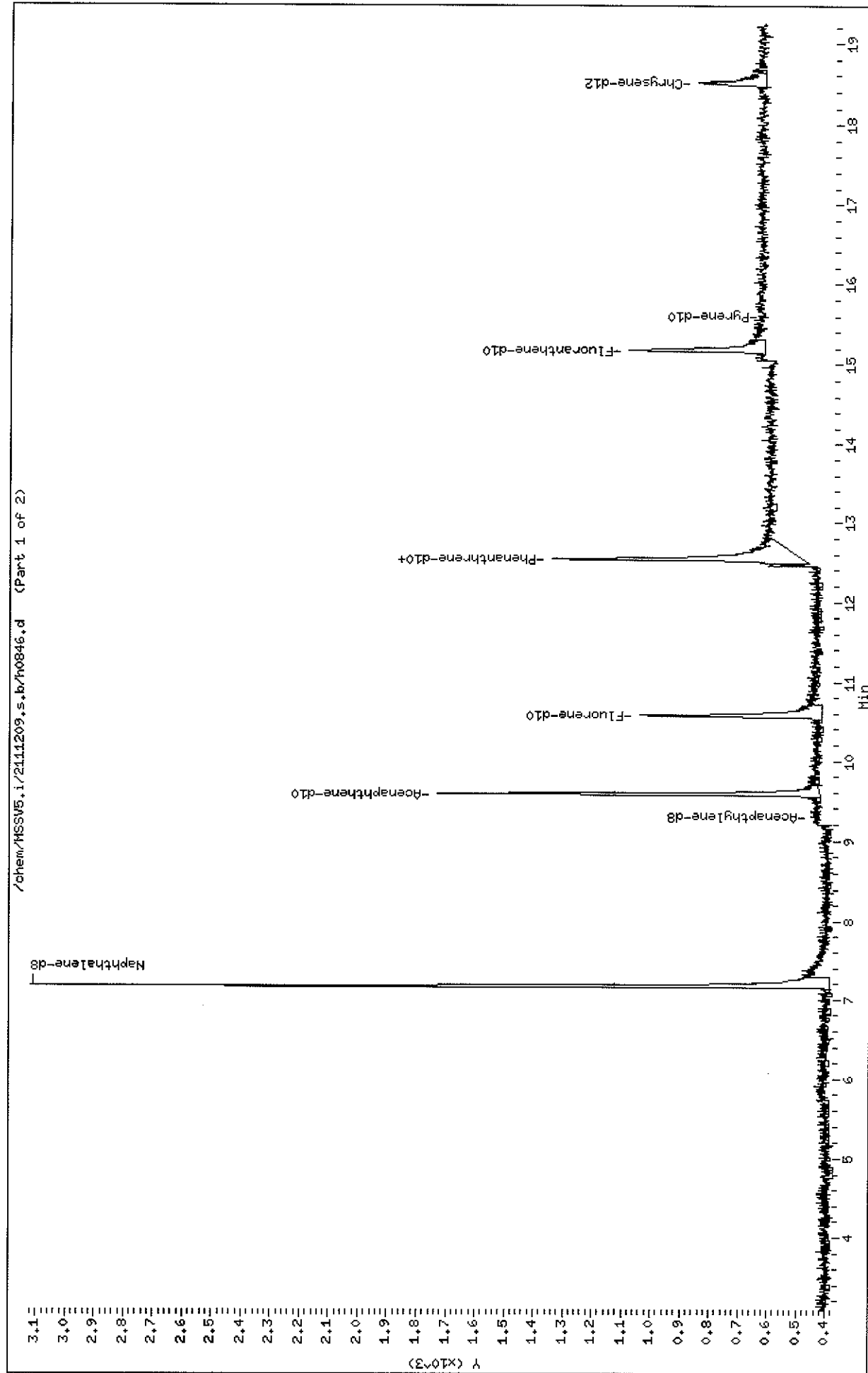
Instrument: HSSV5.i
Operator: JEN
Column diameter: 0.25



