

JAMES KNOBLOCH PETROLEUM CONSULTANTS INC. APPALACHIAN BASIN 2016 REVIEW

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IMPROVISE, ADAPT, OVERCOME US MARINES

- ▶ To succeed despite the challenges, we must plan, solve, recalculate, refocus, and think again.
- ▶ Then reinvent your plan, redirect your plan, and think again.” R Crawford

AGENDA

- ▶ 2016 M&A SUMMARY
- ▶ HORIZONTAL WELL ACTIVITY SUMMARY
- ▶ DRILLING RIG SUMMARY
- ▶ EUR BCF/1,000’ BASIN MAP
- ▶ SUMMARY BY STATE
- ▶ BELMONT COUNTY OH ANALYSIS

2016 M&A SELECTED MARCELLUS TRANSACTION SUMMARY (TPH)

MON	BUYER	SELLER	MM\$	ACRES	\$ PER ACRE
MAR	BENEFIT ST	REX	175	48,300	3,623
APR	RICE	ALPHA NAT	200	30,600	6,536
MAY	EQT	STATOIL	407	62,500	6,512
JUN	ANTERO	SWN	450	55,000	8,182
SEP	RICE	VANTAGE	2,700	174,000	15,517
OCT	TUG HILL	STONE	360	90,000	4,000
OCT	EQT	TRANS – REPUBLIC	513	60,000	8,550
DEC	ALTA RES	ANADARKO	1,240	195,000	6,358
DEC	ALTA RES	MITSUI	207		
		TOTAL	6,252	715,400	8,739

RICE – VANTAGE AND ALTA-ANADARKO

- ▶ Rice-Vantage: \$2.1 B upstream, \$0.6 B midstream
- ▶ 85,000 Ac. Marcellus Greene Co - 462 net locations
- ▶ 50% ac hbp - 268 mmcfe/d Appalachian - 76 wells
- ▶ 52,000 net Utica ac - 113 net locations
- ▶ 37,000 net Barnett acres with 110 mmcfdeq

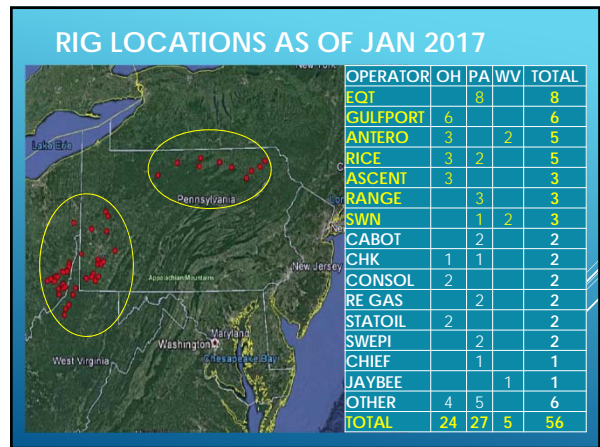
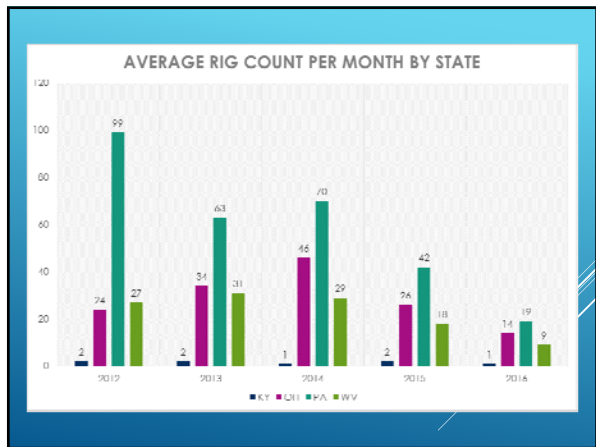
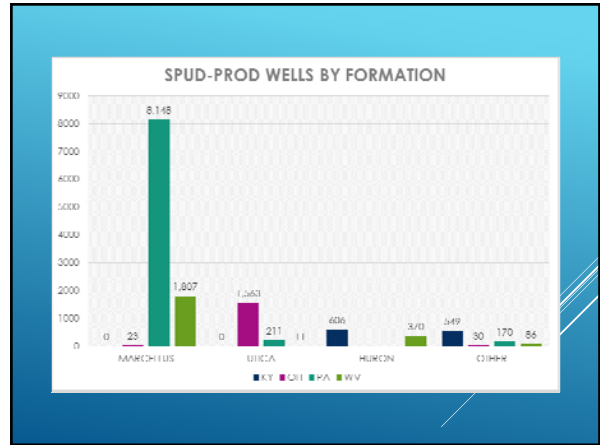
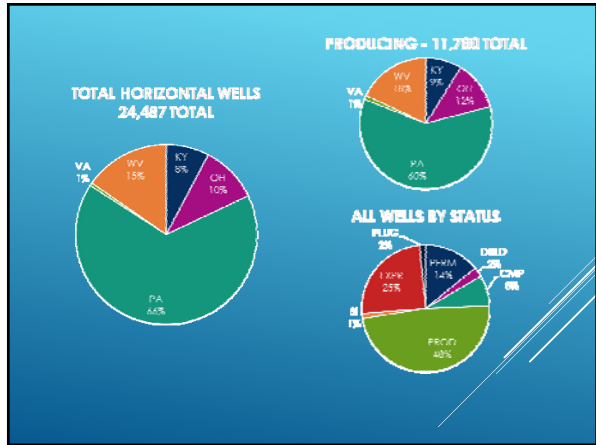
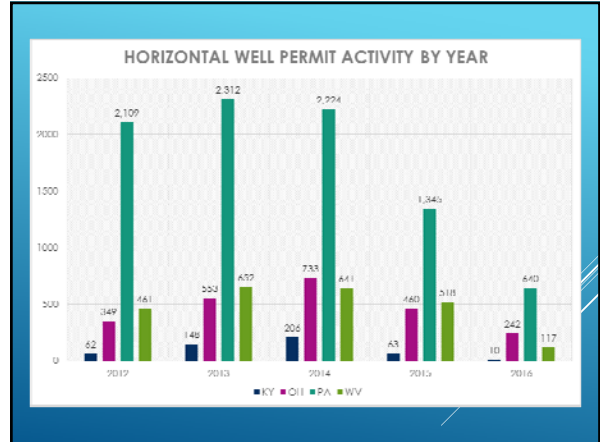
- ▶ Alta - Anadarko: - Selling all Marcellus Ac/wells
- ▶ 195,000 Ac. Primarily Lycoming Co.
- ▶ State Data – 268 wells

