

## Understanding ASPECT chemical reporting information ----

ASPECT uses a Fourier Transform Infrared Spectrometer (FTS) to detect and quantify gaseous constituents present in the air column between the aircraft and the ground.

ASPECT FTS chemical detection software is designed to filter out common atmospheric constituents as it searches for abnormal gases in the air column below the aircraft.

ASPECT's nominal chemical detection concentration level capability is at the part per million level PPM.

ASPECT onboard automated chemical detection process searches for the presence of 24 commonly occurring chemical vapors in near-real-time. This list was developed and prioritized based on chemical production statistics and combustion data of many common materials.

Post flight the FTS data is examined by the ASPECT team to assess FTS performance and reprocessed to search for the presence of an additional 536 possible chemical vapors.

Non- detections in the ASPECT FTS data for the 24 chemical vapors automated chemical detection process are being routinely reported for the Deepwater Horizon Response.

The ASPECT team has reported the presence of low concentrations of the following chemical vapors: Acetaldehyde, Methanol, Carbon Monoxide, Ozone

A significant observation by the ASPECT sensor suite is the correlation of the presence of detected methanol in close proximity to where the well head is located in the Gulf of Mexico and oil has been seen reaching the surface in the ASPECT IR and Visible imagery. Of the 838,100 FTS data scans collected and processed for the Deepwater Horizon Response, approximately 100 FTS data scans were reporting the presence of methanol in the air column below the aircraft. The position of each of these methanol detections is in an area in the immediate vicinity of the leaking well head. See FTS detections on the ASPECT Google Earth KML link.

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May 01, 2010

ASPECT is preparing to collect data in the following flight profile:

- Target Group 1. Chandeleur Islands
- Target Group 2. Southern Delta up to Chandeleur Islands.

Recent Weather data indicates that a suitable ceiling is available in these areas. Due to the Presidential Visit today, Airspace will be closed in the New Orleans Area starting 1200 Local, with the Delta Area closing up to and including 1700 Local. ASPECT plans to remain clear of all TFRs. Target Group 1 will be conducted first with Target Group 2 to follow pending time and fuel.

Focus of mission will be to image the shorelines over the target areas. IR, Chemical and Photo collection will be conducted over these areas. The crew will remain in contact with the ASPECT team via satellite throughout the mission. If issues of significance are noted, they will be relayed via satellite. In the event that significant chemical detections are made, data will be relayed via sat com for analysis.

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May 02, 2010

Imagery data collected today is being uploaded to the Google link. Aerial images will be uploaded by 2300 tonight. IR imagery will be uploaded in the morning upload. Spectral analysis of data collected along the marshes of Chandeleur Island showed no detections. Oil was observed in a number of photos and in IR imagery. A large number of oblique images were collected and are scheduled to be uploaded by 2300. Flight operations today were shortened by the Presidential Visit (airspace issues) and the weather. IR data is good to excellent. The weather forecast calls for low ceilings in the morning with lifting to 2000 ft by noon. ASPECT hopes to be airborne at that time and target the dispersant operations followed by a continuation of the mars/shoreline surveys.

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May 03, 2010

The ASPECT aircraft will be down for about 2 hours in the morning to conduct routine maintenance on the ASPECT system.

Thunderstorms prevented the ASPECT aircraft from conducting surveillance over the dispersant treatment area around the rig during the first mission.

The crew was able to fly the area on the second mission but flight conditions were extremely poor due to a 1730 departure after the T-storms in the rig area had moved to the east.

ASPECT flew two missions today, which resulted in 498 aerial images and 60 IR/Spectral runs over the eastern marsh areas.

Due to the large amount of data collected today, data will not be ready for uploading until the morning of May 04, 2010.

ASPECT will continue to place priority on monitoring the active treatment area and provide air monitoring in the event that an oil burn is conducted.

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May 04, 2010

ASPECT has filed for an 1100 departure.

Focused mission area will be on the dispersant operations being conducted around the rig area. Current weather conditions appear to be excellent.

The secondary mission we will continue to probe island and marsh areas using both visible and IR.

In the event that a burn is conducted this will become the priority mission.

The aircraft is airborne. Priority target is the rig site.

