Appendix O. Industry Comparison Data on Long String Casing and Casing Liners in the Macondo Well Area

To illustrate industry use of long strings for production casing in settings similar to the Macondo well, the investigation team reviewed well designs in a 10 x 10 (60 x 60 miles) North, South, East and West lease block grid around the Macondo well (excluding the Mississippi Canyon 252 lease block).

Figure 1 shows a breakdown of publicly available data on 113 wells in this grid. The data indicated a mix of designs using liners only, liners with tiebacks and long strings for production casing. Long strings were installed in 57% of the wells, while 36% used liners or liners with tiebacks.

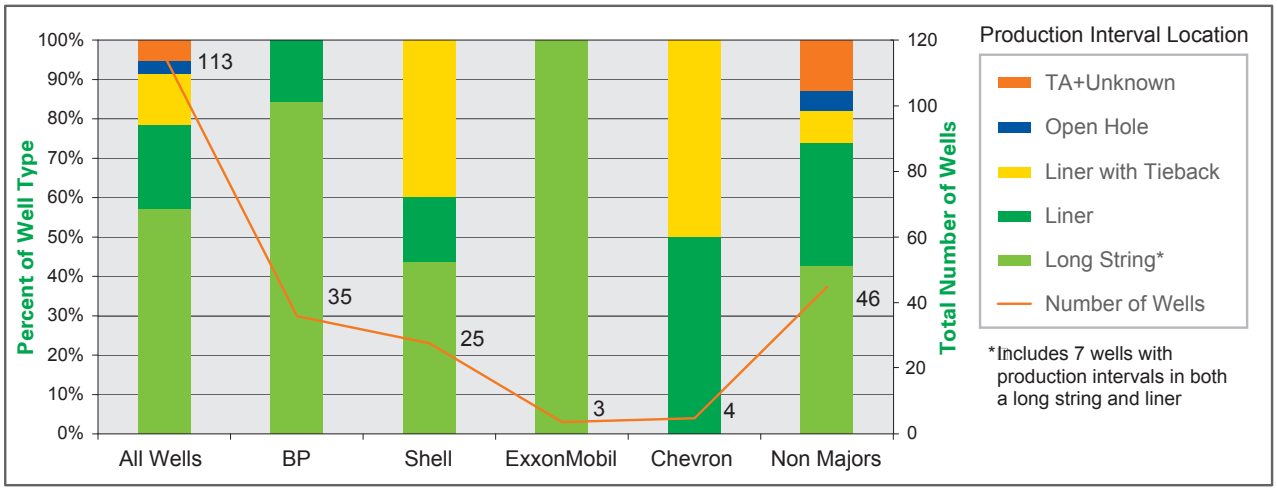

Figure 1. Casing Design Statistics for Nearby Wells.

The data used for Figure 1 is located in the table on the next page. The production casing used in the well was analyzed to determine if it was a long string (LS), liner (LO), liner with tieback (LT) or and open hole completion (O). Well data is collected by the Bureau of Ocean Energy Management, Regulation, and Enforcement and is available to the public.

Industry Comparision Data - Mississippi Canyon 252 Area													
Area	Block	Lease	Well	Operator	Well Type	RKB	Measured Depth	True Vertical Depth	Spud date	Total Depth Date	Water Depth	Production Casing	Field
VK	821	G27243	SS001	Walter O&G	E		15000		3/1/2008	4/24/2008	1030	LO	
VK	825	G05778	005	Anadarko Pet	E	72	10952	8844	7/6/1999	7/29/1999	1711	LS	Neptune
VK	825	G05778	004	Anadarko Pet	D	72	9690	9298	8/12/1998	8/17/1998	1722	LS	Neptune
VK	826	G06888	A012	Anadarko Pet	D	72	13552	10850	3/19/2001	3/23/2001	1933	LO	Neptune
VK	826	G06888	A013	Anadarko Pet	D	72	10783	9535	2/8/2001	4/11/2001	1933	LO	Neptune
VK	826	G06888	SS012	Anadarko Pet	D	72	12245	12237	3/3/2000	4/26/2000	1543	LO	Neptune
VK	826	G06888	A010	Anadarko Pet	D	72	12814	11084	6/23/1998	7/1/1998	1932	LO	Neptune
VK	826	G06888	A009	Anadarko Pet	D	72	11850	10808	4/28/1998	5/26/1998	1932	LO	Neptune
VK	826	G06888	A008	Anadarko Pet	D	72	8315	6119	4/5/1998	7/16/1998	1932	LS	Neptune
VK	862	G13064	SS005	Walter O&G	E		5730		5/7/2009	5/16/2009	1060	LS	
VK	862	G13065	SS004	Walter O&G	E		4670		5/24/2007	6/2/2007	1060	LS	
VK	862	G13066	SS003	Walter O&G	E		6550		5/22/2007	6/9/2007	1060	LS	
VK	869	G13065	SS002	Anadarko Pet	E	82	11950	11474	8/18/2004	9/5/2004	2423	LS	Neptune
VK	869	G13065	SS001	Anadarko Pet	D	74	10351	10351	11/24/2003	12/8/2003	2033	LS	Neptune
VK	914	G08785	SS001	BP E&P	E	86	15759	13572	4/12/1999	5/2/1999	3535	LS	Nile
VK	915	G08469	A005	BP E&P	D	87	14990	12619	9/16/1997	12/1/1997	3232	LS	Marlin SS
