

LEGEND for 2004–2015Q1 NRC Reports & OWOC observations of surface oil sheen at GoM MC20,
 excerpted and organized by On Wings Of Care, Inc. 2015 ("OWOC") © OnWingsOfCare.org

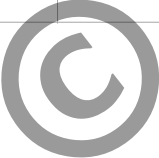
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OWOC Flight Observations of MC20 are published at OnWingsOfCare.org.
 See those articles for photos, videos, GPS flight tracks, and flight logs for these and other of OWOC aerial observations of the Gulf of Mexico, since late April 2010.

No.	Subject	Comment
1	General	All NRC reports refer to this as a "Platform incident" (MC20A), N28°56'10", W88°58'08". Column headings and entries are abbreviated herein, and repetitious info (such as Responsible Party and Location, which are always Taylor Energy Co and Mississippi Canyon 20) is omitted; all information is substantively identical to that in the original NRC reports, which can be viewed online here: http://www.nrc.uscg.mil/ . OWOC gratefully acknowledges the assistance of Ms. Trisha James of Navarre, FL in extracting data from the NRC reports for these analyses.
2	Sea Conditions	Wave Condition: 0: Calm; 1: Smooth (< 1 ft); 2: Slight (1—3 ft); 3: Moderate (3—5 ft); 4: Rough (5—8 ft); 5: Very Rough (8—12 ft) Current speed is omitted here. It has been entered by an observer only once in 2015Q1 (5 its on 20150115) and fewer than 10 times total since 2005. Wind speed is given in the NRC Reports variably in units of KTS or MPH on the few reports where it is noted at all. Units of knots (kts, 1 nautical mile per hour, or about 1.15 mph) are used here.
3	Sheen Appearance	Sheen Color & Additional Info are verbatim from the NRC reports but are consolidated in these spreadsheets, whereas in the NRC reports this information appears randomly in either the Incident Commons spreadsheet or various columns of the Incident Details spreadsheet, if it appears at all.
4	Sheen Length & Width	Length and width of the sheen are cited in the NRC reports with variable units of "miles" or "feet", and occasionally (as in OWOC observations) meters. The Taylor reports do not state explicitly whether "miles" means statute miles (sm) or nautical miles (nm or NM), although we might assume that where they state wind in mph (kts), they cite sheen dimensions in units of sm (nm). Here we assume that "miles" means nm, and we use the conversions: 1 nm = 6,076 ft = 1.85 km ~ 1.15 sm. It is obvious by the entry value whether NM or FT are intended, so we omit explicit mention of the units here.
5	Sheen Area	For sheen area (product of Sheen Length and Width), we use units of acres, where 1 acre = 43,560 sq ft (~ 1 nm x 7.2 ft.) (Metric units would be easier all around, since 1 cu m = 1 micron X 1 sq km, but...)
6	Amount of Material	The unit for "Amount of material" is US gallons. We write "0" where the NRC Report lists "0" or "0-U" or "Unknown Amount." Only the Taylor-provided NRC Reports provide estimated Amounts of Material. But the Taylor reports give no information about what assumptions are used to arrive at those estimated amounts. Amount of Material is not a quantity that can be observed directly; it must be estimated by multiplying sheen area with sheen thickness. In aerial observations, sheen thickness can only be estimated approximately, based on appearance of the sheen, and the accuracy depends critically on the thickness itself. See below. The estimated Amount of Material, or Volume (in US gallons), is the product of sheen area and estimated sheen thickness, by the relation: Amt (gal) = 1.069 X Area (acres) X Thickness (microns).