Crew reports definite edge of major slick located at 29.4247N, 88.6813W. Crew is reporting very heavy fog in the rig area. Data was collected. Crew reports heavy line of oil at 28.8423N 89.027W. .

Crew report oil 2-3 miles offshore on the west side of the delta, position reported as 28.8792N 89.4257W.

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May 05, 2010

ASPECT was tasked by the Region 6 OSC to fly the burn. ASPECT has filed an 1130 departure but will expedite if possible. It is estimated the aircraft will be on station at 1230. Data is expected by 1400-1430. Significant observations or on-board data results will be relayed via satellite.

ASPECT continues to be on station. The crew reports that they have made a good data collection of aircraft dropping dispersants. In addition, the crew reports that they can see what appears to be oil coming to the surface. The position is reported as 28.7300N 88.3758W. The ASPECT crew will photo document the site (aerials and oblique's) and to collect IR/Spec data. The aircraft will remain on station and continue to be ready for a burn until fuel is exhausted.

The aircraft returned at 1530 and is in the process of having the oil changed. Numerous aerial and oblique photos were collected showing much of the recovery operations at sea. The crew believes that they have located the position that most of the oil is reaching the surface. The position is reported to be 28.6124N 88.4399W.

Currently there are no oil burning operations.

Per instruction from Region 6, the ASPECT Team is analyzing IR data from the upwelling area and comparing this to areas distant from the site. In addition we are looking at the spectral signature of the dispersant.

Recommended plans for 6 May will include air monitoring of any oil burns and additional data collection over the upwelling area. Expect maintenance on the aircraft to be completed by 1000 May 6, 2010. An earlier flight is possible if necessary.

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May 06, 2010

The aircraft is being serviced now (oil change) and will be totally completed by 1000. An earlier flight is possible but time to target will be extended from 1.5 hours to 2.0 hours. Recommended priority today will include air monitoring of any oil burns and additional data (IR/Spectral/photo) collection in the dispersant area.

ASPECT conducted 2 flight missions on 6 May 2010 (flight 2 is currently underway). Deployment flight 9 was conducted to provide detailed air monitoring of oil burning operations. A significant burn operation was documented at position 28.6531N 88.3625W. A representative oblique image of the burn can be found on the Google Earth link, Flight 9. The burn was reported to be approx 150 feet in diameter with a plume lofting vertically to 3500 ft and folding over to the east. Air monitoring data was collected directly over the fire and over the smoke plume. Spectral results of the fire and smoke showed trace levels of methanol, carbon monoxide, and low molecular weight aldehydes.

Additional data was collected in areas which appear to be upwelling oil but no dispersant operations were observed. While in transit to and from the area, ASPECT continues to provide position reports of oil.

ASPECT has made the following oil reports in transit to the burn area:

Line of oil near the Chandeleur Islands, more north than yesterday 29.9621N, 88.8513W Large mass of oil at 29.9097N, 88.8513W

ASPECT has filed for a 1710 departure to resume recon of oil burning operations. The flight profile used in the previous oil burn mission will be used for this flight.

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May 07, 2010

#### **ASPECT summary for 7 May 2010**

- ASPECT conducted one flight on 7 May 2010

- The primary objective of the mission was to:
    - Collect data over any burning operations
    - Collect data over dispersant operations
  - ASPECT was on station from 1130 to 1330:
    - No oil burning operations were observed during the time on station
    - Spectral and IR data was collected over the recovery area
    - Due to excellent visibility (20 miles) 1000 ft aerial images were collected over the recovery area.
- All collected data has been uploaded to the Google Site up to Flight 10. Data for today's flight (11) is being uploaded.
  - Pending weather ASPECT recommends one flight on 8 May 2010 to collect all forms of data at the recovery area and along the eastern islands and marshes
  - ASPECT Statistics to Date

Total Flight Hours	35.2
Total Missions (Flights)	11
Total Data Collection Runs	219
Total Aerial Digital Photographs	1700
Total Oblique Photographs	1150
Total IR Images	250
Total reviewed/processed Spectral Interferograms	636000

All maintenance operations have been completed on the aircraft (oil change). ASPECT has filed for a 0930 departure time pending traffic at Gulfport.