Data File: /chem/HSSV5.i/2111209.s.b/h0846.d
Date : 09-DEC-2011 11:02
Client ID: 21111111611
Sample Info: 21111111611*4773*
Volume Injected (ul): 1.0
Column phase: hp-5MS

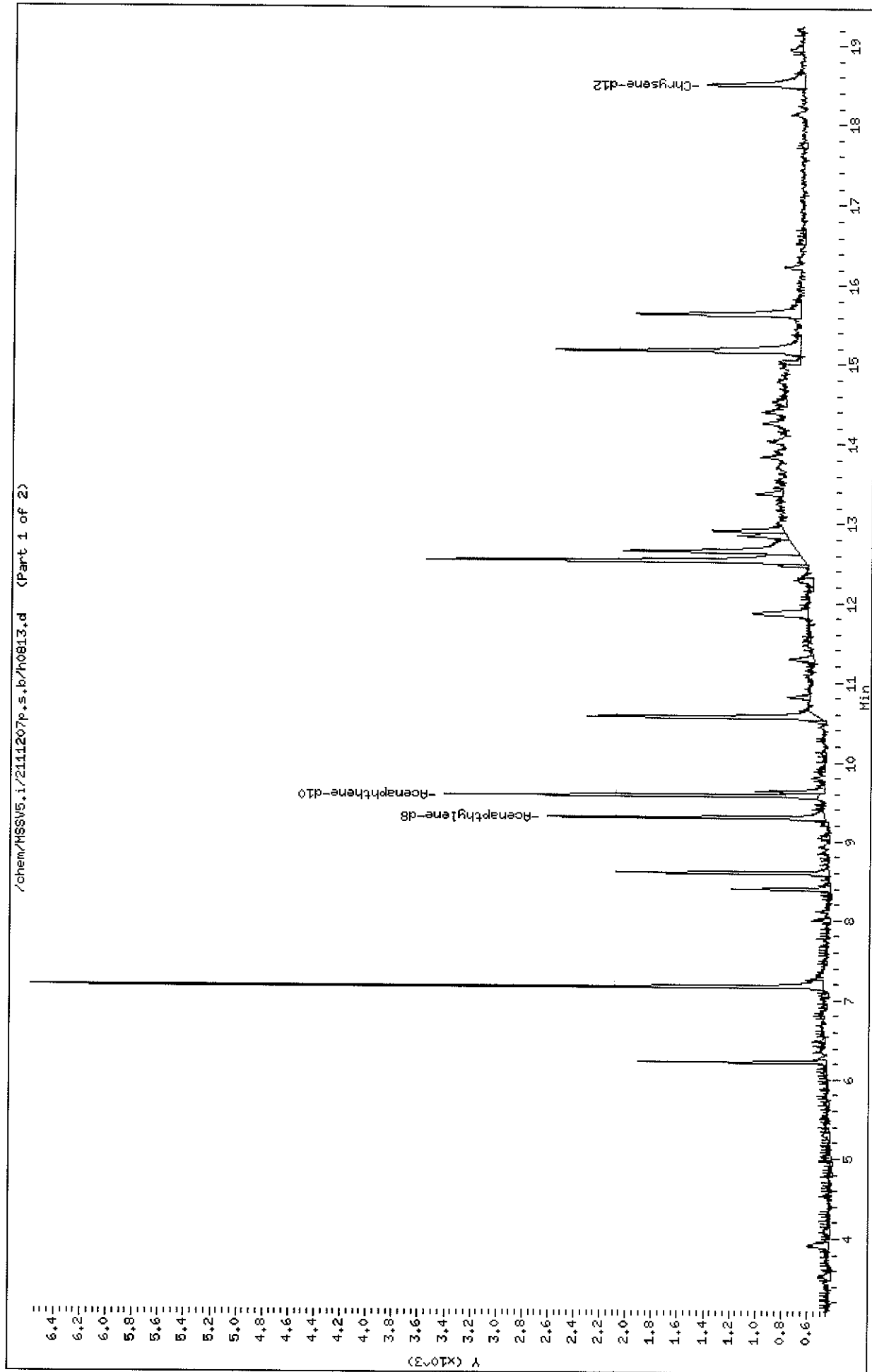
Instrument: HSSV5.i

Operator: JEM
Column diameter: 0.25



Data File: /chem/HSSV5.i/2111207p.s.b/h0813.d
Date : 07-DEC-2011 22:55
Client ID: 21111111612
Sample Info: 21111111612*4773*
Volume Injected (uL): 1.0
Column phase: hp-GMS