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7	Sheen thickness and Bonn (BAOAC) guidelines	<p>For dull, metallic, or dark sheen — typically thicker than a few microns, visible observation cannot distinguish thicknesses more than a few microns, so only a minimum thickness can be estimated. For colored or "rainbow" sheen, the thickness is in the range of visible light wavelengths (0.3—5.0 micron), since the colored appearance is caused by thin-film interference (e.g., light reflected from the bottom of the sheen interfering coherently with light reflected from the upper surface). (Now you see why metric units for the sheen dimensions would have simplified the arithmetic of calculating sheen volumes!) For sheen that appears very light gray or "barely discernible", the thickness must usually be in the range of 0.04—0.1 micron, and as it becomes more silvery it is typically 0.2—0.3 micron.</p> <p>An international standard, adopted formally by NOAA and the U.S. Coast Guard in 2006, is the "Bonn" or "BAOAC" (Bonn Agreement Oil Appearance Code) standard, which uses the following ranges and nominal values for correlating sheen appearance in aerial observations with estimated sheen thickness. These guidelines are stipulated in the Coast Guard's handbook "Open Water Oil Identification Job Aid for aerial observation" (OWJA 2012, revised from 2007), which is used for Coast Guard training. (Mysteriously, these guidelines appear never to have been used for the Taylor estimates of Amount of Material in the NRC reports.)</p> <table border="0" data-bbox="323 564 1306 710"> <tr> <td>Silver/Gray:</td> <td>0.04—0.3 micron</td> <td>(NOMINAL Barely Discernible or Gray = 0.1; Silvery = 0.2.)</td> </tr> <tr> <td>Rainbow:</td> <td>0.3—5.0 micron</td> <td>(NOMINAL: Faint Colors = 0.5; Rainbow or Brightly Colored = 1.0)</td> </tr> <tr> <td>Metallic:</td> <td>5.0 — 50 micron</td> <td>(NOMINAL: Dull = 3.0; Dark = 10.0)</td> </tr> <tr> <td>Transitional Dark:</td> <td>50—200 micron</td> <td>(NOMINAL: 100 microns.)</td> </tr> <tr> <td>Dark (True color):</td> <td>> 200 micron</td> <td>(NOMINAL: Very Dark = 200 microns)</td> </tr> <tr> <td>Emulsion (water in oil):</td> <td>>1 mm</td> <td>(brown/orange) (NOMINAL: Emulsion = 500 micron)</td> </tr> </table>	Silver/Gray:	0.04—0.3 micron	(NOMINAL Barely Discernible or Gray = 0.1; Silvery = 0.2.)	Rainbow:	0.3—5.0 micron	(NOMINAL: Faint Colors = 0.5; Rainbow or Brightly Colored = 1.0)	Metallic:	5.0 — 50 micron	(NOMINAL: Dull = 3.0; Dark = 10.0)	Transitional Dark:	50—200 micron	(NOMINAL: 100 microns.)	Dark (True color):	> 200 micron	(NOMINAL: Very Dark = 200 microns)	Emulsion (water in oil):	>1 mm	(brown/orange) (NOMINAL: Emulsion = 500 micron)
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8	Bonn-estimated Amounts of Material	<p>Where we cite "B-Amt" we mean the Amount of Material estimated using the Bonn or BAOAC guidelines noted above. All NRC reports submitted by NOAA, OWOC, or other entities not representing Taylor Energy show "zero" or "zero-unknown" for their Amounts. In these spreadsheets, we provide estimated Amounts of material for all NRC reports and for the 40 OWOC flight observations that were published at OnWingsOfCare.org, all based on the Bonn guidelines. We also provide a "corrected estimate" for the Amounts of material given in the Taylor Energy NRC reports, which we abbreviate by "B-Tay" or "B-NRC" and "Tay" or "NRC", respectively, when referring to Amounts of Material.</p>																		
9	Equivalent Average Thickness (EAT)	<p>The Taylor Energy NRC reports give no information about what thicknesses were assumed or other assumptions that went into their estimates of Amount of Material. It is straightforward and instructive to infer from their estimates an equivalent average thickness ("NEAT" for NRC Equivalent Average Thickness) by dividing the estimated Amount of Material by the observed sheen area, using the arithmetic conversion: NEAT (micron) = Amt of Material (gal) / Area of Sheen (acres) / 1.069.</p> <p>==> We find that the NEAT values that follow from the Taylor NRC reports are, for a majority of the reports, smaller than 0.04 micron — the very minimum thickness for "barely discernible" sheen according to the Bonn guidelines. 0.04 micron is 40 nanometers, or the diameter of a few tens of petroleum molecules; a typical human hair has a diameter of 10—100 microns. Considering that close to 100% of the observations by OWOC's 40 documented flyovers found considerable amounts of rainbow and darker sheen, the assumptions used by Taylor Energy to estimate their Amounts of Material are quite suspect.