CONTROLLED BURNS -- AFTER-ACTION REPORT

Burns on May 28th - August 3, 2010

Developed by the Controlled Burn Group

Report prepared by:

Nere' Mabile & Al Allen
Technical Advisors

August 8, 2010

IN-SITU BURN OPERATIONS (Background)

The spill source location, of the Mississippi Canyon 252 incident, is 28- 45.23' N, 088-18.89'W, approximately 42 miles off Southeast Pass, Louisiana. The released product was a light, sweet La. crude oil. During this period, the oil flow rate varied with the subsea retrieval and capping operations. Appendix-B shows example location of burns relative to the source. These burn locations varied throughout this report period from a North East to a North West direction from the source. The latitudes and longitudes were utilized in plume reporting to the EPA.

Decision to burn the oil was made due to the fact that:

- The amount of oil released was too large for skimmers and dispersants to handle alone.
- As proven already, controlled, in-situ burning, when done properly, is a safe and effective way to remove large volumes of oil from the ocean surface.

OVERVIEW OF OPERATIONS & CHRONOLOGY OF RELATED EVENTS

Between May 28th and August 3rd the Controlled In-Situ Burn (CISB) Group (under the Offshore Operations Branch) conducted a total of 324 burns. Burns continued to be conducted within the specified and approved CISB Burn Area typically within 3 to 8 miles of the Mississippi Canyon 252 oil spill source. On July 15th, towards the end of this operational period, the subsea cap was successfully installed with no more oil traveling to the surface. On August 3, 2010, the well was successfully killed.

This report period is preceded by three After Action Reports covering the prior 87 burns. The last insitu controlled burns were accomplished on July 19th bringing the total number of burns to 411.

Offshore Vessel Fleet

During this operational period, the In-situ burn group grew to three task forces and was continuously staffed with technical advisors, USCG personnel, and contracted resources. On June 2nd the fleet was increased to a total of 10 teams including twenty fishing vessels from the Houma Area (Appendix-A). The teams were deployed and in place by June 14th. Additional support vessels included the M/V Katie Lynn, M/V Kelly Jo, and M/V Mr. Andre. The additional shrimp boat vessels mentioned above included the Joey Boy, Lady Lynn, Sea Flower, St. Martin 6 and the Victoria.

To facilitate identification and communications with the spotters, the vessel teams were again color coded using different colored tarps suspended over the back deck

US_PP_USCG705666

TREX-241730.0002

of the boats. The Automatic Identification System (AIS) was continually utilized to quickly identify the offshore burn vessels from the air and confirm their positions.

During this operational period, two spotter planes were consistently utilized with the exception of occasionally losing one aircraft for scheduled maintenance.

Training was conducted for two more spotters and two more documentation personnel. Safety and air monitoring personnel were positioned on the Lead Boat for each Fire Team (fishing vessels) and on each of the other vessels involved.

With the exception of bad weather days, the ISB Task Forces and all support vessels were available on location by daybreak each day. We experienced minor impact with seismic surveys done in and around the spill source area. Throughout each burn day, Fire Teams were guided to the heaviest concentrations of oil by the Spotter aircrafts. Using two King Air fixed-wing spotter planes, two flights each, the CISB Technical Advisors/Spotters, and Documenters were able to stay on location for typically 2 ½ hours before returning to Houma Airport for fuel. During this period the first flight departed in the morning around 0730 hrs. Before returning back the Houma Airport the second spotter plane departed and flew to the burning locations while the first one left the spill area. The first plane then returned. This provided for 10 hours of continuous air observations. Several attempts were made with the spotter aircraft at flying earlier and later to get more spotting time coverage. We learned that the angle of the sunlight was too low to perform effective spotting.

Simultaneous Operations

The burn team had to carry out operations simultaneously with both the mechanical skimming teams and the dispersant group. We originally used a burn box to place a boundary around the burn operations. During this period a migration was done to a "burn circle" as depicted in Appendix C. The circular boundary allowed us to optimize our burning operations in the vicinity of the source where the mechanical skimming vessels were working. Each team was required to respect these boundaries.

Spotting & Vectoring

The CISB Fire Teams were directed to dark oil by Spotters (Figure 1, without independently towed deflection). Once on station, Spotters circled the area observing oil concentrations and vectoring fire teams to the oil.

A log of events (times of arrival/departure for the spotter aircraft, times of ignition, durations of burn, etc.) are contained in the ICS 214 forms recorded for each of the burn days covered in this report.

US_PP_USCG705667

TREX-241730.0003

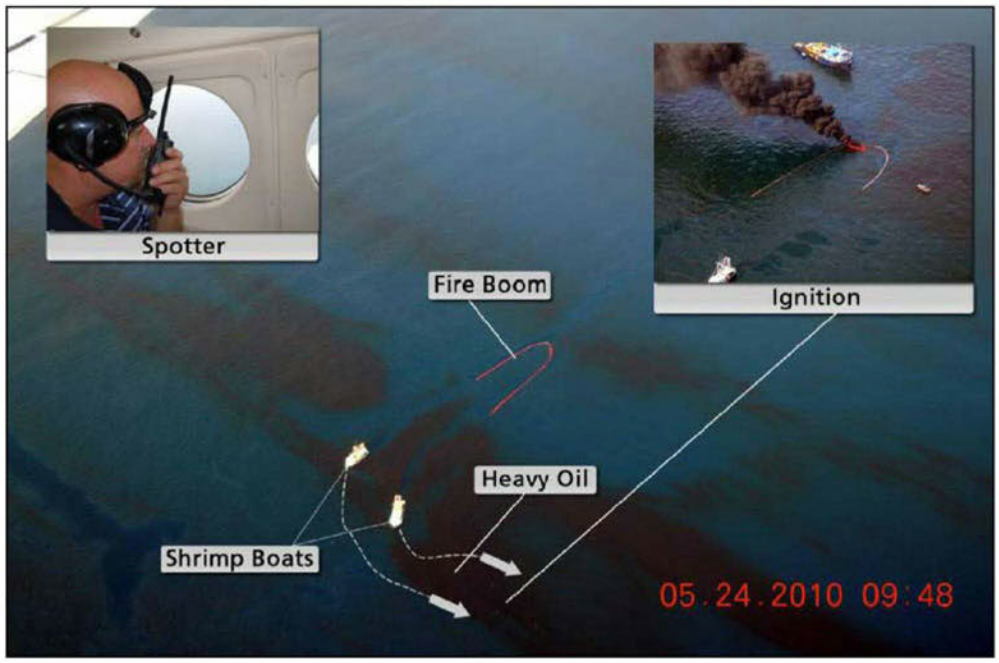


Figure 1

As before, this operational period involved moving through heavy patches or long streamers of oil (without deflection), and then igniting the oil once a sufficient amount of oil was contained within the fire boom. Towards the end of this period, the oil was more weathered and lighting became more challenging.