Instrument: HSSV5.i
Operator: JEW
Column diameter: 0.25



Data File: /chem/HSSV5.i/2111209.s.b/h0845.d

Date : 09-DEC-2011 10:17

Client ID: 21111111613

Sample Info: 21111111613*4773*

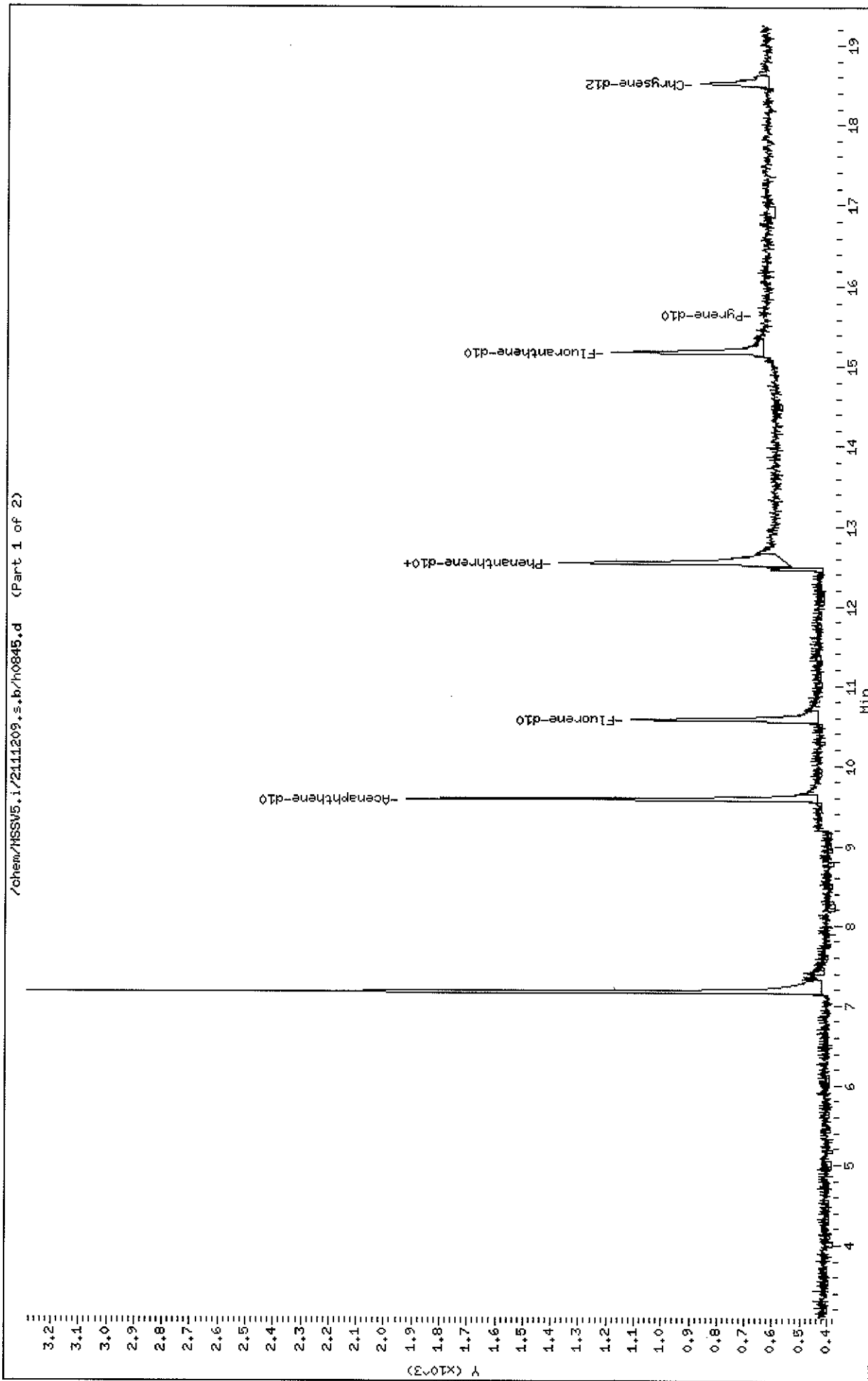
Volume Injected (uL): 1.0

Column phase: hp-5MS