</p> <p>NRC reports submitted by the NOAA/NESDIS satellite information service (highlighted in gray in these spreadsheets) give detailed information about observed sheen area, but they are not able to determine accurately whether the sheen observed is light gray, silvery, rainbow, or darker. In estimating Amounts of Material associated with the NOAA satellite observation reports, we decided to be very conservative -- i.e., to give what can be considered a <i>minimum</i> estimate of the Amount of Material, by using a NEAT of 0.1 micron, equivalent to sheen that is light gray or barely discernible. Still, the large areas noted by the NOAA satellite observations tend to give higher estimates for Amount of Material even than the Bonn-estimated amounts from the Taylor, OWOC, and other observations. That is unnerving, and it should be, for it could well mean that we have all under-estimate the amount of pollution and how far it has spread.</p>																		



No.	Subject	Comment
10	Our conclusions about Total Amounts of Material	<p>In order to make consistent estimates of material, based on all NRC report data and other documented observations (including revision of the Taylor estimates based on the Taylor-provided data in the NRC reports), we use the Bonn guidelines to assign sheen thickness to the areas and percent coverages for the different sheen appearances provided. Those assumptions are given in the column labeled "Assumptions." We use the nominal values noted above from the Bonn ranges, and for all of the NRC reports and other observations, there were only a few instances where we assigned a thickness greater than 1.0 (rainbow), and those for small areas specifically noted by Taylor to be dark brown. Thus, we consider our estimates of Amounts of material to be conservatively low.</p> <p>Our Bonn-estimated Amounts of Material are on average (analyzed for all reports from 2004 through first quarter of 2015) <u>15 times larger</u> than the estimates provided in the Taylor NRC reports. This means that, if the sheen areas in the Taylor reports are not under-estimated, the total amount of pollution in MC20 since late 2004 is 15 times more than Taylor has purported it to be. Unfortunately, reports from non-Taylor entities, which began increasing in number since 2011 when OWOC began making regular observations and in 2012 when NOAA began making satellite reports, suggest a tendency toward <u>larger sheen areas</u> than those reported by Taylor. From all data, and even de-emphasizing the large sheen areas suggested by the NOAA satellite data, OWOC estimates that the <u>total oil represented by sheen in MC20 since late 2004 exceeds that reported by Taylor by a factor of 27.</u> (The NOAA data alone, even assuming a sheen thickness no greater than 0.1 micron, would imply that this factor is 77, three times larger still than OWOC's estimate!)</p>
11	Anomalies in the Taylor Energy NRC Reports	<p>Anomalies in the Taylor Energy NRC reports are numerous, adding to questions about their accuracy, and for which we had to make some adjustments. For example:</p> <ul style="list-style-type: none"> — Some Taylor reports provide no sheen appearance description at all, or no sheen dimensions, or both (!), and yet the reports provide non-zero estimates for Amounts of Material for that day's observation. To provide Bonn-corrections for those Taylor estimates, we use the sheen appearance descriptions or sizes from other observations made on the same day by OWOC or from Taylor observations on the days immediately before or after, or if those would produce an anomalously <u>large</u> correction, then we just multiply the Taylor estimate by a factor of 15. (We are choosing to err on the side of a minimal correction to the Taylor estimates, which may turn out to cause under-estimation, but we prefer to stay close to the average correction factors deduced from well documented observations by OWOC and other independent entities on the same days as the Taylor reports) — The Amounts of Material estimates from Taylor are cited to two and sometimes FOUR decimal places — i.e., they represent a precision of 0.0001 — 0.01 gal, or between 8-hundredths of a teaspoon and 2.5 Tablespoons. This level of precision is indefensible and nonsensical both mathematically and practically, for observations made at 500-1000' above the sheen from aircraft moving at 100-150 kts. <p>For example: On 2010 December 31, Taylor reported a sheen covering 2,178 sq ft and estimated an Amount of material of 0.0001 gal -- less than one-tenth of a TEASPOON. On 2011 February 10, Taylor reported a sheen covering 7,500 sq ft which they said involved 0.0003 gal of material — less than one-quarter of a teaspoon. And yet, on 17 of the days where OWOC published photos and videos of extensive rainbow sheen, Taylor reported small amounts and the sheen as "barely discernible." Etc.