Wildlife Monitoring

During this period, the existing wildlife monitoring effort was augmented with two trained and qualified turtle observers per task force. Including observer trainees, there were as many as five observers on the vessels at one time. These observers became part of the offshore burn team and monitored for any turtle activities. To the best of our knowledge, no turtles were spotted in or near the fire boom during this period or previous operational periods.

Safety

Attention to safety was always paramount. During this operational period, there were no personnel burns and no smoke exposure cases. The fire teams demonstrated that if the wind blew smoke plumes towards their vessels, they could simply reposition their boats to avoid any smoke impact. There were no air monitoring readings outside the established safe parameters. The only exceptions were occasional temporary excursions when fire boom pump engine exhaust vapors caused high readings. These pumps were positioned on the back decks of the shrimp boats.

US_PP_USCG705668
TREX-241730.0004

In the course of the 411 burns at sea, only two were intentionally extinguished. The first intentional extinguishment occurred with the longest burn of 11 hours and 48 minutes. Although still continuing to catch oil and feed into the fire boom, crews began to show signs of fatigue, and were directed to intentionally extinguish the fire by increasing towing speed.

The second of these occurred when a very large area fire spilled out of the containment boom, and continued to grow in size and intensity while moving across the 3 mile buffer zone around the source control efforts. Crews were momentarily reticent to extinguish such a successful burn, but opted to quickly extinguish the fire using deck mounted monitors rather than have the still safe fire from causing perception concerns about being outside of parameters. This extinguishment took approximately 90 seconds.

Mega Volume Burns

A significant amount of oil was burned on June 18th with a total calculated volume of 50,000 to 70,000 barrels. A total of 16 burns was accomplished that day. Seas were unusually calm with very little winds and waves.

Figure 2

US_PP_USCG705669

TREX-241730.0005

Figure 2 above depicts multiple burns experienced on the record-high-volume-day of June 18th. As seen in the photograph, some burns extended outside the fire boom containment.

CONCLUSIONS

There were a total of 324 burns conducted over the period covered in this report. An extraordinary total of 411 burns were successfully completed. These records proved that ICB is very effective and should be considered on any offshore oil spill. For this event, the insitu-burning response tool is an unprecedented milestone in the spill response industry and its success can only be attributed to the team spirit of the qualified and trained personnel who have safely implemented the technical and operational plan.

Appendix-D shows the results of burns along with cumulative volumes. Some of the burns in this table is recorded as "zero" volume. The burn was counted to maintain the records in sequence, but the volume is zero because of insufficient data. Although some oil was burned and removed, the number was left out of the volume estimate. These data gaps occurred at times because of late-day burns or lack of aircraft surveillance. This approach further added to the conservatism in the burn volume estimation.

Figures 2 and 5 show how multiple controlled burns took place at the same time and in a safe fashion. The experienced and qualified teams showed how burns outside a fire boom can be safely executed and controlled by paying due attention to the established guidelines and instructions.

Long Duration Burns

It was repeatedly proven how safe burning operations can be sustained by vectoring vessels into streams of oil feeding the on-water combustion process. The feeding of oil into an ongoing burn was possible throughout this incident because of the low flammability of the slicks being encountered. A careful and continuous monitoring of the burns allowed responders to ensure that burning could not propagate forward, faster than the towing speed of about 1/2 knot, toward the boom-towing vessels. Because of the condition of the encountered oil (weathered and emulsified), the "feeding" of oil into an existing burn was always safe and effective, the fire remaining back within the fire boom and/or immediately downstream of the towed boom configuration.

During this period, we experienced "Long Duration Burns" lasting more than 10 hours. These burns were not necessarily high volume, but had very long continuous combustion. Table 1 below lists these long burns. This operation demonstrated

US_PP_USCG705670

TREX-241730.0006

how feeding oil into fire boom sustains a continuous combustion of up to 11 hours and 48 minutes, as seen with burn # 224.

Burn No.	Date	Aprox. Burn Vol. - Min. (BBLs)	Aprox. Burn Vol. - Max (BBLs)	Burn Start	Burn End	Burn Duration	Team
229	6/16/2010	1,014	1,420	13:09	23:29	10:20	3
182	6/13/2010	4,774	6,683	9:05	20:26	11:21	7
224	6/16/2010	5,956	8,339	9:19	21:07	11:48	1

Table 1

The following photos in figures 3 - 5 illustrate some of the long duration burns experienced during this operational period.

Figure 3 (Burn # 229)

US_PP_USCG705671
TREX-241730.0007

Figure 4 (Burn # 182)

Figure 5 (Burn # 224)