Instrument: HSSV5.1

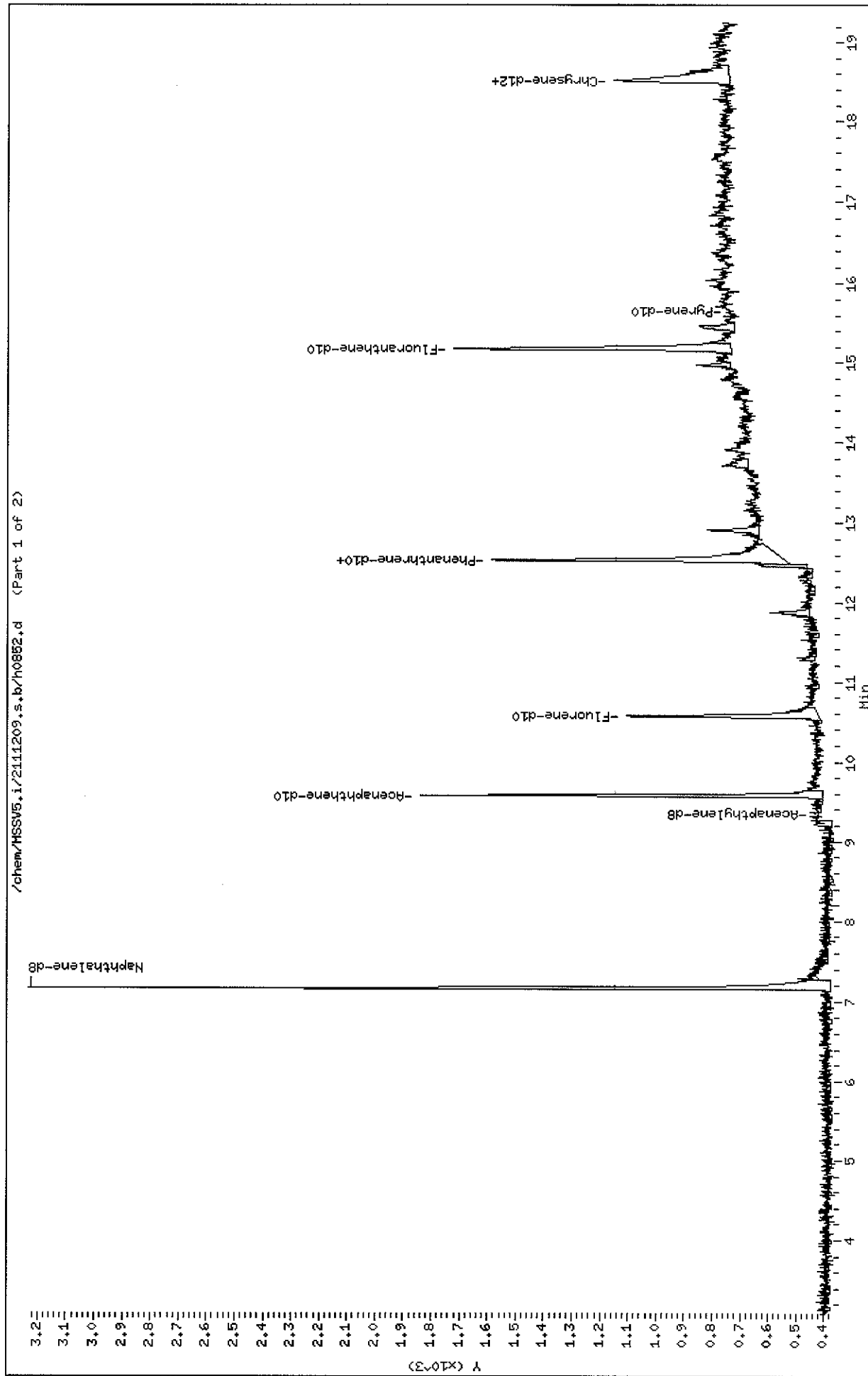
Operator: JEM

Column diameter: 0.25



Data File: /chem/MSSV5.i/2111209.s.b/h0852.d
Date : 09-DEC-2011 15:25
Client ID: 21111111614
Sample Info: 21111111614*4773*
Volume Injected (uL): 1.0
Column phase: hp-5MS