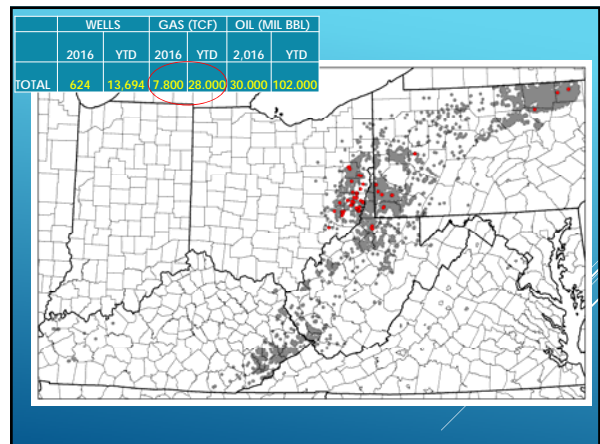
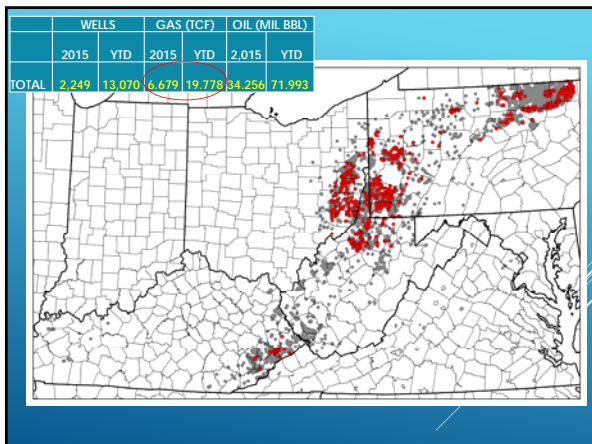
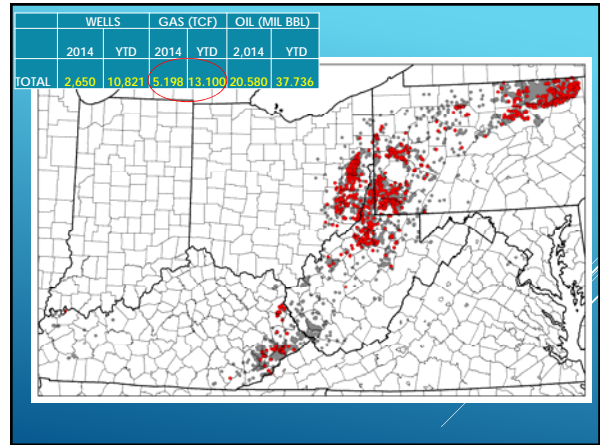
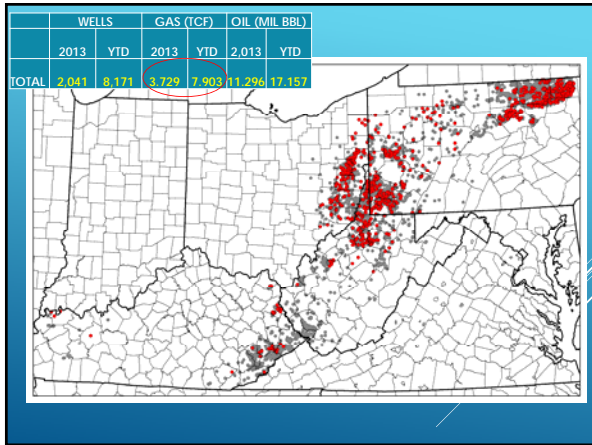
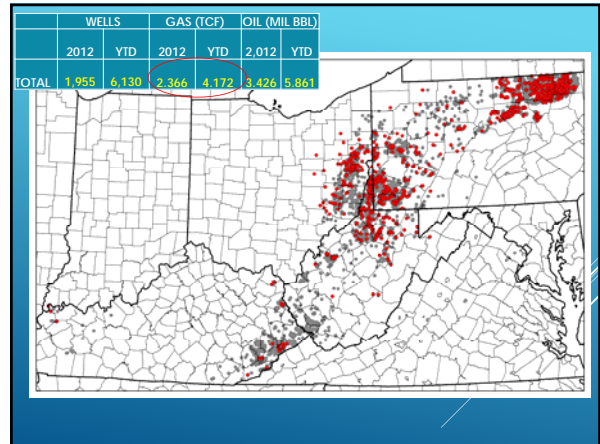
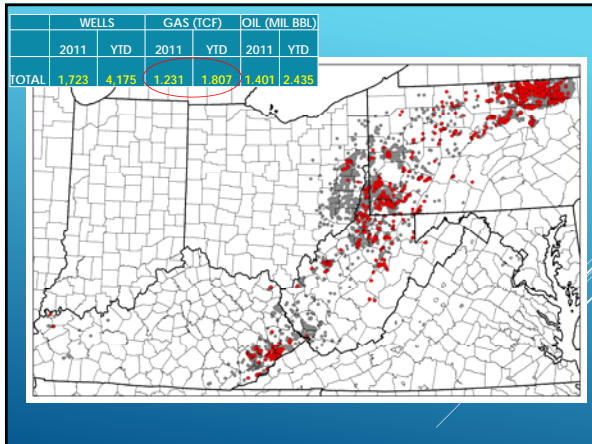
2016 M&A SELECTED UTICA TRANSACTION SUMMARY - TPH