US_PP_USCG705672
TREX-241730.0008

Boom Performance

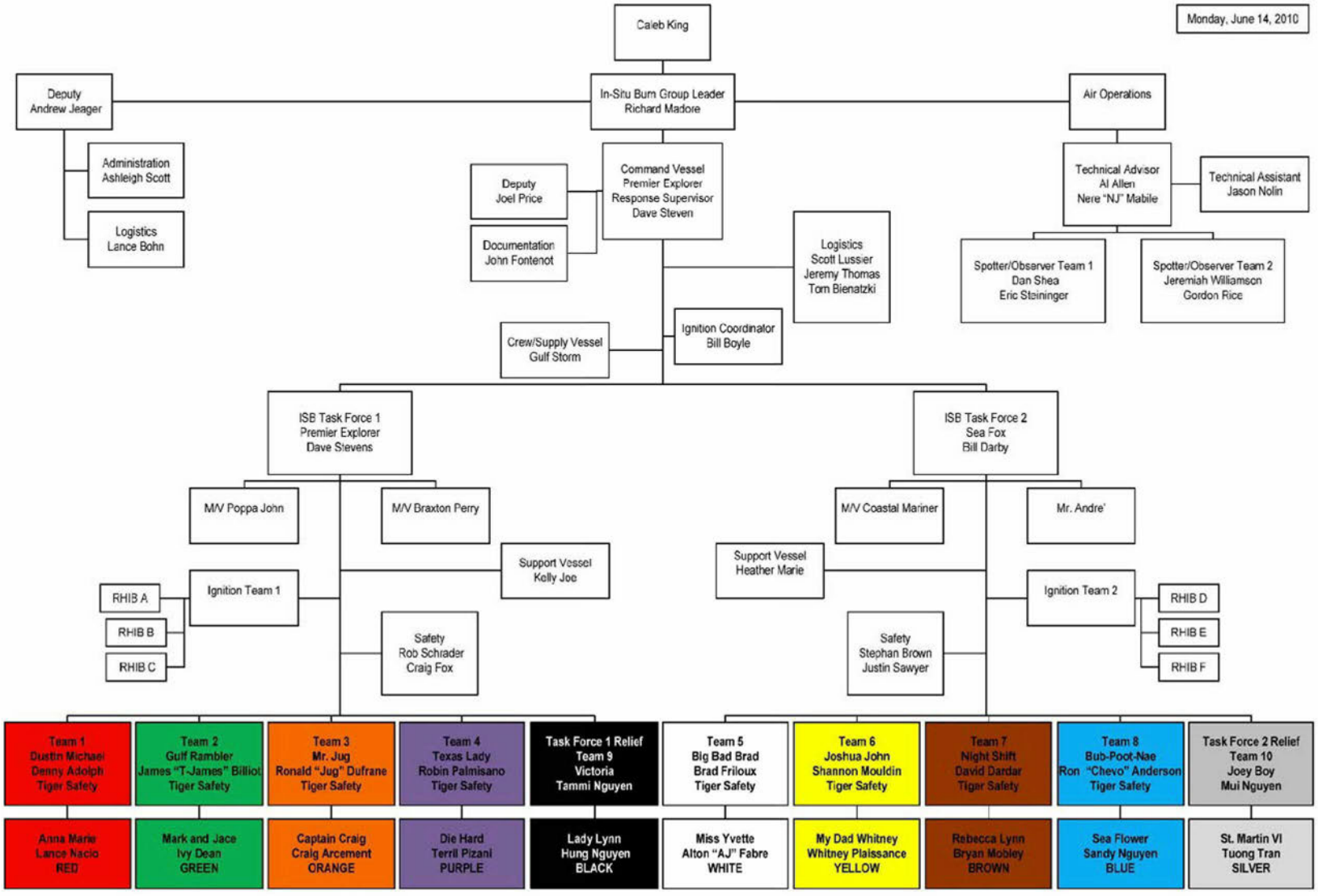
Several different boom types were operationally tested during this reporting period. The offshore operations personnel are in the process of gathering notes on number of burns, duration, and post conditions regarding each type of boom system. A performance summary of each of these boom systems or types will be reported separately after tallying all notes.

Burn Volume Calculation

As noted in Appendix –D, Controlled In-Situ Burn Summary volume calculations for each burn include a minimum and maximum estimate. The minimum volume estimate is based on the lower of any multiple air/surface estimates of burn size, the duration of burn, and a burn rate of 0.05 gpm/sqft, the rate commonly associated with the burning of an emulsified crude oil (typically between 25% to 40%). The maximum volume estimate is based upon the best upper estimates of burn area, the duration of burn for each of those areas, and a burn rate of 0.07 gpm/sqft; the rate commonly associated with the controlled burning of crude oil that has only been emulsified to approximately 10% to 20%.