Instrument: MSSV5.i
Operator: JEW
Column diameter: 0.25



Data File: /chem/HSSV5.i/2111208.s.b/h0835.d

Date : 08-DEC-2011 18:19

Client ID: 21111111615

Sample Info: 21111111615x4773M

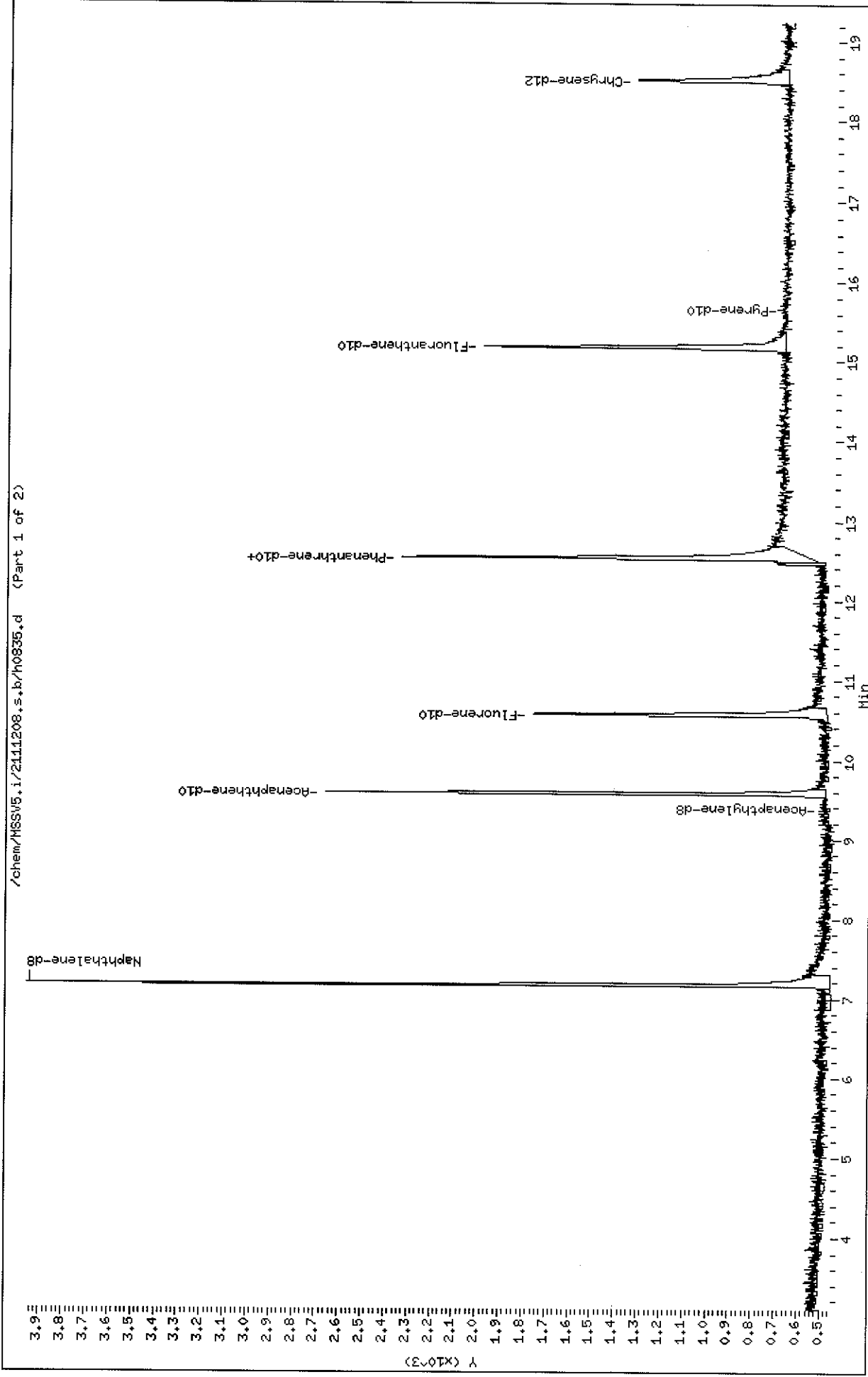
Volume Injected (uL): 1.0

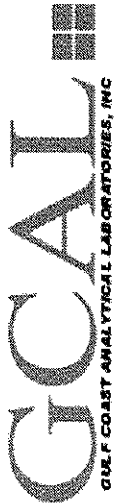
Column phase: hp-5MS

Instrument: HSSV5.i

Operator: JEW

Column diameter: 0.25





7979 GSRI AVE, BATON ROUGE LA 70820-7402
(225) 769-4900 FAX (225) 767-5717

Chain of Custody Record

Lab use only	<i>Surfrider Foundation</i>	Client # <i>4773</i>	Group# <i>21111116</i>	Due Date <i>12-2-11</i>
Client Name				

Report to: Client: Rip Kirby & Surfrider Address: 630 Fairway Ave NE Ft Walton Beach, FL 32547 Contact: Rip Kirby Phone: 850-217-1616 eMail: rip@nov9thgroup.com		Bill to: Client: Surfrider Foundation Address: PO Box 6010 San Clemente, CA 92674 Contact: Ericka Canales Phone: 772-924-4144 eMail: ecanales@surfrider.org	
P.O. Number N/A		Project Name/Number Surfrider SOTB - OCTOBER 2011	

Sampled By: **James H "Rip" Kirby III** or as otherwise remarked

Matrix	Date	Time (2400)	C o m p o s i t e	Sample Container Nbr & Description	Pre-servatives	No. Containers	8272 modified	Analytical Requests & Methods	Remarks:	Lab ID