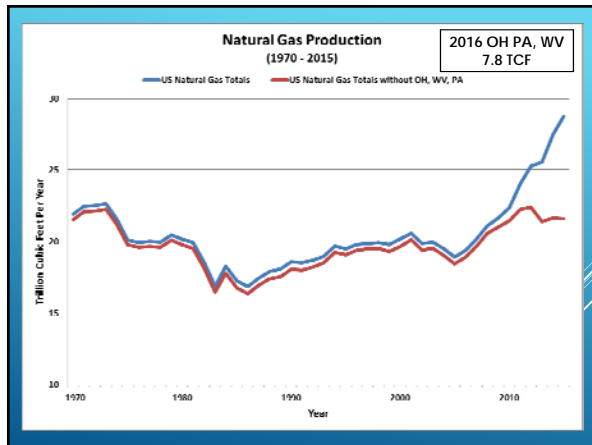
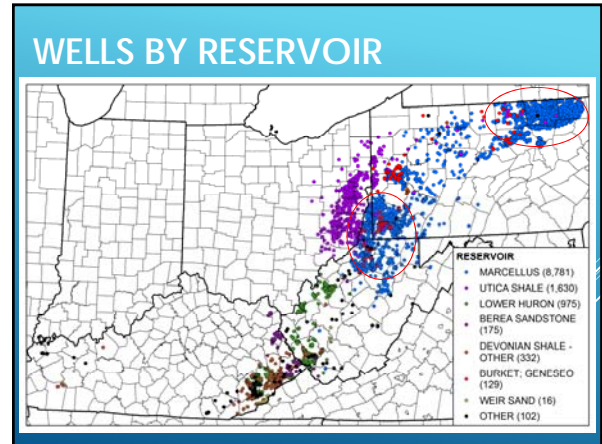
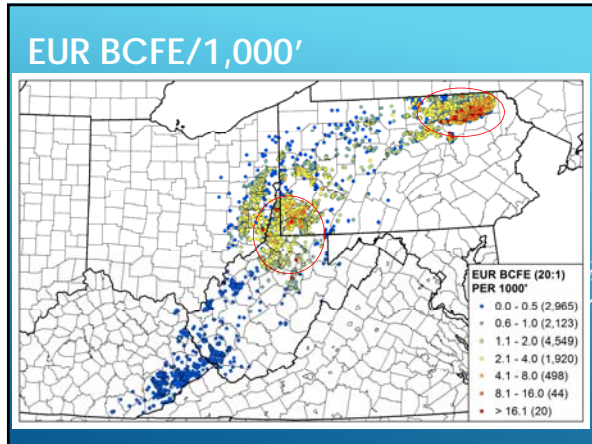
MON	BUYER	SELLER	MM\$	ACRES	\$ PER ACRE
SEP	UNDSCLSD	GULFPORT	42	?	?
OCT	UNDSCLSD	MURRAY	64	5,900	10,780
DEC	GULFPORT	UNDSCLSD	87	12,600	6,905
DEC	UNDSCLSD	ECLIPSE	64	9,900	6,444
		TOTAL	259	28,400	7,570