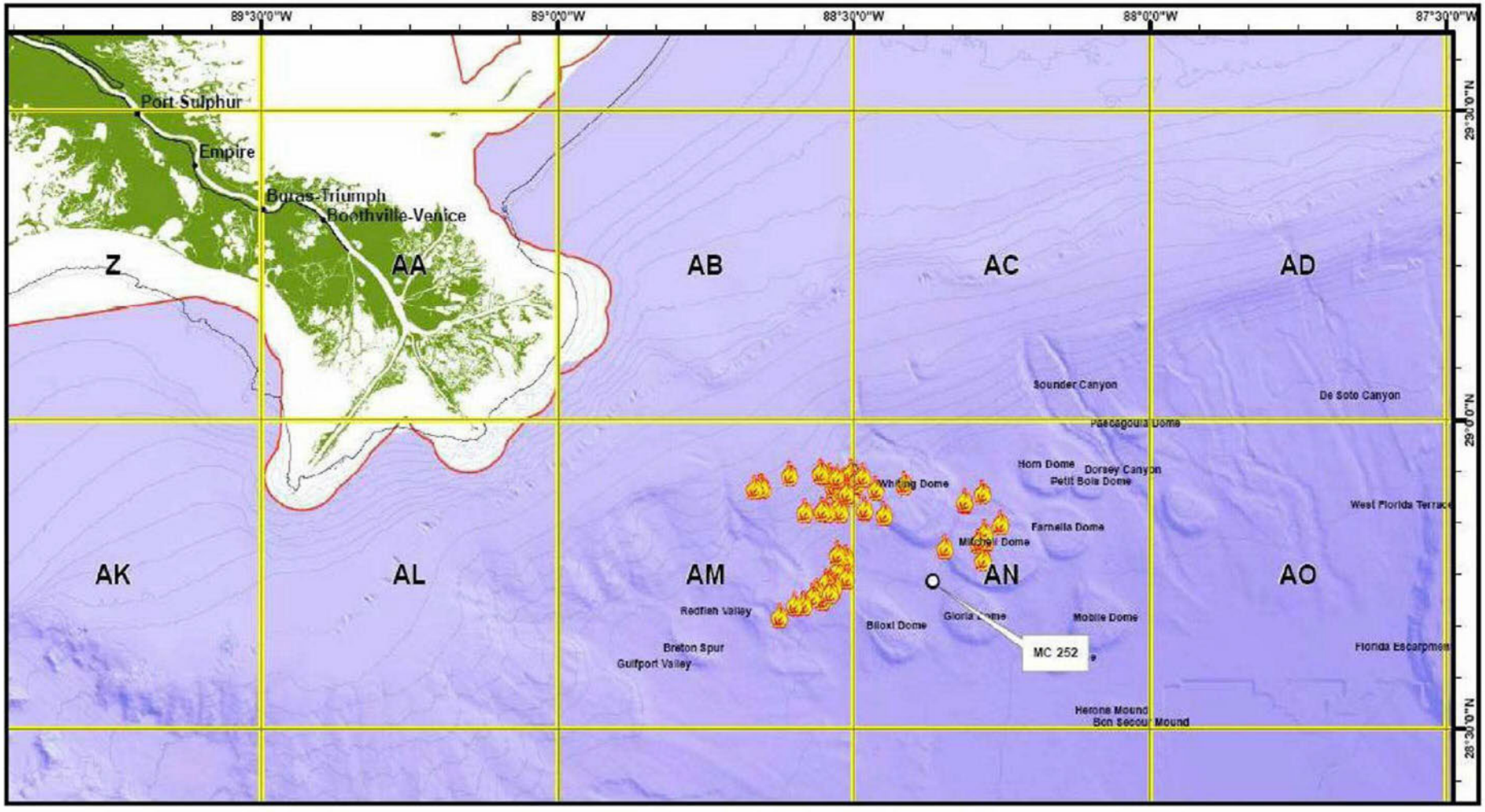
US_PP_USCG705673

TREX-241730.0009



Appendix A – Burn Team Organizational Chart

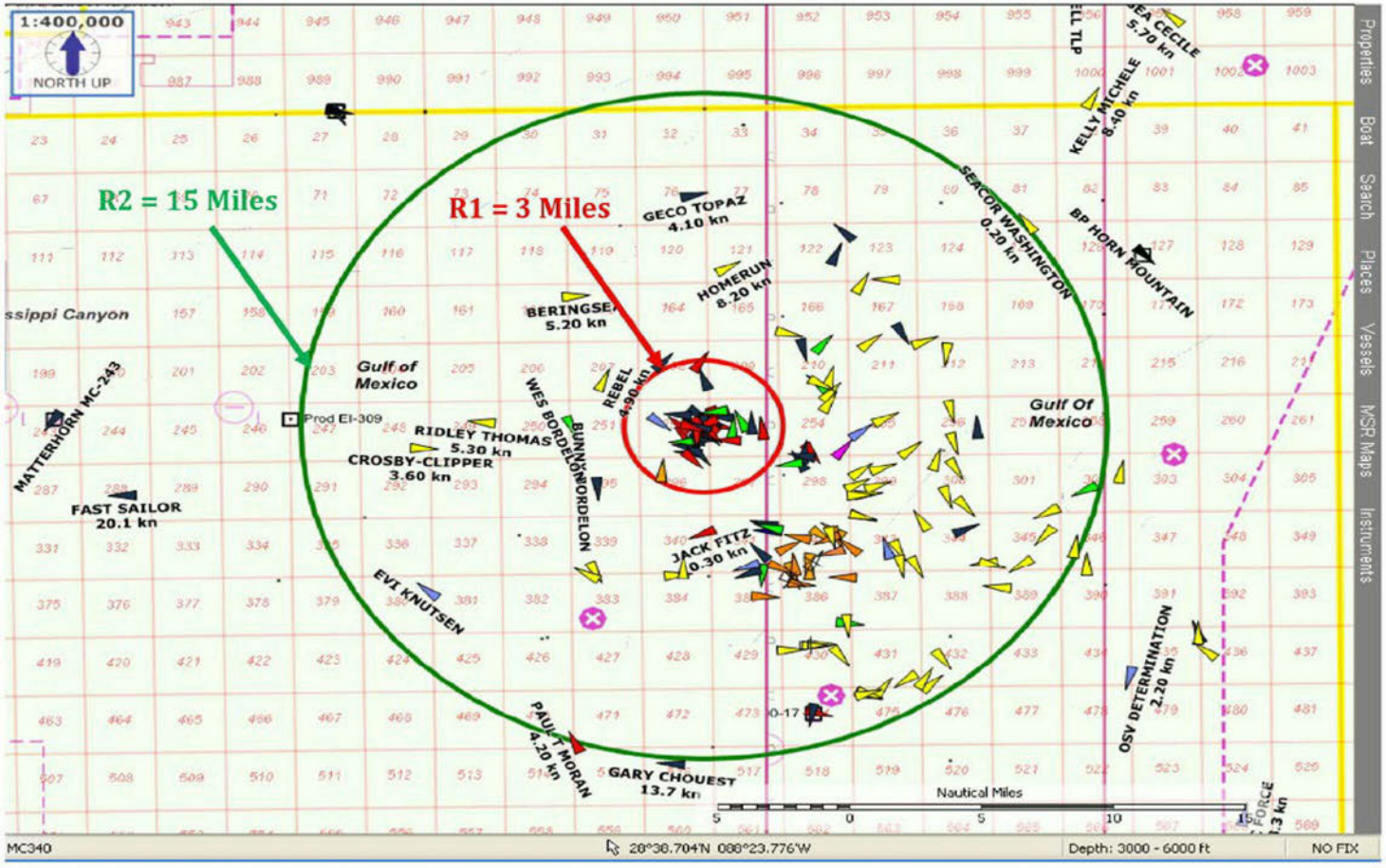
TREX-241730.0011



Appendix B – Burn Locations

North End Point: 28 59.208N, 088 21.992W
South End Point : 28 29.293N, 088 21.650W