S	11/4/11	1230am	X	1365 - DA 001 - tar balls	no	1	X	DUNE ALLEN BEACH, FL; PUBLIC BEACH ACCESS AREA	Collected by M Sturdivant 30° 21.128' N 86° 15.070' W	1
S	11/4/11	0100am	X	0486 - DA 002 - sand - carb hole	no	1	X	DUNE ALLEN BEACH, FL; PUBLIC BEACH ACCESS AREA	Collected by M Sturdivant 30° 21.128' N 86° 15.070' W	2
S	11/3/11	1800PM	X	0471 - NB001 - sand	no	1	X	NAVARRE BEACH, FL; PUBLIC BEACH ACCESS AREA	Collected by M Sturdivant 30° 22.636' N 86° 52.533' W	3
S	10/15/11	1015AM	X	1335 - FP001 - tar balls	no	1	X	FT PICKENS - EAST END, FL; PUBLIC BEACH ACCESS AREA	Collected by M Sturdivant 30° 19.486' N 87° 10.998' W	4
S	11/3/11	2100PM	X	0457 - PB001 - WEST - SAND	no	1	X	WEST END OF P'COLA BEACH, FL	Collected by M Sturdivant 30° 19' 28.75" N 87° 10' 53.08" W	5

NOTE: All times CDT		Turn Around Time: 24 - 48 hrs 3 days 1 week ☒ standard other	
Relinquished by (Signature) <i>James H Kirby III</i>	Received by (Signature) FEDEX - 795396286601	Date: 11/10/11	Time: 1700
Relinquished by (Signature) <i>James H Kirby III</i>	Received by (Signature) <i>James H Kirby III</i>	Date: 11/11/11	Time: 840
Relinquished by (Signature) <i>James H Kirby III</i>	Received by (Signature) <i>James H Kirby III</i>	Date:	Time:

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

5.3

7953 9628 6601



7979 GSRI AVE. BATON ROUGE LA 70820-7402
(225) 769-4900 FAX (225) 767-5717

Chain of Custody Record

Lab use only	Client Name	Client #	Due Date
	<i>Surfrider Foundation</i>	<i>4773</i>	<i>12-2-11</i>

Report to: Client: Rip Kirby & Surfrider Address: 630 Fairway Ave NE Ft Walton Beach, FL 32547 Contact: Rip Kirby Phone: 850-217-1616 eMail: rip@nov9thgroup.com		Bill to: Client: Surfrider Foundation Address: PO Box 6010 San Clemente, CA 92674 Contact: Ericka Canales Phone: 772-924-4144 eMail: ecanales@surfrider.org	
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P.O. Number	Project Name/Number
<i>N/A</i>	<i>Surfrider SOTB - OCTOBER 2011</i>

Sampled By: *James H "Rip" Kirby III* or as otherwise remarked

Matrix	Date	Time (2400)	C o m p	G r a b	Sample Container Nbr & Description	Pre-servatives	No. Containers	8272 Modified	Analytical Requests & Methods	Remarks:	Lab ID
S	11/3/11	0920am		X	0460 - R49 - Tar balls - fluoresce orange - typical pliable tar ball, dark brown in color	no	1	X	PERDIDO KEY - GINS, EAST OF ROAD END CIRCLE	R49 - fore beach shell debris line	6
S	11/3/11	0845am		X	0458 - R46 - Tar balls with sand - fluoresce orange - typical pliable tar ball, dark brown in color	no	1	X	PERDIDO KEY - GINS, EAST OF ROAD END CIRCLE	R46 - fore beach high water line - tar balls stranded in sand at the end of the wave run up line	7
S	11/4/11	0915am		X	1341 - R58 - Tar balls - fluoresce orange - typical pliable tar ball, dark brown in color	no	1	X	PERDIDO KEY - GINS, EAST OF ROAD END CIRCLE	R58 - back beach tar balls	8
S	11/4/11	0830am		X	1347 - R56 - tar balls - fluoresce orange - typical pliable tar ball, dark brown in color	no	1	X	PERDIDO KEY - GINS, EAST OF ROAD END CIRCLE	R56 - back beach tar balls	9
S	11/4/11	1100am		X	0454 - R66 PLUNGE STEP - tar balls - fluoresce orange - typical pliable tar ball, dark brown in color	no	1	X	PERDIDO KEY - GINS, EAST OF ROAD END CIRCLE	R66 Plunge Step - typical PS tar balls	10

NOTE: All times CDT

Turn Around Time:	24 - 48 hrs	3 days	1 week	X	standard	other
Relinquished by (Signature)	<i>James H Kirby III</i>	Received by (Signature) FEDEX - 795396286601	Date: 11/10/11	Time: 1700	Note:	
Relinquished by (Signature)	<i>Lead Ex</i>	Received by (Signature)	Date: 11/11/11	Time: 840	By submitting these samples, you agree to the terms and conditions contained in our most recent schedule of services.	
Relinquished by (Signature)	<i>James H Kirby III</i>	Received by (Signature)	Date: 11/11/11	Time: 840	5.3	

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

Chain of Custody Record

Lab Use Only

Lab use only

Cambridge Foundation

4773

21111116

18-2-11

7979 GSRI AVE, BATON ROUGE LA 70820-7402
(225) 769-4900 FAX (225) 767-5717

Report to:

Client: **Rip Kirby & Surfrider**
Address: **630 Fairway Ave NE**
Ft Walton Beach, FL 32547
Contact: **Rip Kirby**
Phone: **850-217-1616**
eMail: **rip@nov9tharoup.com**

Bill to:

Client: Surfrider Foundation
Address: PO Box 6010
San Clemente, CA 92674
Contact: Ericka Canales
Phone: 772-924-4144
eMail: ecanales@surfrider.org