HORIZONTAL WELL ACTIVITY TOTAL BY WELL STATUS

ST	TOTAL	PERM	SPUD	DRLD	CMP	PROD	SI	EXPR	P&A
KY	1,876	549	2	110	119	1,034	62		
OH	2,515	536	99	357	27	1,427	66		3
PA	16,220	1,096	1,224	172	223	7,079	155	5,898	373
VA	129					120	9		
WV	3,747	1,314		11	133	2,120	7	158	4
TOTAL	24,487	3,495	1,325	650	502	11,780	299	6,056	380







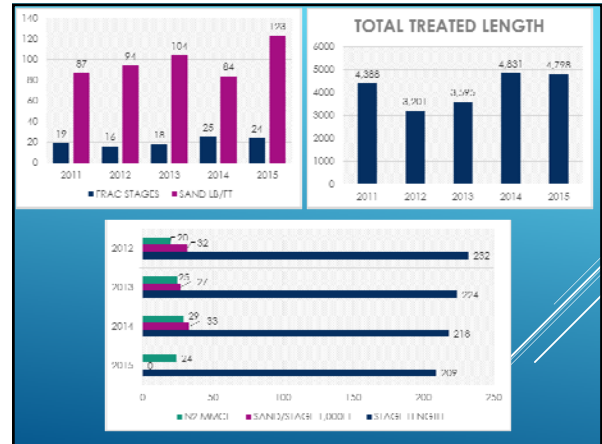
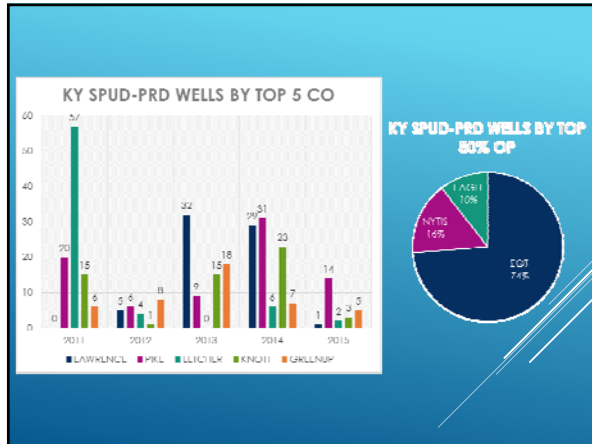
LONGEST LATERAL & GREATEST BCF

LONGEST LATERAL BY STATE								
ST	CO	OPER	WELL NAME	TTL	STGS	STGL	BCF	BCF/1,000'
OH	GUERN	ECLIPSE	PURPLE HAYES 1H	18,544	124	150	37.4	2.0
PA	GREENE	NOBLE	RHL4 DHS	11,328	38	298	12.1	1.1
WV	DODD	EQT	HENDERSON 514095	12,033	75	160	ISD	ISD

ST	CO	OPER	WELL NAME	TTL	STGS	STGL	BCF	BCF/1,000'
OH	BELMONT	RICE	M WARRIOR 12H	12,094	61	198	31.1	2.6
PA	SUSQUE	CABOT	PIJANOWSKI J 2	6,092	31	197	65.3	10.7
WV	HARRIS	ANTERO	ISAAC 1H	9,895	44	225	21.7	2.2