West End Point: 28 44.545N , 088 39.162W
East End Point: 28 44.796N, 088 04.993W



Appendix C - Burn Circles

TREX-241730.0012

Burn No.	Date	Aprox. Burn Vol. - Min. (BBLs)	Aprox. Burn Vol. - Max (BBLs)	CUMMULATIVE Min Burn Vol. (BBLs)	CUMMULATIVE Max Burn Vol. (BBLs)
1	4/28/2010	77	108	77	108
2	5/5/2010	512	716	589	824
3	5/5/2010	10	13	599	837
4	5/5/2010	1	2	600	839
5	5/5/2010	147	364	747	1203
6	5/6/2010	1760	3285	2507	4488
7	5/6/2010	1031	1925	3538	6413
8	5/6/2010	1723	2413	5261	8826
9	5/6/2010	41	131	5302	8957
10	5/7/2010	371	519	5673	9476
11	5/7/2010	25	35	5698	9511
12	5/7/2010	113	158	5811	9669
13	5/7/2010	170	237	5981	9906
14	5/7/2010	1	2	5982	9908
15	5/7/2010	994	1392	6976	11300
16	5/17/2010	1851	2591	8827	13891
17	5/17/2010	166	232	8993	14124
18	5/17/2010	136	190	9129	14314
19	5/17/2010	0	0	9129	14314
20	5/17/2010	0	0	9129	14314
21	5/17/2010	297	416	9426	14730
22	5/17/2010	210	293	9636	15023
23	5/18/2010	235	329	9871	15352
24	5/18/2010	368	515	10239	15868
25	5/18/2010	51	72	10290	15939
26	5/18/2010	0	0	10290	15939
27	5/19/2010	303	425	10593	16364

Appendix D - Burns

Burn No.	Date	Aprox. Burn Vol. - Min. (BBLs)	Aprox. Burn Vol. - Max (BBLs)	CUMMULATIVE Min Burn Vol. (BBLs)	CUMMULATIVE Max Burn Vol. (BBLs)
28	5/19/2010	11700	16380	22293	32744
29	5/19/2010	3800	5319	26093	38064
30	5/19/2010	769	1076	26861	39139
31	5/19/2010	1423	1992	28284	41132
32	5/19/2010	4809	6733	33093	47864
33	5/20/2010	2940	4116	36033	51980
34	5/20/2010	678	950	36711	52930
35	5/20/2010	864	1210	37575	54140
36	5/20/2010	0	0	37575	54140
37	5/20/2010	4783	6696	42358	60836
38	5/20/2010	1	2	42359	60838
39	5/20/2010	179	251	42538	61089
40	5/23/2010	160	224	42698	61313
41	5/23/2010	293	410	42991	61723
42	5/23/2010	34	84	43025	61807
43	5/23/2010	139	195	43164	62002
44	5/23/2010	125	176	43289	62178
45	5/23/2010	10	14	43299	62192
46	5/23/2010	2	3	43301	62195
47	5/23/2010	8	11	43309	62206
48	5/24/2010	172	240	43481	62446
49	5/24/2010	75	105	43556	62551
50	5/24/2010	382	534	43938	63085
51	5/24/2010	179	250	44117	63335
52	5/24/2010	280	392	44397	63727
53	5/24/2010	76	106	44473	63833
54	5/24/2010	7	10	44480	63843

Appendix D - Burns

Burn No.	Date	Aprox. Burn Vol. - Min. (BBLs)	Aprox. Burn Vol. - Max (BBLs)	CUMMULATIVE Min Burn Vol. (BBLs)	CUMMULATIVE Max Burn Vol. (BBLs)
55	5/24/2010	458	641	44938	64484
56	5/24/2010	132	185	45070	64669
57	5/24/2010	40	56	45110	64725
58	5/24/2010	19	26	45129	64751
59	5/24/2010	0	0	45129	64751
60	5/24/2010	77	108	45206	64859
61	5/24/2010	153	214	45359	65073
62	5/25/2010	49	68	45408	65141
63	5/25/2010	73	103	45481	65244
64	5/25/2010	0	0	45481	65244
65	5/25/2010	0	0	45481	65244
66	5/25/2010	180	253	45661	65497
67	5/25/2010	0	0	45661	65497
68	5/26/2010	20	28	45681	65525
69	5/26/2010	117	163	45798	65688
70	5/26/2010	0	0	45798	65688
71	5/26/2010	75	105	45873	65793
72	5/26/2010	24	33	45897	65826
73	5/26/2010	14	20	45911	65846
74	5/26/2010	114	160	46025	66006
75	5/27/2010	57	80	46082	66086
76	5/27/2010	55	77	46137	66163
77	5/27/2010	217	304	46354	66467
78	5/27/2010	177	248	46531	66715
79	5/27/2010	11	15	46542	66730
80	5/27/2010	10	14	46552	66744
81	5/27/2010	3	4	46555	66748

US_PP_USCG705679

TREX-241730.0015

Burn No.	Date	Aprox. Burn Vol. - Min. (BBLs)	Aprox. Burn Vol. - Max (BBLs)	CUMMULATIVE Min Burn Vol. (BBLs)	CUMMULATIVE Max Burn Vol. (BBLs)
82	5/27/2010	10	13	46565	66761
83	5/27/2010	27	38	46592	66799
84	5/27/2010	0	0	46592	66799
85	5/27/2010	11	16	46603	66815
86	5/27/2010	16	23	46619	66838
87	5/27/2010	0	0	46619	66838
88	5/28/2010	0	0	46619	66838
89	5/29/2010	0	0	46619	66838
90	5/29/2010	1	1	46620	66839
91	5/29/2010	81	113	46701	66952
92	5/29/2010	284	397	46985	67349
93	5/29/2010	0	0	46985	67349
94	5/29/2010	560	703	47545	68052
95	5/29/2010	95	133	47640	68185
96	5/30/2010	93	130	47733	68315
97	5/30/2010	68	95	47801	68410
98	5/30/2010	95	133	47896	68543
99	5/30/2010	257	360	48153	68903
100	5/30/2010	32	44	48185	68947
101	5/30/2010	207	290	48391	69237
102	5/30/2010	95	133	48487	69370
103	5/30/2010	116	162	48602	69532
104	5/30/2010	325	455	48927	69987
105	5/31/2010	186	261	49113	70248
106	5/31/2010	720	1008	49833	71255
107	5/31/2010	0	0	49833	71255
108	5/31/2010	59	83	49892	71338