P.O. Number	Project Name/Number
N/A	Surfrider SOTB - O

Surfrider SOTB - OCTOBER 2011

Sampled By:
James H "Rip" Kirby III or as otherwise remarked

Matrix	Date	Time (2400)	C o m p	G r a b	Sample Container Nbr & Description	Pre-serva tives	No. Con- tainers	82721									Remarks:
S	11/4/11	1015am		X	1329 -R66A - Tar balls - fluoresce orange - typical pliable tar ball, dark brown in color	no	1	X	PERDIDO KEY - GINS, EAST OF ROAD END CIRCLE	R66 - swash zone							/
S	11/4/11	1015am		X	1339 - R66B - Tar balls - fluoresce black - more rust colored than brown tar balls; more brittle than brown tar balls; definite lack of goeey-ness	no	1	X	PERDIDO KEY - GINS, EAST OF ROAD END CIRCLE	R66 - swash zone							11
- S	11/3/11	0930pm		X	1351 - R53 - black jelly bean; hard and brittle, inside surface is tacky; outside surface is weathered and worn smooth; outside surface fluoresces slightly, inside no	no	1	X	PERDIDO KEY - GINS, EAST OF ROAD END CIRCLE	R53 - back beach wrack line							12
S	11/3/11	0900am		X	0463 -R47 - Tar balls - fluoresce orange - typical pliable tar ball, dark brown in color with embedded shell debris	no	1	X	PERDIDO KEY - GINS, EAST OF ROAD END CIRCLE	R47 - mid beach shell debris wrack line							13
S	11/3/11	0915am		X	0438 -R48R51 - Tar balls - fluoresce orange - typical pliable tar ball, dark brown in color with embedded shell debris	no	1	X	PERDIDO KEY - GINS, EAST OF ROAD END CIRCLE	Between R-48 and R51 - high water wrack line; tar balls with embedded shell debris							14
																	15
NOTE: All times CDT																	

NOTE: All times CDT.

Turn Around Time: 24 - 48 hrs

Relinquished by: (Signature)  Received by: (Signature) 
FEDEX - 795396286601

James H Kirby III
Received by (Signature) _____
Relinquished by (Signature) _____

Relinquished by: (Signature) <i>Lead Ex</i>	Received by: (Signature) <i>Lead Ex</i>
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Received by: (Signature) _____ Date: _____

Relinquished by: (Signature) _____ Received by: (Signature) _____
FEDEX - 795396286601

James H Kirby III

Relinquished by: (Signature) <i>Lead Ex</i>	Received by: (Signature) <i>James</i>	Date: <i>11/17</i>
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Received by: (Signature) _____ Date: _____ Time: _____

Relinquished by (Signature)	Received by: (Signature)	Date:	Time:
	FEDCX - 795396286601	11/10/11	1700

James H Kirby III

Received by: (Signature)	11/11/11	Time: 8:45
Received by: (Signature)	11/11/11	Time:

Note:

ak	X	standard	other

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

5.3

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



SAMPLE RECEIVING CHECKLIST

Workorder: 211111116Client: 4773 - Surfrider FoundationProfile: 210818 - Surfrider State of the BeachLine Item: 1 - SolidReceived by: Saucier, CharlotteReceived Date/Time: 11/11/2011 8:40:00 AMSamples Received via: FEDEXNumber of Coolers Received: 1Cooler tracking numbers(s): 7953 9628 6601Cooler temperature(s): 5.3

Were all coolers received at a temperature of 0 - 6° C?	☒ Yes	☐ No	☐ N/A
Were all custody seals intact?	☐ Yes	☐ No	☒ N/A
Were all samples received in proper containers?	☒ Yes	☐ No	☐ N/A
Were all samples properly preserved?	☒ Yes	☐ No	☐ N/A
Was preservative added to any container at the lab?	☐ Yes	☒ No	☐ N/A
Were all containers received in good condition?	☒ Yes	☐ No	☐ N/A
Were all VOA vials received with no head space?	☐ Yes	☐ No	☒ N/A
Do all sample labels match the Chain of Custody?	☒ Yes	☐ No	☐ N/A
Was the client notified about any discrepancies?	☐ Yes	☐ No	☒ N/A

Notes/Comments: _____