Per the Region 6 OSC, current recovery plans call for oil burning up to 1400 local. ASPECT has priority to collect:

1. Any oil burn operations
2. Dispersant operations
3. Collect situational documentation.

Data including IR, spectral, oblique, and aerials will be collected for each data run.

ASPECT reports large mass of oil just south of Brush Island approx 30.067N, 88.183W.

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May 08, 2010

ASPECT has filed for 1000 flight with the following objectives:

1. Fly to position 29.01N 90.21W to recon a potential mass of oil west of the delta
2. Transition to the oil recovery area to collect photo and infrared spectral data.
3. Transition to Freemason island to collect IR and photo data and return to base.

ASPECT has completed a general sweep of the suspected oil mass west of the delta. Visibility is medium and no visible oil was detected.

ASPECT is heading for the recovery area to collect photos and additional data. Upon return collect data over Freemason Island and then return to base.

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May 9, 2010

Per instruction from Region 6, recon and documentation of the recovery area will focus on in-situ burns, dispersant application, and associated activities with the oil containment dome.

ASPECT is scheduled for a 0900 departure to resume a recon survey of the Western most oil coverage. Due to the position drift of the oil coverage, a zig-zag reconnaissance flight pattern will be flown. Visibility today is forecasted to be good.

Near shore areas inside the Chandeleur Islands and in the delta will be monitored on the flight out to the recovery area.

All ASPECT sensor suite data will be collected during the survey. A circular Polarizing filter has been installed on the digital camera to improve sun glare and all optics have been cleaned.

Once the western survey is completed, ASPECT will transition to the recovery area. Per instruction from Region 6, recon and documentation of the recovery area will be intensified due to issues associated with the oil containment dome.

Pending weather, ASPECT will file for a second flight at approx 1500 to focus on recovery operations.

ASPECT aircraft observations:

Position is about 2 miles south of Cat Island, N30.142, W89.04:

Crew is heading south to the recovery area on the east side of Chandeleur Island. Red Oil stringers have been continuous since the first report. Current position is N30.743, W88.8453. Crew did not observe oil on the beaches.

ASPECT is currently collecting high alt images over the site. They are seeing no oil burning operations or dispersant operations. Large brown streaks of oil at 28.7572N, 88.6071W.

Crew reports red oil with what appears to be floating in clumps at 28.830N, 89.223W.

Crew reports edge of large oil mass at 28.823N, 89.257W. Aircraft is heading west into the gulf to look for the possible oil west of the delta. Last two position reports are due south of the delta.

The circular polarizing filter installed on today's first flight has improved the digital visible aerial imagery.

The circular polarizing filter will be removed for today's second flight and a haze filter will be installed to accommodate changing light conditions.

ASPECT has filed for a 1530 departure to resume data and photo collection over the recovery area.

ASPECT aircraft observations out to recovery site:

Pilots reported light sheen seen south of the mouth of Mobile Bay, 30N 4.64 88W 7.8. A second report of East-West sheen line of oil noted south of Chandeleur Islands at 29N 45.15 88W 49.40.

Flight crew arrived at recovery area and did not find any new activity. Oil recovery operations appeared to be continuing, no in-situ burning noted, no aerial dispersant application noted.

The flight crew continued south of the recovery area for about 25 miles until oil sheen became noticeably thinner, 28N 26.63 88W 30.12.

ASPECT aircraft will monitor shorelines on return flight for noticeable oil on shore.

Near shore areas inside the Chandeleur Islands and in the delta will be monitored on the flight out to the recovery area. Per instruction from Region 6, recon and documentation of the recovery area will focus on in-situ burns, dispersant application and associated activities with the oil collection device.

The ASPECT flight crew reported crossing over the leading edge of consistent oil sheen coverage at 29N 00.08 lat 88W 29.5 long. The heavier oil coverage line was crossed over closer to the recovery area at 28N 46.09 88W22.36.

The ASPECT aircraft continued to southern edge of oil. The oil/water line was reported as 28N 03.59 88W 07.25.