KY WELL ACTIVITY BY COUNTY

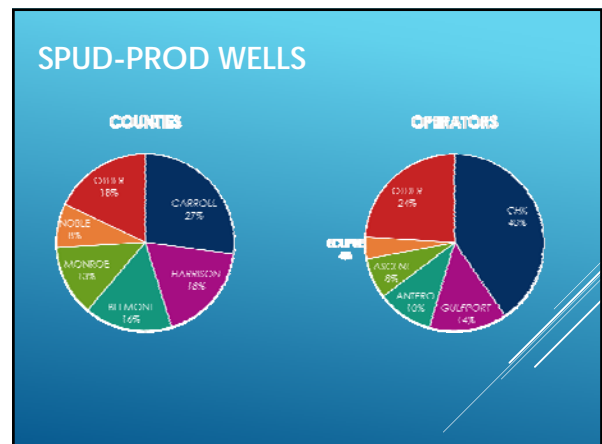
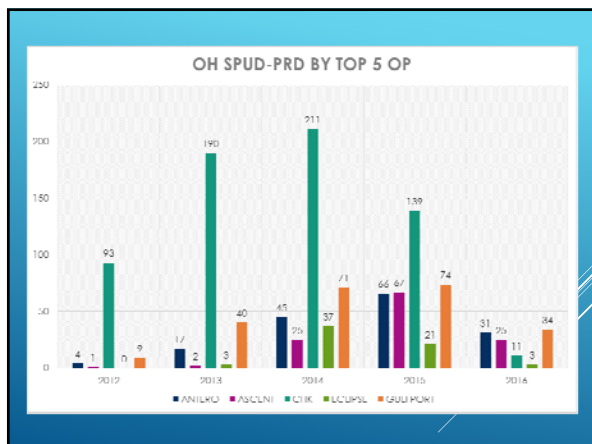
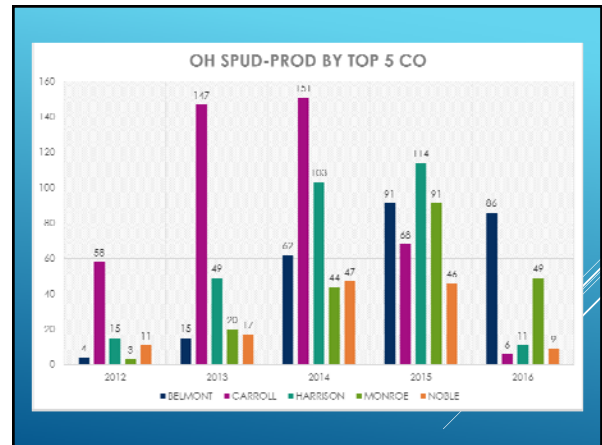
CO	COMP	DRLD	PERM	PROD	SI	SPUD	TOTAL
Letcher	8	-	77	370	1	-	456
Pike	41	-	159	230	11	1	442
Perry	12	3	25	123	6	-	169
Knott	31	1	44	84	3	-	163
Lawrence	-	39	55	66	-	1	161
Floyd	21	-	49	20	1	-	91
Harlan	1	3	26	49	2	-	81
Greenup	-	10	20	18	17	-	65
Leslie	2	3	12	34	1	-	52
Johnson	2	2	27	-	-	-	31
TOTAL	118	61	494	994	42	2	1,711

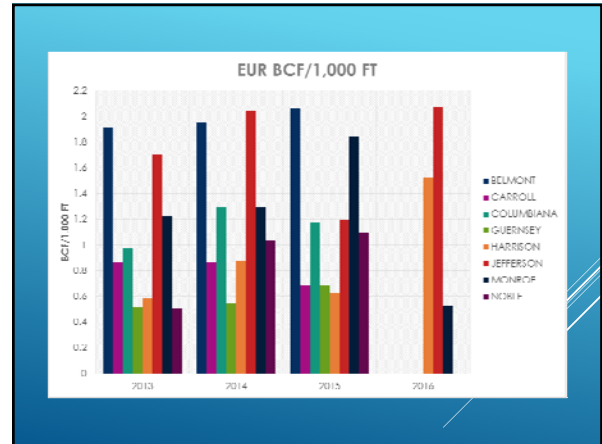
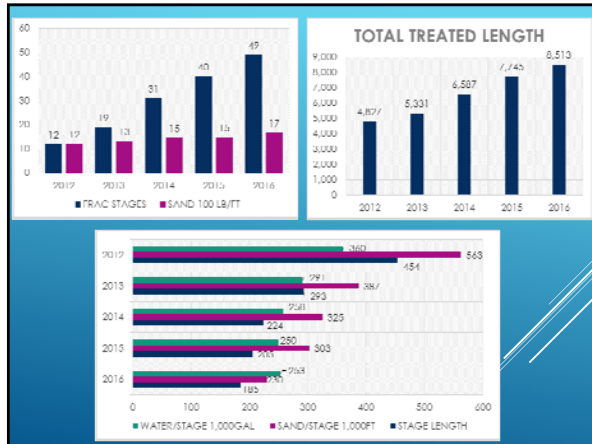