</p> <p>==> We conclude that the Amounts of Material in the Taylor NRC reports are unreasonably small, primarily because of incorrect estimation procedures based on observed data and secondarily because some observations were inaccurate with regard to sheen size and appearance.</p>



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SEQNOS	INCIDENT DATE TIME	WIND SPEED	WIND DIRECTION	SHEEN COLOR	SHEEN-ODOR DESCRIPTION	SHEEN - ADDITIONAL INFO	DIRECTION OF SHEEN TRAVEL	WAVE CONDITION	SHEEN SIZE: LENGTH (NM or FT)	SHEEN SIZE: WIDTH (NM or FT)	Reported Sheen Area (acres)	Reported Amt of Material (Gal) "RAM"	BAOAC-Estimated Amt of Material (Gal) "BRAM"	Assumptions (BAOAC thicknesses for NRC data, etc.)	Ratio of Corrected / Reported Amt of Mtrl "BRAM / RAM"	Reported Equiv Avg Thickness (micron) "RET"	BAOAC-Corrected Equiv Avg Thickness (micron) "BRET"	OWOC Sheen Area (acres)	WOC Observed Amt of Material (Gal) "WAM"	OWOC Equiv Thickness (micron) "WET"	OWOC / BAOAC-corrected Amt of Mtrl "WAM/ BRAM"	OWOC / Reported Amt of Mtrl "WAM/ RAM"	NOAA Sheen Area (acres)	NOAA Observed Amt of Material (Gal) "NAM"	NOAA Equiv Avg Thickness (micron) "NET"	NOAA / BAOAC-corrected Amt of Mtrl "NAM/ BRAM"	NOAA / Reported Amt of Mtrl "NAM/ RAM"	
1104739	2015-01-02 9	15	ESE	RAINBOW			NNW	3	1.5	.5	636	30.41	679	Rainbow 1.0	22	0.045	1.00											
1104796	2015-01-03 9			RAINBOW		"WITH SILVERY	NE	3	1.5	.5	636	28.97	544	75% Rainbow, 25% Silvery	19	0.043	0.80											
1104846	2015-01-04 9			FAINT COLORS				3	2	.2	339	300.00	181	Faint Colors 0.5	1	0.828	0.50											
1104918	2015-01-05 1			OTHER		48% BRIGHTLY COLORED		4	3.5	.5	1,483	63.35	1,050	26% Faint, 26% Silver, 48% Bright	17	0.040	0.66											
1104987	2015-01-06 9	15	NE	OTHER	SHEEN COLOR: 30% SILVERY AND 70% BARELY VISIBLE.			2	2.1	.2	356	5.80	49		9	0.015	0.13											
1105060	2015-01-07 9	10	NE	SILVERY				2	7.9	1.9	12,721	63.49	2,720		43	0.005	0.20											
1105166	2015-01-08 1			SILVERY			SW	3	4	.2	68	5.89	14		2	0.081	0.20											
1105253	2015-01-09 9	15	NE	SILVERY			SE	3	5	.2	85	3.34	18		5	0.037	0.20											
1105332	2015-01-10 9			SILVERY			W	3	1	.2	170	4.00	36		9	0.022	0.20											
1105379	2015-01-11 9			SILVERY			WNW	8	.8	.8	542	18.17	116		6	0.031	0.20											
1105452	2015-01-12 1			BARELY DISCERNIBLE				3	1.2	.6	610	14.46	65		5	0.022	0.40											
1105804	2015-01-16 8	15	NNE	SILVERY				3	1.5	.4	509	13.30	109		8	0.024	0.20											
1105908	2015-01-17 1			RAINBOW				0	4	.9	3,051	176.89	3,262		18	0.054	1.00											
1105973	2015-01-18 1			BARELY DISCERNIBLE	CALLER STATED SHEEN WAS 45% BRIGHTLY COLORED.			3	3.8	150	80	2.16	45	Use 45% brightly colored, 25% Silvery, 30% BD.	21	0.025	0.53											
1106052	2015-01-19 1			BARELY DISCERNIBLE			SSW	1	3	1	2,543	44.34	272		6	0.016	0.10											
1106145	2015-01-20 1			SILVERY			SSW	1	3.2	1.8	4,882	0	1,044		0	0.000	0.20											
1106222	2015-01-21 1	5	NNE	SILVERY				2	9.1	1.3	10,026	67.97	2,144		32	0.006	0.20											
1106312	2015-01-22 9	15	ESE	SILVERY				1	3	.3	331	5.09	71		14	0.014	0.20											
1106499	2015-01-24 9	15	NW	BARELY DISCERNIBLE			SE	3	2.1	600	176	2.64	19		7	0.014	0.10											
1106531	2015-01-24 1		N	RAINBOW				5			848	0	2,718	Use width 0.2 nm (120 ft)	0	0.000	3.00											
1106546	2015-01-25 1			SILVERY			S	2	10	1.6	13,560	33.55	2,839		86	0.002	0.20											
1106618	2015-01-26 1			BARELY DISCERNIBLE			ESE	3	6	.2	102	1.32	11		8	0.012	0.10											
1106709	2015-01-27 1	10	N	BARELY DISCERNIBLE			SSE	2	6	.2	1,017	11.29	109		10	0.010	0.10											
1106789	2015-01-28 9			BARELY DISCERNIBLE				1	9	.2	322	4.83	34		7	0.014	0.10											
1106864	2015-01-29 8			BARELY DISCERNIBLE				4	7	.06	239	32.20	26		1	0.126	0.10											