VK	915	G06894	SS002	BP E&P	D	81	12560	10818	1/9/2002	2/23/2002	3460	LS & L	Marlin SS
VK	915	G06894	SS003	BP E&P	D	75	11175	10339	2/12/2002	3/9/2002	3868	LS	Dorado
VK	915	G06894	SS004	BP E&P	D	75	11300	10954	5/4/2002	5/6/2002	3560	LS & L	Dorado
VK	915	G06894	A006	BP E&P	D	86	12935	11708	8/17/1997	4/10/1998	3232	LS	Dorado
VK	915	G06894	SS005	BP E&P	D	75	12897	12211	5/18/2002	6/15/2002	3856	LS	Dorado
VK	956	G06892	A006	Shell	E	191	22150	12935	11/6/1998	1/11/1999	3214	LT	Ram Powelll
VK	956	G06893	A019	Shell	D	205	17175	12855	2/8/2005	2/16/2005	3214	LT	Ram Powelll
VK	956	G06893	A010	Shell	E	205	16980	13026	8/14/2004	8/20/2004	3214	LO	Ram Powelll
VK	956	G06893	A013	Shell	E	191	26228	13500	10/5/1999	10/29/1999	3214	LT	Ram Powelll
VK	956	G06893	A014	Shell	E	191	14754	13491	9/27/1997	9/6/1999	3214	LO	Ram Powelll
VK	956	G06893	A001	Shell	E	191	15805	12860	7/30/1997	8/16/1997	3214	LO	Ram Powelll
VK	956	G06893	A016	Shell	E	205	21920	12970	3/28/1996	12/2/2005	3214	LT	Ram Powelll
VK	956	G08784	A012	Shell	E	205	18575	9662	4/9/1996	5/2/2006	3214	LT	Ram Powelll
VK	956	G08784	A009	Shell	E	205	25400	11585	4/5/1996	4/21/2004	3214	LT	Ram Powelll
VK	956	G08474	A004	Shell	E	191	18619	12943	2/11/1998	3/5/1998	3214	O	Ram Powelll
VK	956	G06896	A008	Shell	D	205	15402	13159	10/5/2005	10/14/2005	3214	LO	Ram Powelll
VK	956	G06896	A005	Shell	E	191	17780	13109	5/14/1998	6/27/1998	3214	O	Ram Powelll
VK	956	G08475	A017	Shell	E	191	19225	13178	3/14/1997	5/27/1999	3214	LT	Ram Powelll
VK	956	G08475	A002	Shell	E	82	18831	13382	1/28/1997	2/7/1997	3214	LT	Ram Powelll
VK	1003	G21160	SS002	Newfield Exp	E	80	13120	12934	12/24/2006	4/15/2007	4858	LS	Fastballl
MC	28	G09771	TB002	BP E&P	D	84	10863	10402	11/26/1995	11/27/1995	1853	LO	Pompano
MC	28	G09771	TB003	BP E&P	D	82	12800	10220	3/22/2001	4/7/2001	1853	LS & L	Pompano
MC	28	G09771	TB005	BP E&P	D	84	11130	10346	11/17/1995	5/12/1996	1853	LO	Pompano
MC	28	G09771	TB006	BP E&P	D	84	13640	10010	11/24/1995	11/26/1995	1853	LO	Pompano
MC	28	G13997	TB009	BP E&P	D	84	19789	11136	9/18/2001	10/1/2001	1853	LO	Pompano
MC	28	G08483	TB007	BP E&P	D	84	14565	12364	8/19/1996	9/10/1996	1853	LS	Pompano
MC	28	G08483	TB001	BP E&P	D	84	11790	10207	12/11/1995	1/25/1996	1853	LO	Pompano
MC	28	G08483	TB004	BP E&P	D	84	12920	10347	11/29/1995	11/30/1995	1853	LS	Pompano
MC	28	G08483	TB010	BP E&P	D	84	11335	10433	11/20/1995	3/5/1997	1853	LS	Pompano
MC	28	G08483	TB008	BP E&P	D	84	12480	10336	11/3/1995	11/5/1995	1853	LS	Pompano
MC	72	G08483	SS002	LLOG Exp Off	E	86	13486	13305	12/12/2007	1/7/2008	2013	LO	
MC	84	G08484	SS001	BP E&P	D	93	10783	10528	1/16/2002	2/3/2002	5418	LS	King