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May 10, 2010

Per instruction from Region 6, recon and documentation of the recovery area will focus on in-situ burns, dispersant application and associated activities with the oil containment dome.

ASPECT departed at 0945 to resume recon of the recovery area and monitoring of near shore oil.

Near shore areas inside the Chandeleur Islands and in the delta will be monitored on the flight out to the recovery area.

The ASPECT flight crew reported crossing over the leading edge of a continuous surface oil sheen coverage at 29N 00.08 lat 88W 29.5 long. A heavier oil coverage line was crossed over closer to the recovery area at 28N 46.09 88W22.36.

Aspect flight crew observed dispersant application activity near the southern edge of the oil coverage.

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May 14, 2010

ASPECT aerial reconnaissance of the rig area and selected delta regions was conducted. Collected data included aerial and oblique photography, aerial infrared imagery, and Fourier Transform infrared spectral data. All data was processed and is included in the Google earth data link.

Aspect flight crew observed dispersant application activity near the southern edge of the oil coverage.

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May 17, 2010

ASPECT aerial reconnaissance of the rig area was completed during the first flight on 17 May. Data includes 10,000 ft aerial imagery and 2,800 ft. infrared and Fourier Transform infrared spectral data.

A second aerial reconnaissance air monitoring mission was conducted on 17 May with the focus being the oil burning operations near the rig site. This mission collected infrared aerial imagery along with Fourier Transform infrared spectral data. Analysis of Fourier Transform infrared data revealed a reasonably clean burning of the volatile compounds in the crude oil, with only trace amounts of acetaldehyde, low molecular weight hydrocarbons, and carbon monoxide present down wind. Once again, methanol detections believed to be emanating from fresh oil reaching the surface were noted immediately in the vicinity of the rig.

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May 18, 2010

Two aerial reconnaissance missions were conducted over the rig area. The focus of both missions was to monitor air quality downwind of the oil burning operations. The first mission flew over two separate oil burning operations. The mission flight was shortened due to thunderstorms in the area. Analysis of Fourier Transform infrared data revealed a reasonably clean burning of the volatile compounds in the crude oil, with only trace amounts of acetaldehyde, low molecular weight hydrocarbons, and carbon monoxide present down wind. Once again, methanol detections believed to be emanating from fresh oil reaching the surface were noted immediately in the vicinity of the rig.

May 19, 2010

ASPECT conducted aerial reconnaissance missions on May 19, 2010. The priority objective for each mission was to collect data and photo documentation exclusively on the oil burns. A secondary objective was the collection of a high altitude (10,000 AGL) photo survey over the recovery area.

ASPECT departed at 0800 and reported heavy oil located at 29.3415N, 88.6800W. At 0845 an oil fire was reported at 28.8582N, 88.3265W which lasted about 40 minutes. A second fire was located at 28.8592N, 88.3129W which rapidly grew and jumped the booms. Spectral data and aerial photos were collected for each oil burn. ASPECT remained on station monitoring the larger fire until fuel reserves forced the crew to return. Data collected on the first flight was analyzed and used to provide size estimates of each fire to Region 6 Joint Operations Center (JOC). The ASPECT team assisted the Region 6 JOC in computing estimates of oil burned during each burn. As part of the computing process, the NOAA team assigned to the effort was given instructions on using the ASPECT Google Earth data.

Analysis of spectral data collected during the first mission showed trace levels of 1,3-butadiene in the fire plume and trace levels of acetaldehyde, and carbon monoxide over the oil burn areas. Approximately 400 oblique photographs and 60 aerial images were collected during the mission.

ASPECT was contacted per the direction of the OSC to work with BP representatives on posted air monitoring data. BP was directed to posted data on the Google site.

ASPECT departed on its second May 19, 2010 aerial reconnaissance mission at 1400 and reported that three fires were burning based on radio traffic. However, only two fires were observed.

The first fire was reported at 28.9032N, 88.3092W and reported to burn out at about 1537 local time. A second fire located at 28.8878N, 88.3092W was reported to have jumped the boom. Once again, spectral and photographic data was collected for each burn.