1106959	2015-01-30 1			BARELY DISCERNIBLE			SW	4	1.5	150	31	0.35	3		10	0.010	0.10											
1107024	2015-01-31 9	18	E	SILVERY				3	2.9	.1	240	4.14	51		12	0.016	0.20											
1107082	2015-02-01 9			BARELY DISCERNIBLE				3	2.6	.5	1,102	22.83	118		5	0.019	0.10											
1107238	2015-02-03 1			RAINBOW			W	2	6	.1	509	25.00	544	Rainbow 1.0	22	0.046	1.00											
1107422	2015-02-05 1	20		SILVERY				4	3.2	.3	814	6.26	174		28	0.007	0.20											
1107503	2015-02-06 9	10	NNE	SILVERY				3	3.6	.8	2,441	48.00	522		11	0.018	0.20											
1107563	2015-02-07 1			SILVERY			SW	2	19.8	1.9	31,884	252.13	6,817		27	0.007	0.20											
1107619	2015-02-08 1	3		BARELY DISCERNIBLE				2	6	2.1	10,679	75.87	1,142		15	0.007	0.10											
1107699	2015-02-09 1			BARELY DISCERNIBLE				0	5.8	5.2	25,561	106.75	2,732		26	0.004	0.10											
1107770	2015-02-10 8			SILVERY	SHEEN COLOR: 45% BARELY VISIBLE.		WSW	3	2.4	.2	407	8.31	67	Use 45% BD, 55% Silvery.	8	0.019	0.16											
1107892	2015-02-11 9			SILVERY				2	5.3	1.3	5,839	215.00	1,248		6	0.034	0.20											
1107969	2015-02-12 8			SILVERY	SHEEN COLOR WAS 40% BARLEY VISIBLE, 58% SILVERY AND 2% OIL. CALLER IS REPORTING A RELEASE OF 329.44 GALLONS OF CRUDE OIL FROM A DOWN PLATFORM DUE TO HURRICANE IAN. THIS WAS DISCOVERED DURING AN OVER FLIGHT.			9	1	2.3	17,738	329.44	3,792	0.2 Silvery	12	0.017	0.20											

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1108066	2015-02-13 9	15	NE	BARELY DISCERNIBLE	SHEEN COLOR WAS 40% BARLEY VISIBLE, 58% SILVERY AND 2% DULL.		WSW	3	1.6	.3	407	3.38	94	Dull 3.0	28	0.008	0.22												
1108085	2015-02-13 11			RAINBOW				10	200		279	0	298	Rainbow 1.0	10	0.000	1.00												
1108130	2015-02-14 11	8	SW	SILVERY			N	2	4.1	1.5	5,212	61.80	1,114		18	0.011	0.20												
1108240	2015-02-16 9			SILVERY			NE	3	1.9	.2	322	6.88	69		10	0.020	0.20												
1108337	2015-02-17 9			SILVERY				3	5	600	42	1.79	9		5	0.040	0.20												
1108427	2015-02-18 11			SILVERY			SW	3	2.3	.4	780	17.50	167		10	0.021	0.20												
1108511	2015-02-19 9	15	N	SILVERY			S	3	1.5	.8	1,017	14.65	217		15	0.013	0.20												
1108607	2015-02-20 11	15	SE	SILVERY			NNW	3	1.3	1	1,102	23.39	236		10	0.020	0.20												
1108686	2015-02-21 9			BARELY DISCERNIBLE			N	4	7	300	29	0.36	3		9	0.011	0.10												
1108762	2015-02-22 9			BARELY DISCERNIBLE				2	7.8	1.2	7,933	49.32	848		17	0.006	0.10												
1108954	2015-02-24 11			RAINBOW				2	3.2	.1	271	9.23	290	Rainbow 1.0	31	0.032	1.00												
1109138	2015-02-26 9	10	NW	RAINBOW				3	2.9		142	3.66	151	Missing Width, Use 350 ft, avg of +/- 1 day. Rainbow 1.0	41	0.024	1.00												
1109241	2015-02-27 8			RAINBOW			WSW	4	1.2	100	17	0.63	18		28	0.035	1.00												
1109304	2015-02-28 11			RAINBOW				3	7	0.1	314	11.42	335		29	0.034	1.00												
1109438	2015-03-02 11	11	S	BARELY DISCERNIBLE			S	2	1.7	.5	720	4.16	77		19	0.005	0.10												
1109520	2015-03-03 11			BARELY DISCERNIBLE			SW	2	2.1	1	1,780	56.46	190		3	0.030	0.10												
1109551	2015-03-03 11			SILVERY	***NOAA MARINE POLLUTION SURVEILLANCE REPORT THE OIL SLICK APPEARS TO BE COMING FROM THE DESTROYED TAYLOR PLATFORM. THE SLICK IS 20.65 MILES IN LENGTH WITH A MAXIMUM WIDTH OF 9.19 MILES. SLICK ORIENTATION IS CONSISTENT WITH WINDS IN THE AREA.			20.65	9.19		0.00			Assume avg thickness as BAOAC nominal for "barely discernible": 0.1 micron									160,836	17,193	0.1	90.4	304.5		
1109606	2015-03-04 9			SILVERY	***NOAA MARINE POLLUTION SURVEILLANCE REPORT*** THE OIL SLICK APPEARS TO BE COMING FROM THE DESTROYED TAYLOR SITE. THE SLICK IS 20.65 MILES IN LENGTH WITH A MAXIMUM WIDTH OF 1.4 MILES. SLICK ORIENTATION IS CONSISTENT WITH WINDS IN THE AREA. ALONG THE SOUTHEAST SIDE OF THE SLICK, THERE IS A LOT OF CONTAMINATION FROM NATURAL BIOGENIC FEATURES MAKING IT VERY DIFFICULT TO DETERMINE THE FULL EXTENT OF THE SURFACE OIL AND WAS NOT ANALYZED AS OIL. UNCERTAINTIES: THERE IS LOTS OF CONTAMINATION FROM NATURAL BIOGENIC TO THE SOUTHEAST OF THE SLICK. THIS MADE IT DIFFICULT TO DETERMINE WHAT WAS OIL AND WHAT WAS NOT. THIS WAS THE CAUSE OF WHY WE WENT WITH "MEDIUM-HIGH" INSTEAD OF "HIGH" FOR SLICK COMING FROM THE DESTROYED TAYLOR SITE. THE REANALYSIS OF THIS OIL SLICK SIGNATURE RESULTED IN A MUCH SMALLER AREA BELIEVED TO BE OIL FROM THE TAYLOR SITE GIVEN THE LARGE AREA OF BIOGENICS MENTIONED ABOVE. //////DAILY REPORT////			2	14.2	1.5	18,052	121.71	3,860		32	0.006	0.20												