MC	85	G08797	SS002	BP E&P	D	93	12610	11779	12/1/2000	12/22/2000	5173	LS	King
MC	129	G08797	SS003	BP E&P	D	93	14300	11672	4/6/2001	4/8/2001	5317	LS	King
MC	127	G18194	A004	BP E&P	D	78	16470	14240	5/2/2001	8/12/2001	5422	LS	Horn Mtn
MC	127	G18194	A006	BP E&P	D	72	17210	14515	10/1/2001	11/17/2001	5422	LS	Horn Mtn
MC	127	G19925	A001	BP E&P	D	78	15205	14155	4/22/2001	6/8/2001	5422	LS	Horn Mtn
MC	127	G19925	A002	BP E&P	D	78	13972	13770	5/10/2001	5422		LS	Horn Mtn
MC	127	G19925	A003	BP E&P	D	78	14825	14248	4/30/2001	7/26/2001	5423	LS	Horn Mtn
MC	127	G19925	A005	BP E&P	D	78	16300	14101	5/6/2001	9/12/2001	5422	LS	Horn Mtn
MC	127	G19925	A007	BP E&P	D	72	16678	14750	5/9/2001	9/26/2001	5422	LS	Horn Mtn
MC	127	G19925	A008	BP E&P	D	72	14665	13661	4/22/2001	5/25/2001	5422	LS	Horn Mtn
MC	127	G19925	A009	BP E&P	D	72	19640	14060	7/1/2001	7/6/2001	5422	LS	Horn Mtn
MC	127	G19925	A010	BP E&P	D	72	15405	13093	5/4/2001	8/29/2001	5422	LS	Horn Mtn
MC	129	G10977	003	BP E&P	E	75	12400	11825	3/31/2008	4/16/2008	5598	LS	King South
MC	161	G21163	SS001	Walter O&G	E	78	11818	10533	7/22/2005	8/5/2005	2924	LO	
MC	173	G09790	SS002	ATP O&G	D	92	12670	11866	12/13/2000	1/1/2001	6390	LS & L	Kings Peak
MC	204	G24054	001	Noble En	E	78	23365	23348	12/31/2005	4/6/2006		None	
MC	205	G22864	001	Mariner En	E	73	9054	8629	11/25/2001	12/8/2001		None	
MC	211	G08803	MA001	ExxonMobil	D	79	13852	12640	6/23/2000	7/24/2000	4317	LS	Mica
MC	211	G08801	MA002	ExxonMobil	D	79	18670	14376	11/7/2004	11/11/2004	4318	LS & L	Mica
MC	211	G08803	MA003	ExxonMobil	E	60	19090	12542	6/15/2002	7/25/2002	4318	LS	Mica
MC	217	G09790	SS003	ATP O&G	D	88			11/2/2009	11/23/2009	6420	Unknown	Kings Peak
MC	241	G21750	SS001	Walter O&G	E	82	14601	12789	3/6/2007	4/6/2007	2427	LO	
MC	243	G19931	A002	W & T En VI	D	150	8120	6881	2/17/2009	2/22/2009	2816	LS & L	Matterhorn
MC	243	G19931	A010	W & T En VI	D	73	10428	8100	8/26/2002	10/11/2002	2816	LS	Matterhorn
MC	243	G19931	A004	W & T En VI	D	72	8835	8374	8/6/2002	8/19/2002	2816	LS & L	Matterhorn
MC	243	G19931	A003	W & T En VI	E	73	10908	8599	5/16/2002	6/1/2002	2816	Unknown	Matterhorn
MC	243	G19931	A005	W & T En VI	D	73	9535	7173	2/15/2002	7/13/2002	2816	LS	Matterhorn
MC	243	G19931	A007	W & T En VI	E	73	10770	10492	1/17/2002	4/28/2002	2816	Unknown	Matterhorn
MC	243	G19931	A009	W & T En VI	E	73	9520	8102	1/16/2002	6/15/2002	2816	LS	Matterhorn
MC	248	G27268	SS001	Noble En	E	78	12625	11532	8/9/2007	8/17/2007	3368	LS	Raton
MC	252	G21164	SS001	Eni US Op	E	72	16200	14162	10/13/2003	11/2/2003	5229	LT	Rigel
MC	292	G08806	003	Noble En	E	86	16012	15000	6/10/1999	6/21/1999	3393	LS	Gemini