May 20, 2010

ASPECT completed two aerial reconnaissance missions on May 20, 2010. The primary objective of the first mission was to collect data over any oil burning operations. Visibility was

12 miles and no oil burns were observed. A high altitude photo survey was conducted over the recovery area. Skimming operations were noted approximately 5 miles north of the rig site. 276 aerial images were collected on this mission. A request was made to provide situational reports to the NOAA modeling center on all in-flight updates.

A second aerial reconnaissance mission was conducted in the afternoon of May 20, 2010. Two oil fires were observed. Aerial images, oblique images and spectral data were collected over each burn. Analysis of spectral data collected showed trace levels of 1,3-butadiene in the fire plume and trace levels of acetaldehyde, and carbon monoxide over the oil burn areas.

A general assessment was made by comparing aerial images from May 17, 2010 to those collected today, May 20, 2010. It appears that oil coverage over the rig area while still wide spread is beginning to break up into groups.

ASPECT is scheduled to be down on 21 May while maintenance is conducted on the aircraft. It is anticipated that flight operations will resume late on 21 or early on 22 May.

May 22, 2010

ASPECT flew two aerial reconnaissance missions on May 22, 2010. Current mission plan calls for a flight from Gulfport, MS. direct to the recovery site. Data will be collected at 2 minute intervals and will include spectral, IR and photographic data. At the recovery area, the aircraft will transition to South Pass. During the transition, data will be collected every 2 minutes. A shore/marsh survey will be conducted from South Pass up to 29.1989N 88.9941W. This survey will include spectral, IR and photographic data. ASPECT will next transition to Brush Island and while in transit collect data at 2 minute intervals. Brush Island will be surveyed and the aircraft will return to Gulfport, MS.

ASPECT flight crew observations May 22, 2010:

1. Crew reports the beginning oil an oil sheen 29N 44.52, 88W 48.43.
2. Crew reports first indication of heavy oil at 29N 33.28, 88W 43.08.
3. Crew reports heavy to light oil at 29N 07.19, 88W 32.98.
4. Crew reports skimmers running north of the rig. Also a line of demarcation of oil noted at 29N 41.47, 88W 20.71. Heavy oil is to the north of this point. Sheen is to the south.

May 23, 2010

ASPECT conducted one aerial reconnaissance mission on May 23, 2010. The primary objective was to collect IR, Spectral, and photographic data over oil burning operations. ASPECT was airborne at 1230 and on station over one fire which started at 1307 and lasted about 40 minutes.

The position of the fire was 28N 50.47, 88W 25.29. The crew reported that the fire tended to be small. No other fires were observed. No significant emissions were detected from the fire.

As time and fuel permits, aerial reconnaissance will be conducted from South Pass up to Pass a Loutre to document oiled marshes and tidal pools. The crew will collect both low angle obliques and 2800 ft aeriels to document the area. The aircraft moved to the area of the Delta near South Pass and conducted a survey for oil on the shoreline/beaches. A large area of oil on the beach was located at the mouth of the South Pass. IR, spectral and photographic data was collected.

May 24, 2010

Note: A similar flight path is being flown by the ASPECT aircraft for daily comparison relative to the extent of oil on the surface:

- 1) Starting at the barrier islands South of Gulfport, MS at Lat. 30.244283 Lon.-89.069622 the flight path is South inside the barrier islands and across the LA. delta marshes
- 2) At approx. Lat. 28.985591 Lon.-89.159312. the flight path is East to the rig site around Lat.28.736406 Lon.-88.377096
- 3) From the rig site the flight path is North across the open Gulf back to the barrier islands South of Gulfport, MS. around 30.244283 Lon.-89.069622

ASPECT conducted one extended aerial reconnaissance mission on May 24, 2010. ASPECT conducted a low altitude survey over the marsh region of South Pass. Several areas of moderate to heavy oil were noted with position fixes and were relayed back to Region 6.

Following the recon, ASPECT moved to a reported oil burn operation and in conducting the transition, collected IR, spectral and photographic data every two minutes while in transit. ASPECT observed and recorded data over 4 oil burns. No significant detections were made on any data collection passes suggesting once again, that the burns are effectively eliminating the volatile hydrocarbons as they were designed to do.