US_PP_USCG705680

TREX-241730.0016

Burn No.	Date	Aprox. Burn Vol. - Min. (BBLs)	Aprox. Burn Vol. - Max (BBLs)	CUMMULATIVE Min Burn Vol. (BBLs)	CUMMULATIVE Max Burn Vol. (BBLs)
109	5/31/2010	187	262	50080	71600
110	5/31/2010	501	702	50581	72302
111	5/31/2010	9	12	50590	72314
112	5/31/2010	73	102	50662	72416
113	5/31/2010	97	136	50759	72552
114	5/31/2010	424	594	51183	73145
115	5/31/2010	513	719	51697	73864
116	5/31/2010	144	202	51841	74066
117	5/31/2010	8512	11916	60353	85982
118	5/31/2010	101	142	60454	86124
119	5/31/2010	750	1050	61204	87174
120	5/31/2010	254	356	61458	87530
121	5/31/2010	1248	1748	62706	89278
122	6/1/2010	3849	5389	66556	94667
123	6/1/2010	138	193	66694	94860
124	6/1/2010	2451	3431	69144	98291
125	6/1/2010	132	185	69277	98476
126	6/2/2010	571	800	69848	99276
127	6/7/2010	231	323	70079	99599
128	6/7/2010	66	92	70145	99691
129	6/7/2010	18	26	70163	99717
130	6/7/2010	157	220	70320	99937
131	6/7/2010	36	51	70356	99988
132	6/7/2010	61	85	70417	100073
133	6/7/2010	180	252	70597	100325
134	6/8/2010	45	63	70642	100388
135	6/8/2010	109	153	70752	100541

Appendix D - Burns

Burn No.	Date	Aprox. Burn Vol. - Min. (BBLs)	Aprox. Burn Vol. - Max (BBLs)	CUMMULATIVE Min Burn Vol. (BBLs)	CUMMULATIVE Max Burn Vol. (BBLs)
136	6/8/2010	65	92	70817	100633
137	6/8/2010	127	178	70944	100811
138	6/8/2010	3	4	70947	100814
139	6/8/2010	1621	2270	72568	103084
140	6/8/2010	367	513	72935	103598
141	6/8/2010	469	656	73403	104254
142	6/8/2010	322	451	73725	104705
143	6/8/2010	70	98	73795	104802
144	6/8/2010	604	846	74399	105648
145	6/8/2010	503	704	74902	106352
146	6/8/2010	90	126	74992	106478
147	6/8/2010	65	91	75057	106569
148	6/8/2010	84	118	75141	106687
149	6/9/2010	75	106	75217	106792
150	6/9/2010	1156	1618	76373	108411
151	6/9/2010	119	167	76492	108577
152	6/9/2010	123	173	76615	108750
153	6/9/2010	29	41	76644	108791
154	6/9/2010	60	85	76705	108876
155	6/9/2010	266	372	76971	109248
156	6/9/2010	52	73	77023	109321
157	6/9/2010	99	139	77122	109460
158	6/9/2010	116	162	77238	109622
159	6/9/2010	343	480	77581	110102
160	6/9/2010	103	144	77684	110246
161	6/9/2010	64	89	77747	110335
162	6/9/2010	106	148	77853	110484

US_PP_USCG705682
TREX-241730.0018

Burn No.	Date	Aprox. Burn Vol. - Min. (BBLs)	Aprox. Burn Vol. - Max (BBLs)	CUMMULATIVE Min Burn Vol. (BBLs)	CUMMULATIVE Max Burn Vol. (BBLs)
163	6/9/2010	68	95	77921	110578
164	6/9/2010	66	93	77987	110671
165	6/9/2010	93	131	78080	110802
166	6/10/2010	300	400	78380	111202
167	6/12/2010	2	3	78382	111204
168	6/12/2010	6	8	78388	111213
169	6/12/2010	218	305	78606	111518
170	6/12/2010	32	45	78638	111563
171	6/12/2010	909	1272	79547	112835
172	6/12/2010	255	357	79802	113192
173	6/12/2010	14	20	79817	113213
174	6/12/2010	19	27	79836	113239
175	6/12/2010	33	46	79868	113285
176	6/12/2010	4597	6436	84465	119721
177	6/12/2010	85	120	84551	119841
178	6/12/2010	19	26	84570	119867
179	6/12/2010	31	44	84601	119911
180	6/12/2010	55	77	84656	119988
181	6/12/2010	5	7	84662	119995
182	6/13/2010	4774	6683	89435	126679
183	6/13/2010	15	21	89451	126700
184	6/13/2010	888	1244	90339	127944
185	6/13/2010	2283	3196	92621	131139
186	6/13/2010	4692	6568	97313	137707
187	6/13/2010	171	240	97484	137947
188	6/13/2010	26	36	97510	137983
189	6/13/2010	64	89	97574	138073

US_PP_USCG705683

TREX-241730.0019

Burn No.	Date	Aprox. Burn Vol. - Min. (BBLs)	Aprox. Burn Vol. - Max (BBLs)	CUMMULATIVE Min Burn Vol. (BBLs)	CUMMULATIVE Max Burn Vol. (BBLs)
190	6/13/2010	360	504	97934	138577
191	6/13/2010	35	49	97969	138626
192	6/13/2010	120	168	98089	138793
193	6/13/2010	342	479	98431	139272
194	6/13/2010	32	45	98463	139317
195	6/13/2010	21	30	98484	139347
196	6/14/2010	88	123	98572	139470
197	6/14/2010	61	86	98633	139556
198	6/14/2010	20	27	98653	139583
199	6/14/2010	73	102	98726	139685
200	6/14/2010	11	16	98737	139701
201	6/14/2010	264	370	99001	140071
202	6/14/2010	92	129	99093	140199
203	6/14/2010	106	148	99199	140348
204	6/14/2010	1133	1586	100332	141934
205	6/14/2010	20	29	100352	141962
206	6/14/2010	19	27	100371	141989
207	6/14/2010	3	5	100375	141994
208	6/14/2010	186	261	100561	142255
209	6/14/2010	1	1	100562	142256
210	6/14/2010	1041	1457	101602	143712
211	6/14/2010	387	542	101989	144254
212	6/14/2010	54	75	102043	144330
213	6/14/2010	20	27	102063	144357
214	6/15/2010	344	482	102407	144838
215	6/15/2010	111	156	102518	144994
216	6/15/2010	169	236	102686	145230