1109644	2015-03-04 11			SILVERY	***REPORT RECEIVED VIA THE NESDIS MARINE POLLUTION SURVEILLANCE REPORT*** AT 0410Z, THE OIL SLICK APPEARS TO COME FROM THE DESTROYED TAYLOR SITE. THE SLICK IS 14.17 MILES IN LENGTH WITH A MAXIMUM WIDTH OF 0.38 MILES. THE OIL SLICK APPEARS TO BE CONSISTENT WITH THE ORIENTATION OF THE WIND. UNCERTAINTIES: VERY HIGH CONFIDENCE OF OIL PRESENCE DUE TO SILVERY APPEARANCE. TO THE SOUTHEAST OF THE SLICK, THERE ARE POTENTIAL BIOGENICS FEATURES THAT COULD BE MISTAKEN FOR OIL.			20.65	1.4		0.00				Assume avg thickness as BAOAC nominal for "barely discernible": 0.1 micron										24,502	2,619	0.1	0.7	21.5
1109675	2015-03-04 21			SILVERY	***REPORT RECEIVED VIA THE NESDIS MARINE POLLUTION SURVEILLANCE REPORT*** AT 0410Z, THE OIL SLICK APPEARS TO COME FROM THE DESTROYED TAYLOR SITE. THE SLICK IS 14.17 MILES IN LENGTH WITH A MAXIMUM WIDTH OF 0.38 MILES. THE OIL SLICK APPEARS TO BE CONSISTENT WITH THE ORIENTATION OF THE WIND. UNCERTAINTIES: VERY HIGH CONFIDENCE OF OIL PRESENCE DUE TO SILVERY APPEARANCE. TO THE SOUTHEAST OF THE SLICK, THERE ARE POTENTIAL BIOGENICS FEATURES THAT COULD BE MISTAKEN FOR OIL.							0.00			IGNORE - Repeat of report below.										NA	NA	NA	NA	NA

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SEQNOS	INCIDENT DATE TIME	WIND SPEED	WIND DIRECTION	SHEEN COLOR	SHEEN-ODOR DESCRIPTION	SHEEN - ADDITIONAL INFO	DIRECTION OF SHEEN TRAVEL	WAVE CONDITION	SHEEN SIZE: LENGTH (NM or FT)	SHEEN SIZE: WIDTH (NM or FT)	Reported Sheen Area (acres)	Reported Amt of Material (Gal) "RAM"	BAOAC- Estimated Amt of Material (Gal) "BRAM"	Assumptions (BAOAC thicknesses for NRC data, etc.)	Ratio of Corrected / Reported Amt of "BRAM / RAM"	Reported Equiv Avg Thickness (micron) "RET"	BAOAC- Corrected Equiv Avg Thickness (micron) "BRET"	OWOC Sheen Area (acres)	WOC Observed Amt of Material (Gal) "WAM"	OWOC Equiv Thickness (micron) "WET"	OWOC / BAOAC- corrected Amt of Mtrl "WAM/ BRAM"	OWOC / Reported Amt of Mtrl "WAM/ RAM"	NOAA Sheen Area (acres)	NOAA Observed Amt of Material (Gal) "NAM"	NOAA Equiv Avg Thickness (micron) "NET"	NOAA / BAOAC- corrected Amt of Mtrl "NAM/ BRAM"	NOAA / Reported Amt of Mtrl "NAM/ RAM"	
110986	2015-03-05 7					***NOAA MARINE POLLUTION SURVEILLANCE REPORT*** THE OIL SLICK APPEARS TO COME FROM THE DESTROYED TAYLOR SITE. THE SLICK IS 14.17 MILES IN LENGTH WITH A MAXIMUM WIDTH OF 0.38 MILES. THE OIL SLICK APPEARS TO BE CONSISTENT WITH THE ORIENTATION OF THE WIND.			14.17	.38		0.00		Assume avg thickness as BAOAC nominal for "barely discernible": 0.1 micron									4,564	488	0.1	5.4	103.6	
1109812	2015-03-06 1			SILVERY				3	1	.5	424	4.71	91	Silvery 0.2	19	0.010	0.20											
1109880	2015-03-07 9				SHEEN WAS 40% SILVERY, 25% SLIGHTLY COLORED, 30% RAINBOW AND 5% DULL. CALLER STATED 14.5G GALLONS OF CRUDE OIL RELEASED FROM A DOWN PLATFORM DUE TO HURRICANE IVAN. THIS WAS DISCOVERED DURING AN OVER FLIGHT.			3	1.5	.2	254	14.56	54	Use Silvery as for day before/after	4	0.054	0.20											
1109938	2015-03-08 1				SHEEN WAS 40% SILVERY, 25% SLIGHTLY COLORED, 30% RAINBOW AND 5% DULL.		NNW	2	3.3	300	138	1.87	30		16	0.013	0.20											
1110149	2015-03-10 8		10 SE		SHEEN COLOR: BRIGHTLY COLORED			2	4.5	.3	1,144	62.78	245	Use Silvery as for day before	4	0.051	0.20											
1110457	2015-03-12 1			BARELY DISCERNIBLE			N	3	1.3	.1	110	5.60	118	Brightly Colored	21	0.048	1.00											
1110576	2015-03-13 1		8	BARELY DISCERNIBLE			N	3	5.6	1.6	7,594	285.00	812		3	0.035	0.10											
1110650	2015-03-14 9			BARELY DISCERNIBLE				3	1.3	528	96	5.39	10		2	0.053	0.10											
1110719	2015-03-15 9			SILVERY				2	16.9	.6	8,380	274.84	1,792		7	0.031	0.20											
1110809	2015-03-16 9			RAINBOW			SSW	2	13.7	.2	2,322	80.44	2,482	Rainbow 1.0	31	0.032	1.00											
1110946	2015-03-17 1			SILVERY			NW	2	11.3	2.6	24,900	90.00	5,324		59	0.063	0.20											
1111067	2015-03-18 1		5 NE	SILVERY				2	18.1	1.6	24,544	130.80	5,248		40	0.005	0.20											