Pending weather and Regional direction, ASPECT is scheduled to conduct data collection starting at 0830. Priority will be given to any oil burning operations and dispersant operations.

May 25, 2010

Note: A similar flight path is being flown by the ASPECT aircraft for daily comparison relative to the extent of oil on the surface:

- 4) Starting at the barrier islands South of Gulfport, MS at Lat. 30.244283 Lon.-89.069622 the flight path is South inside the barrier islands and across the LA. delta marshes
- 5) At approx. Lat. 28.985591 Lon.-89.159312. the flight path is East to the rig site around Lat.28.736406 Lon.-88.377096
- 6) From the rig site the flight path is North across the open Gulf back to the barrier islands South of Gulfport, MS. around 30.244283 Lon.-89.069622

ASPECT conducted one aerial reconnaissance mission on May 25, 2010. The primary objective was to collect Fourier Transform infrared spectrometer data, infrared multispectral imagery, and digital imagery over oil burning operations and shoreline oiling in the delta area.

ASPECT collected data every two minutes while in route to the LA. delta marshes and out to the rig.

While on station near the rig oil recovery operations were noted and brief data collects continued while observing for controlled burns. No controlled burns were noted and the crew returned to Gulfport.

May 26, 2010

The ASPECT aircraft has been tasked to conduct a shoreline survey along the west side of the delta. There are numerous pop up storm cells on the east side of the delta and near Grande Isle. If weather permits data will be collected over Grande Isle. The west side of the delta appears to be clear but the atmosphere is unstable and the ability to survey shoreline will be subject to visibility.

The ASPECT morning aerial reconnaissance mission was completed. The crew was able to collect data over the Grand Isle area before weather conditions deteriorated. On the return leg of the flight the western side of the delta had storm cells forming and the east side was clearer. The crew surveyed some shoreline on the east side.

There were four locations where oil was onshore or near shore reported as follows:

29 deg 50.946 N, 89 deg 16.692 W

29 deg 52.112 N, 89 deg 15.699 W

29 deg 57.290 N, 89 deg 14.598 W (near shore?)

29 deg 47.412 N, 89 deg 17.886 W

The ASPECT aircraft flew a second aerial reconnaissance mission starting at 1530 to the recovery/burn area to collect data on emissions from controlled burns.

The ASPECT aircraft continues to collect infrared spectral imagery specifically for the daily comparison of the extent of oil on the surface (see Note: May 25, 2010 for details on the area being covered).

ASPECT crew reports that the flare on the siphon ship is out. No controlled burn activity noted so far.

The Gulfport Airport experienced a severe storm cell with winds approaching tornado strength. Planes on the ramp were tossed into each other. The crew remains on station at the rig and reports collecting data on a controlled burn.

May 27, 2010

The ASPECT aircraft will once again fly its oil monitoring pattern (See Note: May 25, 2010 for details).

ASPECT flew one aerial reconnaissance mission on 27 May 2010 with two primary objectives. The first objective was to survey the eastern and southern shores of the delta to identify locations of heavy oiling on or near shore. The second objective was to collect data on emissions from controlled burns in the recovery/burn area. There were 66 infrared images, 265 digital photos, 35 oblique photos and 66 FTIR data sets collected.

The ASPECT aircraft surveyed the location provided a surface vessel and did not find heavy oil contamination. They are proceeding along the southern tip of the delta to survey for additional heavily oiled locations.

The ASPECT aircraft reported:

Oil on shore and on water at 29 deg 11.660 min N, 89 deg 27.570 W.

Oil on shore at 29 deg 00.260 min N, 89 deg 20.092 min W.

Oil on water at 30 deg 8.18 min N, 89 deg 6.63 min W.

May 28, 2010

The ASPECT aircraft will fly the May 25, 2010 flight lines (see May 25, 2010 entry above) to enable % surface oil trend analysis.

The flight crew reports heavy oil encountered at 29 deg 4.958 min N, 88 deg 32.176 min W. This has been about the same for many flights. The oil seen approaching the Chandeleurs changes day to day but the larger mass appears to be fairly constant.

There is what appears to be drilling mud showing at the surface near the rig. The crew will monitor for controlled burns and collect data should they occur.