US_PP_USCG705684
TREX-241730.0020

Burn No.	Date	Aprox. Burn Vol. - Min. (BBLs)	Aprox. Burn Vol. - Max (BBLs)	CUMMULATIVE Min Burn Vol. (BBLs)	CUMMULATIVE Max Burn Vol. (BBLs)
217	6/15/2010	43	60	102729	145290
218	6/15/2010	8	11	102737	145301
219	6/15/2010	143	200	102880	145501
220	6/15/2010	1	1	102881	145502
221	6/15/2010	12	17	102893	145520
222	6/15/2010	1	2	102895	145522
223	6/15/2010	14	19	102908	145541
224	6/16/2010	5956	8339	108865	153880
225	6/16/2010	5	7	108870	153887
226	6/16/2010	214	299	109083	154186
227	6/16/2010	705	986	109788	155172
228	6/16/2010	2508	3512	112296	158684
229	6/16/2010	1014	1420	113310	160103
230	6/16/2010	81	113	113391	160217
231	6/16/2010	292	409	113683	160626
232	6/16/2010	5968	8355	119651	168981
233	6/16/2010	33	46	119684	169027
234	6/17/2010	2237	3132	121921	172159
235	6/17/2010	1251	1751	123172	173910
236	6/17/2010	7492	10488	130664	184399
237	6/17/2010	59	83	130723	184481
238	6/17/2010	44	62	130767	184543
239	6/18/2010	121	170	130888	184713
240	6/18/2010	69	96	130957	184809
241	6/18/2010	147	205	131103	185014
242	6/18/2010	148	207	131251	185221
243	6/18/2010	420	588	131671	185809

US_PP_USCG705685

TREX-241730.0021

Burn No.	Date	Aprox. Burn Vol. - Min. (BBLs)	Aprox. Burn Vol. - Max (BBLs)	CUMMULATIVE Min Burn Vol. (BBLs)	CUMMULATIVE Max Burn Vol. (BBLs)
244	6/18/2010	49	69	131721	185878
245	6/18/2010	820	1148	132541	187026
246	6/18/2010	4333	6066	136874	193093
247	6/18/2010	255	357	137129	193450
248	6/18/2010	842	1178	137971	194628
249	6/18/2010	16097	22536	154068	217164
250	6/18/2010	21932	30705	175999	247868
251	6/18/2010	127	178	176127	248047
252	6/18/2010	1705	2388	177832	250434
253	6/18/2010	2133	2986	179965	253420
254	6/18/2010	422	591	180387	254011
255	6/19/2010	360	504	180747	254515
256	6/19/2010	83	116	180830	254631
257	6/19/2010	1226	1716	182056	256347
258	6/19/2010	39	55	182095	256402
259	6/19/2010	36	50	182131	256452
260	6/19/2010	204	286	182335	256738
261	6/20/2010	37	52	182372	256790
262	6/20/2010	198	278	182570	257068
263	6/20/2010	24	33	182594	257101
264	6/20/2010	75	105	182669	257206
265	6/20/2010	18	25	182687	257231
266	6/20/2010	74	104	182761	257334
267	6/20/2010	85	120	182846	257454
268	6/21/2010	2975	4165	185821	261619
269	6/21/2010	1350	1889	187171	263508
270	6/21/2010	1139	1595	188310	265103

US_PP_USCG705686
TREX-241730.0022

Burn No.	Date	Aprox. Burn Vol. - Min. (BBLs)	Aprox. Burn Vol. - Max (BBLs)	CUMMULATIVE Min Burn Vol. (BBLs)	CUMMULATIVE Max Burn Vol. (BBLs)
271	6/21/2010	1550	2170	189860	267273
272	6/21/2010	1237	1731	191097	269005
273	6/21/2010	473	662	191570	269667
274	6/21/2010	1141	1597	192710	271264
275	6/21/2010	468	655	193178	271919
276	6/21/2010	292	409	193470	272328
277	6/21/2010	160	224	193631	272552
278	6/21/2010	51	71	193681	272623
279	6/21/2010	54	76	193736	272699
280	6/21/2010	0	0	193736	272699
281	6/21/2010	41	57	193777	272756
282	6/21/2010	395	553	194172	273310
283	6/21/2010	774	1083	194946	274393
284	6/21/2010	13	18	194958	274411
285	6/21/2010	744	1041	195702	275452
286	6/21/2010	625	876	196328	276328
287	6/21/2010	638	893	196966	277221
288	6/21/2010	78	110	197044	277331
289	7/8/2010	0	0	197044	277331
290	7/9/2010	346	484	197390	277815
291	7/9/2010	2067	2894	199457	280709
292	7/9/2010	361	506	199819	281215
293	7/9/2010	413	579	200232	281794
294	7/9/2010	357	500	200589	282294
295	7/9/2010	157	220	200746	282514
296	7/9/2010	58	81	200804	282595
297	7/9/2010	294	411	201098	283006

US_PP_USCG705687
TREX-241730.0023

Burn No.	Date	Aprox. Burn Vol. - Min. (BBLs)	Aprox. Burn Vol. - Max (BBLs)	CUMMULATIVE Min Burn Vol. (BBLs)	CUMMULATIVE Max Burn Vol. (BBLs)
298	7/9/2010	25	34	201123	283040
299	7/9/2010	928	1299	202051	284339
300	7/9/2010	277	387	202327	284726
301	7/9/2010	25	36	202352	284762
302	7/9/2010	422	591	202774	285353
303	7/9/2010	50	71	202824	285424
304	7/9/2010	1150	1611	203974	287034
305	7/10/2010	140	197	204115	287231
306	7/10/2010	3794	5312	207909	292543
307	7/10/2010	4	6	207913	292549
308	7/10/2010	940	1316	208853	293865
309	7/10/2010	311	436	209165	294301
310	7/10/2010	61	86	209226	294387
311	7/10/2010	2646	3705	211872	298092
312	7/10/2010	176	246	212048	298338
313	7/10/2010	76	106	212124	298444
314	7/10/2010	59	83	212183	298527
315	7/11/2010	46	65	212229	298592
316	7/11/2010	578	810	212808	299402
317	7/11/2010	61	85	212868	299487
318	7/11/2010	72	101	212940	299587
319	7/11/2010	660	924	213600	300511
320	7/11/2010	0	0	213600	300511
321	7/11/2010	1136	1590	214736	302101
322	7/11/2010	550	771	215286	302872
323	7/11/2010	50	70	215336	302942
324	7/11/2010	66	92	215402	303034