See Web Article	2015-03-19 0		5 NW		30% Rainbow, 30% Silvery, 5% Dark, 35% Barely Discernible, 25% coverage			1	14	0.5				5% Dark, 30% R, 30% S, 35% BD; 25% coverage				5,933	1,419	0.224	3.4	35.6						
1111174	2015-03-19 1			BARELY DISCERNIBLE			SE	2	6.5	0.7	3,856	39.85	412	BD	10	0.010	0.10											
1111276	2015-03-20 1		3 SW	SILVERY			ENE	2	14.2	1.8	21,662	81.70	4,631		57	0.004	0.20											
1111349	2015-03-21 8				***NOAA REPORT*** SUSPECTED OIL ORIGINATES FROM A KNOWN REPEAT LEAK SOURCE SE OF THE BIRD'S FOOT OF LOUISIANA IN THE GULF OF MEXICO. THE LENGTH OF THE ANOMALY IS 22 MILES LONG MOVING EASTWARD. CONFIDENCE IS HIGH DUE TO THE FREQUENCY OF THE SOURCE AND YESTERDAY'S NRC REPORT #1111276 CONFIRMING AN 14.2 MILE OIL SLICK ORIGINATING FROM TAYLOR. SKY CONDITIONS ARE CLEAR.			22		1.8		0.00		Assume avg thickness as BAOAC nominal for "barely discernible": 0.1 micron									33,562	3,588	0.1	0.5	33.3	
1111359	2015-03-21 9		4					0	13.1	3	33,307	107.59	7,121	Silvery as for previous day	66	0.003	0.20											
1111431	2015-03-22 9				SHEEN COLOR: 40% BARELY VISIBLE, 36% SILVERY, 23% BRIGHTLY COLORED, 2% DULL.			2	7.1	1.5	9,026	46.37	3,860		83	0.005	0.40											
1111531	2015-03-23 1			SILVERY			S	2	11.4	1.6	15,459	41.50	3,305		80	0.003	0.20											
1111601	2015-03-24 9			SILVERY			NE	3	1.2	.4	407	3.06	87		28	0.007	0.20											
1111697	2015-03-25 1			RAINBOW			WSW	2	15.9	.1	1,348	51.31	1,441		28	0.036	1.00											
1111798	2015-03-26 1			BARELY DISCERNIBLE			SW	23	1.9	1.1	1,771	67.87	189		3	0.036	0.10											
1111895	2015-03-27 9		23 NNW	RAINBOW			S	4	2.2	500	153	3.49	164		47	0.021	1.00											
1111952	2015-03-28 9			SILVERY				3	6.1	0.2	1,034	11.30	221		20	0.010	0.20											



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					MARINE POLLUTION SURVEILLANCE REPORT: OIL FROM THE DESTROYED TAYLOR PLATFORM EXTENDS 6.8 MILES FROM EAST-NORTHEAST TO WEST-SOUTHWEST IN THIS ENHANCED LANDSAT-9 IMAGE TAKEN AT 1625Z. THE SLICK WAS UP TO 0.6 MILES WIDE. SKY CONDITIONS WERE CLEAR AND WINDS WERE FROM THE EAST NORTHEAST AT 10-15 KNOTS AT THE TIME THE IMAGE WAS TAKEN.									Assume avg thickness as BAOAC nominal for "barely discernible": 0.1 micron									3.458	370	0.1	1.7	32.7		
1111990	2015-03-28 1		15 ENE						6.8	.6		0																	
1112005	2015-03-29 9			SILVERY					3	3.4	.2	576	4.00	123		31	0.006	0.20											
1112066	2015-03-30 1		6 SW	OTHER					3	5.8	0.1	492	16.55	105	0.2 Silvery	6	0.031	0.20											
					NESDIS MARINE POLLUTION REPORT AREA OF POSSIBLE OIL IS SEEN JUST SOUTH OF THE U.S. EEZ TAKEN ON 3/29 AND EXTENDS FOR APPROXIMATELY 42 MILES IN LENGTH WHILE BEING 0.3-0.4 MILES WIDE. NO POINT SOURCE IS SEEN IN THE IMAGE BUT BASED ON THE FADED APPEARANCE FURTHER SOUTHEAST AND SHARPER APPEARANCE FURTHER NORTHWEST, IT IS BELIEVED THE RESPONSIBLE PARTY WAS MOVING NORTHWEST TOWARDS U.S. WATERS. FEATHERING OF THE OIL IS SEEN ALONG THE LENGTH AND AGREES WITH WIND DATA SHOWING 10-15 KT EASTERLY WINDS NEAR THIS LOCATION. A SMALL ANOMALY NORTH OF THE U.S. EEZ IS THOUGHT TO BE OIL FROM A NEARBY NATURAL SEEP UNCERTAINTIES: WHILE NO POINT SOURCE IS ASSOCIATED WITH THIS ANOMALY, ALL OTHER FACTORS POINT TO HIGHER CONFIDENCE THAT THE AREA ANALYZED IS AN OIL SLICK, LIKELY FROM A SHIP MOVING TO THE NORTHWEST TOWARDS U.S. WATERS. NO POINT SOURCE LIMITS CONFIDENCE TO MEDIUM-HIGH THOUGH. FEATHERING IS OBSERVED IN THE IMAGE ON THE EAST SIDE OF THE SLICK, CORRELATING TO MODERATE WINDS OUT OF THE EAST, AND ALSO INCREASING CONFIDENCE.					42	0.35			0											12.458	1,332	0.100	12.7	80.6
Not published	2015-03-31				30% Rainbow, 70% Silvery, 35% coverage				2	10	0.5			30% R, 70% S; 35% coverage				4,238	698	0.154	0.8	21.0							
1112196	2015-03-31 1			SILVERY					2	4.6	1	3,899	33.24	834	SILVERY	25	0.008	0.20											
STOP HERE FOR Q1 2015 (following included for information only)																													
1112282	2015-04-01 1			RAINBOW	MAKING NOTIFICATIONS				8.3	3.7	26,027	2,330	27,823		12	0.084													
1112317	2015-04-01 1		5 SE	RAINBOW	MAKING NOTIFICATIONS				0	2.8	150	59	1.48	63	42	0.024	1.00												
1112372	2015-04-02 1			BARELY DISCERNIBLE					3	4.6	0.3	1,170	13.5	125	9	0.011	0.10												
1112488	2015-04-03 1			BARELY DISCERNIBLE					2	1.9	200	53	0.88	6	8	0.012	0.10												