ASPECT completed one aerial reconnaissance mission on May 28, 2010. The primary focus of the mission was to document activities associated with the TOP Kill operation. Visible imagery collected over the site clearly showed a cloudy, green water plume present in the water near the work ships.

Pending weather, ASPECT is scheduled to continue data collection over the recovery area. As part of these missions, the system will continue to survey shore/marsh areas for oil contamination.

May 29, 2010

ASPECT completed two aerial reconnaissance missions on May 29, 2010. The first mission concentrated on the rig recovery area and noted that several skimmers were in operation. No drilling fluid was observed around the recovery ships. Oil on water was very uniform around the rig.

One observation not captured in the previous messages was the observation of oil sheen on the Mississippi.

Reports from the ASPECT aircraft:

- During the second mission the crew observed the first sign of oil at 29N 33.60, 88W 43.54.
- First Heavy oil was observed at 29N 23.39, 88W 40.10.
- The crew vectored to the rig area and noted consistent observations with the earlier flight.
- A significant line of oil was observed at 29N 02.27, 88W 29.62 and streaks at 29N 09.84, 88W 32.94.

Weather began to turn bad and heavy thunderstorms prevented the crew from the recon along the Easter Delta.

May 30, 2010

ASPECT completed one aerial reconnaissance mission on May 30, 2010. The general flight path for the flight consisted of a departure from Gulfport at 0920 to South Pass followed by an extension 20 miles south into the Gulf. Some areas of oil contamination were noted on the Southern Delta and limited oil filaments were noted south of the Delta. The aircraft made a transition to the rig site and noted skimmer operations being conducted north of the rig site.

The ASPECT Team was tasked by the EPA Deepwater Response EOC to come up with a methodology to monitor the progress of the efforts to cap the well in terms of the relative amounts of surface oil around the rig and between the rig and the shore line. The ASPECT team has developed and implemented an automated surface oil assessment capability using the data from the ASPECT aircraft infrared spectral line-scanner. By flying the same path every day, this capability will allow ASPECT to do trend analysis on the progression of relative amounts of surface oil, and oil-water mix, along the ASPECT flight lines. The information from this capability will provide the USCG JOC in Houma, LA with a numerical metric upon which the progress in capping the well can be gauged. The ASPECT Team will begin % oil trend analysis processing on infrared spectral data going back to May 23 and will be providing this information to the JOC over the Memorial Day Weekend. Preliminary results indicate positive identification of heavy to light oil on water. Trend analysis results will begin to be posted starting on June 1, 2010.

OSC Ruhl met with the ASPECT team and discussed operations. The oil discrimination software package developed by the National Geospatial Intelligence Agency (NGA) to support ASPECT

oil on water detection was demonstrated to OSC Ruhl. The NGA is a mission partner supporting the ASPECT program by assisting in the development of software and data analysis tools. OSC Ruhl was pleased with the software and believes that it will significantly aid in the monitoring efforts associated with the capping of the well head.

May 31, 2010

ASPECT completed one aerial reconnaissance mission on 31 May 2010. The primary focus of the mission was the mid delta (eastern side) section from Pass a Loutre up through Japan Island. Preliminary analysis show little to no observed oil contamination. In addition to the delta recon, the aircraft collected data over the rig area and collected data over 2 oil burns.

Pending weather, a 60 mile beach survey has been developed along the western coast of LA. It is anticipated that this will generate approximately 70 IR images and 500 aerial images.

June 1, 2010

An aerial reconnaissance mission profile has been developed for a 60 mile length of beach from Bastian Island over to Timbalier Island. The aircraft will also transition to the rig and collect data every 2 minutes over open water for use by the automated oil detection and trend analysis software.

Reports from the ASPECT aircraft:

- 5 boats are skimming in the rig area. The crew reports that the oil in the rig area has a layered appearance. It looks like a topographic map.
- ASPECT reports the start of sheen at 29N 36.245, 88W 44.717
- ASPECT reports visible oil at 29N 24.771, 88W 39.995
- ASPECT is heading to a distant oil burn. Position will be provided in a subsequent report. Crew reports streaks of oil at 29N 00.816, 88W 29.615