OH WELL ACTIVITY BY COUNTY

COUNTY	COMP	DRLD	PERM	PROD	SI	SPUD	TOTAL
Carroll	1	24	49	431	2	6	513
Belmont	1	63	106	209	16	22	417
Harrison	2	40	54	275	3	14	396
Monroe	4	66	70	149	7	33	329
Noble	-	32	46	118	-	5	201
Guernsey	1	41	30	119	1	6	198
Columbiana	8	4	68	60	5	-	145
Jefferson	8	22	22	30	5	5	92
Mahoning	-	1	16	12	2	1	32
Stark	-	32	9	2	-	1	26
TOTAL	25	307	472	1,404	41	93	2,343

COUNTY	2011	2012	2013	2014	2015	2016	TOTAL
Carroll	8	60	143	150	67	6	434
Harrison	1	16	49	97	108	9	280
Belmont	1	4	17	78	79	47	226
Monroe	2	4	20	41	75	17	159
Guernsey	-	8	24	56	32	1	121
Noble	-	10	17	44	45	2	118
Columbiana	-	21	25	19	8	-	73
Jefferson	1	12	10	5	7	6	41
Mahoning	1	1	5	6	-	-	13
Washington	-	-	4	4	1	-	10
OTHER	1	16	10	4	3	-	34
TOTAL	15	152	324	504	425	89	1,509

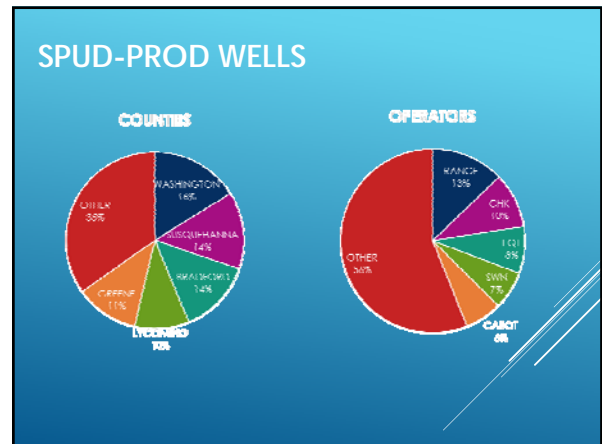
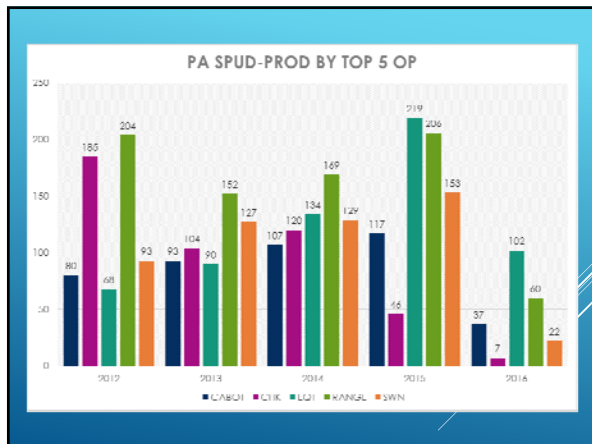
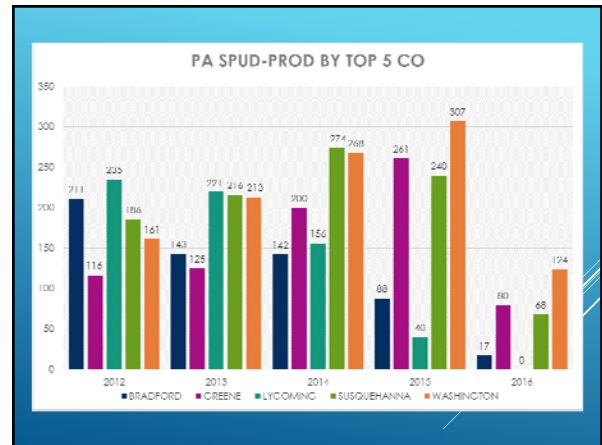


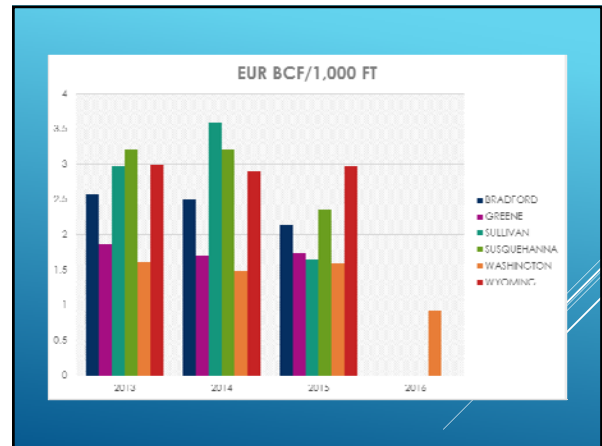
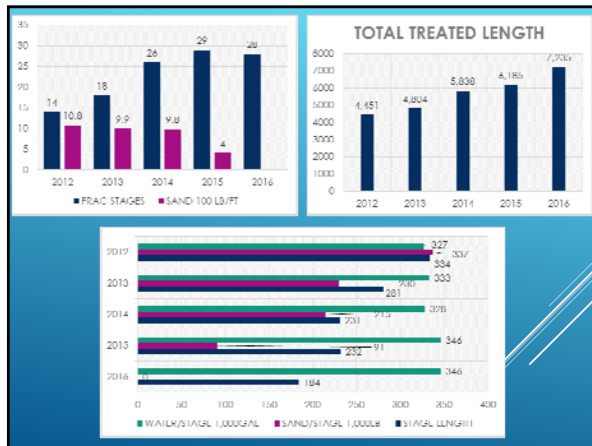