MC	299	G21752	SS001	Eni US Op	E	73	11485	11476	2/23/2005	2/26/2005	5881	LS	
MC	305	G19935	SS001	ATP O&G	E	48	14000	13972	1/1/1999	2/21/1999	7073	LO	Aconcagua
MC	305	G19935	SS003	ATP O&G	E	76	13150	13149	3/20/2001	4/13/2001	7096	LO	Aconcagua
MC	305	G19935	SS004	ATP O&G	D	80	13923	13030	4/12/2002	4/23/2002	7067	LO	Aconcagua
MC	305	G19935	SS002	ATP O&G	E	91	13260	12685	6/9/2002	6/12/2002	6997	LO	Aconcagua
MC	348	G19939	SS001	ATP O&G	D	72	15050	14656	5/5/2001	5/8/2001	7209	LS	Camden Hills
MC	348	G19939	SS002	ATP O&G	E	80	15342	14727	1/25/2000	2/1/2000	7202	LO	Camden Hills
MC	383	G07937	K001	Shell	D	85	14472	12116	10/26/2001	7/29/2002	5735	LS	Nakika
MC	427	G16608	001	Newfield Exp G C	E	79	11323	11323	11/13/2004	12/2/2004		None	
MC	429	G07944	A001	Shell	E	46	14890	14675	11/10/1995	1/20/1996	6240	LS	Nakika
MC	429	G07944	A004	Shell	D	85	13489	13024	12/5/2001	12/12/2001	6101	LS	Nakika
MC	429	G07944	A003	Shell	D	85	13485	12739	1/7/2002	1/8/2002	6134	LS	Nakika
MC	502	G24084	SS002	Eni US Op	E	86	13700	12643	10/4/2007	10/16/2007	2426	LT	Longhorn
MC	502	G24084	SS001	Eni US Op	E	87	11125	10199	8/16/2006	9/25/2006	2330	LT	Wrigley
MC	506	G26261	SS001	Newfield Exp	E	78	19800	18606	2/1/2005	2/6/2005	3682	LT	
MC	520	G09821	H001	Shell	E	85	16840	16465	5/19/2002	5/24/2002	6738	LS	Nakika
MC	520	G09821	HH002	BP E&P	E	89	17477	16424	4/2/2009	6/29/2009	6741	LS	Nakika
MC	522	G08823	F002	Shell	E	85	16909	16484	3/28/2002	3/30/2002	6940	LS	Nakika
MC	522	G08823	F003	Shell	E	85	16940	16714	1/19/2002	2/13/2002	6932	LS	Nakika
MC	522	G08823	F004	Shell	D	85	15345	15329	1/22/2002	3/13/2002	6934	LS	Nakika
MC	522	G08831	F005	BP E&P	D	88	17467	15406	8/6/2006	5/3/2007	6929	LS	Nakika
MC	522	G08823	F006	BP E&P	D	88	18732	15379	8/7/2006	3/28/2007	6933	LS	Nakika
MC	561	G19965	002	Noble En	E	82	19885	19883	6/16/2008	6/30/2008	6340	LS	Tortuga
MC	562	G19966	001	BP E&P	E	75	19350	19187	3/23/2007	4/4/2007	6435	LS	Isabela
MC	608	G09838	EA002	Shell	D	85	16486	16443	4/11/2002	5/6/2002	6623	LS	Nakika
MC	657	G19974	C003	Shell	D	75	18237	16852	3/1/2004	3/27/2004	7570	LS	Coulomb
MC	657	G08496	C002	Shell	E	75	17452	16697	4/8/2004	4/11/2004	7565	LS	Coulomb
MC	687	G05862	A005	Shell	D	82	17300	15534	1/11/2007	2/10/2007	5377	LT	Mensa
MC	687	G05863	A002	Shell	E	82	20574	19101	11/23/1997	6/15/1998	5292	LT	Mensa
MC	696	G21182	BF001	Chevron USA	E	72	25325	24208	1/28/2006	3/9/2007	6944	LO	Blind Faith
MC	696	G16641	BF005	Chevron USA	E	72	22540	21652	1/7/2007	3/13/2008	6946	LT	Blind Faith
MC	696	G16641	BF003	Chevron USA	E	72	24737	24124	2/2/2006	5/7/2007	6944	LO	Blind Faith
MC	696	G16641	BF004	Chevron USA	E	72	21700	21688	2/5/2006	6/11/2007	6942	LT	Blind Faith