US_PP_USCG705688
TREX-241730.0024

Burn No.	Date	Aprox. Burn Vol. - Min. (BBLs)	Aprox. Burn Vol. - Max (BBLs)	CUMMULATIVE Min Burn Vol. (BBLs)	CUMMULATIVE Max Burn Vol. (BBLs)
325	7/11/2010	81	114	215483	303147
326	7/11/2010	772	1081	216255	304228
327	7/11/2010	50	70	216305	304298
328	7/11/2010	242	339	216547	304637
329	7/11/2010	72	100	216619	304738
330	7/13/2010	47	65	216665	304803
331	7/13/2010	45	64	216711	304866
332	7/13/2010	43	60	216754	304927
333	7/13/2010	2	2	216756	304929
334	7/13/2010	20	27	216775	304957
335	7/13/2010	3	4	216778	304960
336	7/13/2010	0	0	216778	304960
337	7/13/2010	20	28	216798	304988
338	7/13/2010	0	0	216798	304988
339	7/13/2010	32	44	216830	305032
340	7/13/2010	160	224	216989	305256
341	7/13/2010	66	92	217055	305349
342	7/13/2010	2	3	217058	305352
343	7/13/2010	1	1	217059	305353
344	7/13/2010	0	0	217059	305353
345	7/13/2010	75	105	217133	305457
346	7/13/2010	27	38	217161	305496
347	7/13/2010	67	93	217227	305589
348	7/13/2010	105	147	217332	305736
349	7/13/2010	18	25	217350	305760
350	7/13/2010	0	0	217350	305760
351	7/13/2010	435	609	217784	306369

US_PP_USCG705689
TREX-241730.0025

Burn No.	Date	Aprox. Burn Vol. - Min. (BBLs)	Aprox. Burn Vol. - Max (BBLs)	CUMMULATIVE Min Burn Vol. (BBLs)	CUMMULATIVE Max Burn Vol. (BBLs)
352	7/14/2010	2	3	217787	306372
353	7/14/2010	54	75	217840	306448
354	7/14/2010	14	20	217854	306467
355	7/14/2010	81	114	217936	306581
356	7/14/2010	89	124	218024	306705
357	7/14/2010	0	0	218024	306705
358	7/14/2010	7	10	218031	306715
359	7/14/2010	0	0	218031	306715
360	7/14/2010	43	60	218074	306775
361	7/14/2010	22	31	218097	306807
362	7/14/2010	103	144	218200	306951
363	7/14/2010	16	23	218216	306974
364	7/14/2010	12	17	218228	306991
365	7/14/2010	0	0	218228	306991
366	7/14/2010	20	28	218248	307018
367	7/14/2010	10	14	218258	307032
368	7/14/2010	48	67	218306	307100
369	7/14/2010	56	79	218362	307178
370	7/14/2010	42	59	218404	307237
371	7/14/2010	0	0	218404	307237
372	7/14/2010	10	13	218414	307250
373	7/14/2010	74	103	218488	307354
374	7/14/2010	18	25	218506	307379
375	7/14/2010	50	69	218555	307448
376	7/14/2010	77	107	218632	307555
377	7/14/2010	55	78	218687	307633
378	7/15/2010	19	26	218706	307659

US_PP_USCG705690

TREX-241730.0026

Burn No.	Date	Aprox. Burn Vol. - Min. (BBLs)	Aprox. Burn Vol. - Max (BBLs)	CUMMULATIVE Min Burn Vol. (BBLs)	CUMMULATIVE Max Burn Vol. (BBLs)
379	7/15/2010	41	57	218747	307716
380	7/15/2010	0	0	218747	307716
381	7/15/2010	0	0	218747	307716
382	7/15/2010	27	37	218773	307754
383	7/15/2010	8	11	218781	307765
384	7/15/2010	0	0	218781	307765
385	7/15/2010	37	52	218818	307816
386	7/15/2010	79	110	218897	307927
387	7/15/2010	83	117	218980	308043
388	7/15/2010	0	0	218980	308043
389	7/15/2010	0	0	218980	308043
390	7/16/2010	7	10	218988	308054
391	7/16/2010	473	662	219461	308716
392	7/16/2010	56	79	219517	308795
393	7/16/2010	32	44	219548	308839
394	7/16/2010	21	30	219570	308868
395	7/16/2010	11	16	219581	308884
396	7/16/2010	0	0	219581	308884
397	7/16/2010	11	15	219592	308899
398	7/16/2010	1	1	219592	308900
399	7/16/2010	16	23	219609	308923
400	7/16/2010	63	89	219672	309012
401	7/16/2010	0	0	219672	309012
402	7/16/2010	0	0	219672	309012
403	7/16/2010	82	115	219754	309127
404	7/16/2010	55	78	219810	309204
405	7/16/2010	0	0	219810	309204

US_PP_USCG705691
TREX-241730.0027

Burn No.	Date	Aprox. Burn Vol. - Min. (BBLs)	Aprox. Burn Vol. - Max (BBLs)	CUMMULATIVE Min Burn Vol. (BBLs)	CUMMULATIVE Max Burn Vol. (BBLs)
406	7/16/2010	13	18	219822	309222
407	7/16/2010	8	12	219830	309234
408	7/16/2010	50	70	219880	309304
409	7/17/2010	0	0	219880	309304
410	7/19/2010	106	148	219986	309452
411	7/19/2010	0	0	219986	309452

US_PP_USCG705692

TREX-241730.0028