PA WELL ACTIVITY BY COUNTY

COUNTY	COMP	DRLD	EXP	PERM	PLUG	PROD	SI	SPUD	TOTAL
Bradford	39	19	4,681	89	170	1,053	20	60	3,131
Susquehanna	10	22	663	127	38	1,025	13	121	2,587
Washington	10	3	470	146	14	1,186	29	176	2,034
Cleona	20	4	248	202	4	763	1	198	1,498
Lycoming	15	21	445	77	14	751	7	78	1,468
Ilwaco	17	17	488	54	33	550	25	141	1,325
Butler	16	7	211	81	15	343	1	85	753
Wyoming	5	6	202	25	9	192	13	35	495
Westmoreland	10	5	125	30	6	182	-	12	370
Sullivan	5	6	195	29	8	89	-	18	350
TOTAL	147	104	4,733	859	311	6,134	109	975	13,372

COUNTY	2011	2012	2013	2014	2015	2016	TOTAL
Washington	154	162	209	239	277	10	1,051
Susquehanna	127	192	225	265	178	3	990
Bradford	309	235	131	136	77	-	868
Lycoming	155	226	207	130	36	-	754
Cleona	100	115	123	180	168	-	687
Ilwaco	153	169	48	49	25	-	444
Butler	20	36	80	108	110	-	354
Wyoming	39	31	42	82	18	-	212
Westmoreland	59	46	45	22	10	-	182
Fayette	36	34	31	38	29	-	168
OTHER	211	172	139	159	218	4	903
TOTAL	1,363	1,418	1,280	1,408	1,146	20	6,635

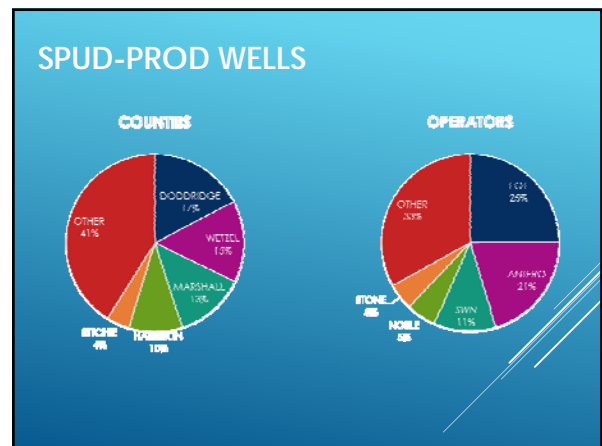
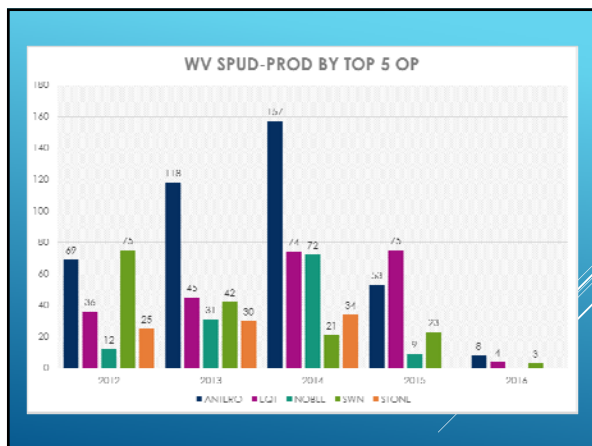
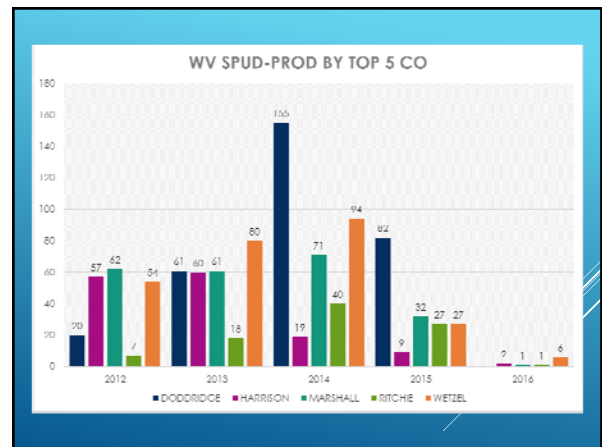