1112559	2015-04-04-13:09												23.79																
1112608	2015-04-05 1												32.63																
					NESDIS MARINE POLLUTION SURVEILLANCE REPORT POSSIBLE OIL SLICK SEEN RADIATING FROM THE LOCATION OF THE DESTROYED TAYLOR PLATFORM. A SOURCE OF REPEAT OIL LEAKS. THE SLICK IS SILVERY IN SUN GLINT, IS 5 MILES LONG AND 1 MILE WIDE. IT IS LOCATED 10.5 MILES SOUTHEAST OF THE BIRDFOOT DELTA AND ITS ORIENTATION IS SUPPORTED BY THE DIRECTION OF CURRENTS IN THE AREA AND EASTERLY WINDS.				5	1		0			Assume avg thickness as BAOAC nominal for "barely discernible": 0.1 micron									4.238	453	0.1			
2015-Q1 TOTALS and Ratio of this year's Totals for (77) Taylor NRC Reports												3,824	81,056	21															
2015-Q1 Average Daily for (77) Taylor Reports:												4,154	46	965		0.030	0.325												
2015-Q1 MEDIAN for (77) Taylor Reports:												750	14.0	190		14.8	0.017	0.200											
2015-Q1 Average Daily for (6) NOAA satellite NRC Reports:												39,897	0	4,265			0.100												
2015-Q1 MEDIAN for (6) NOAA satellite NRC Reports:												18,480																	
2015-Q1 Ranges for (6) NOAA satellite NRC reports																													
2015-Q1 Average Daily for (0) Other NRC Reports (including OWOC):																													
2015-Q1 MEDIAN for (0) Other NRC Reports (including OWOC):																													



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2015-Q1 Average Daily for (2) OWOC Observations												5,085	0	1,058																											
2015-Q1 MEDIAN for (2) OWOC Observations												5,085		1,058																											
2015-Q1 TOTALS and Ratios of this year's Totals ("Yearly Total Ratios") for (2) OWOC OBSERVATIONS and the same-day Taylor or NOAA NRC Reports:																																									
Note: These "Total" B-NRC/NRC and OWOC/B-NRC Amt Ratios are simple ratios of this year's respective total observed amounts of material. These simple ratios are equivalent to weighted averages of the ratios for each report (daily ratios), weighted by Amts of the denominator. For the unweighted average (over this year) of the daily ratios, see below.														73	1,246					17.0								2,117			1.7	29.0									
2015-Q1 Daily AVERAGES FOR (2) OWOC OBSERVATIONS and same-day Taylor NRC Reports:																																									
Note: B-NRC/NRC and OWOC/B-NRC Amt Ratios given here are simple averages of the yearly totals noted below (equivalent to weighted averages of the daily ratios, weighted by Amts of the denominator), rather than the (unweighted) average of the daily ratios.												3,877	37	623						17.7	0.009	0.150	5,085	1,058	0.189	2.1	28.3														
2015 MEDIAN for (2) OWOC OBSERVATIONS and same-day Taylor NRC Reports:												3,877	37	623						17.7	0.009	0.150	5,085	1,058	0.189	2.1	28.3														
2015-Q1 Ranges for (2) OWOC Observations and same-day Taylor NRC Reports:																																									
2015-Q1 TOTALS and Ratios of this year's Totals ("Yearly Total Ratios") for (6) NOAA OBSERVATIONS and the same-day Taylor NRC Reports or OWOC observations:																																									
Note: B-NRC/NRC and OWOC/B-NRC Amt Ratios given here are simple averages of the yearly totals noted below (equivalent to weighted averages of the daily ratios, weighted by Amts of the denominator), rather than the (unweighted) average of the daily ratios.														318	11,588					36.4														25,590				2.2	80.4		
2015-Q1 Daily AVERAGES for (6) NOAA Satellite NRC Reports and same-day Taylor NRC Reports:																																									
Note: B-NRC/NRC and NOAA/B-NRC Amt Ratios given here are simple averages of the yearly totals noted below (equivalent to weighted averages of the daily ratios, weighted by Amts of the denominator), rather than the (unweighted) average of the daily ratios.												9,181	53	1,931						24.4	0.015	0.183											39,897	4,265	0.100	18.5	96.0				
2015 MEDIAN for (6) NOAA Satellite NRC Reports and same-day Taylor NRC Reports:												1,407	37	206						19.4	0.010	0.200											18,480	1,976	0.100	3.5	56.9				
												0																													



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