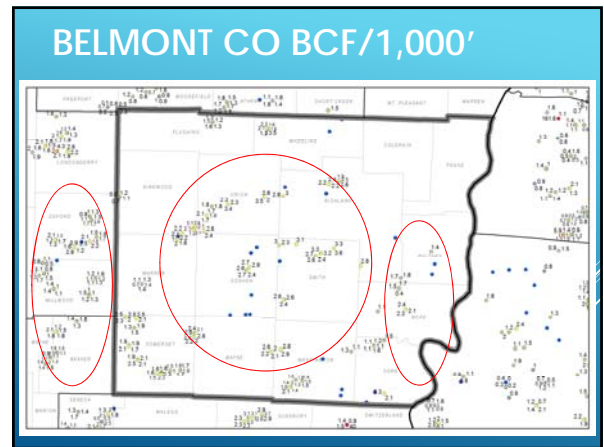
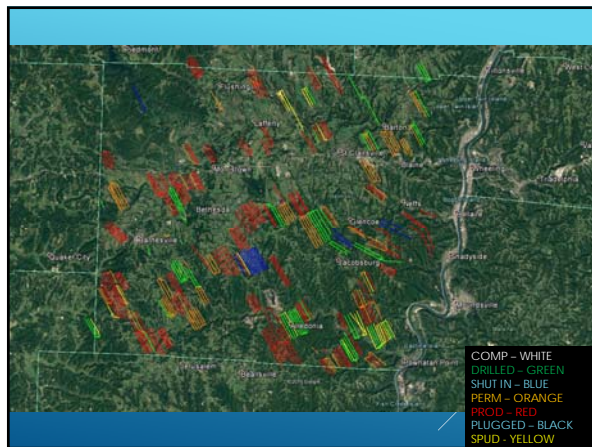
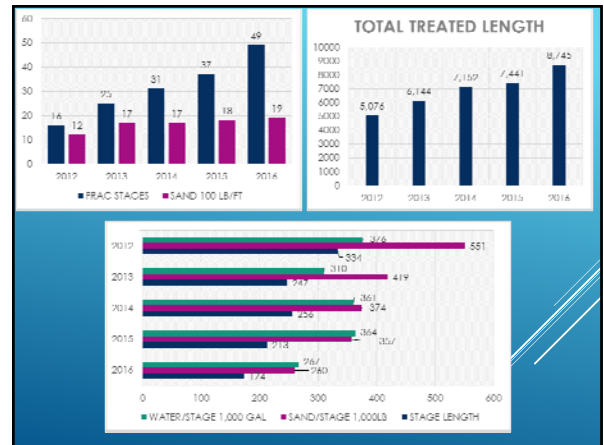
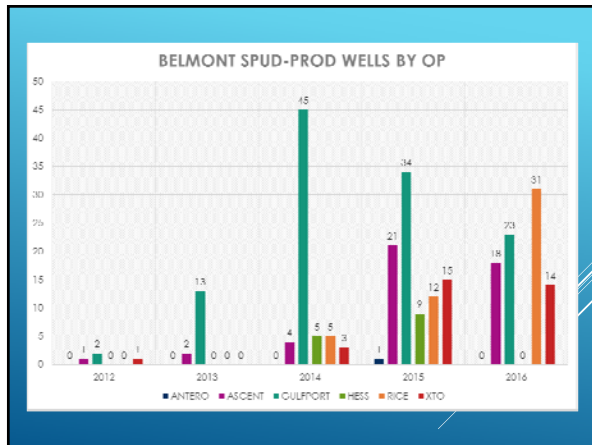
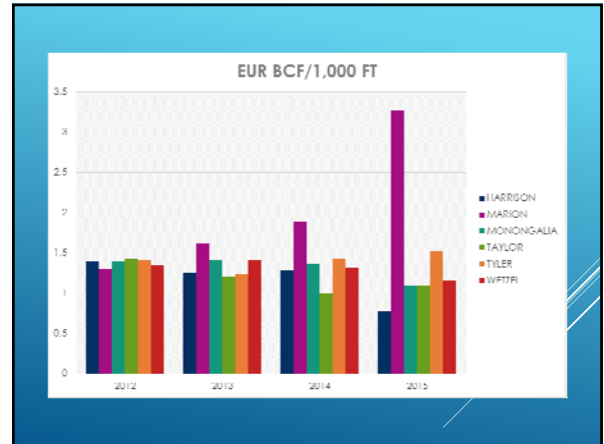
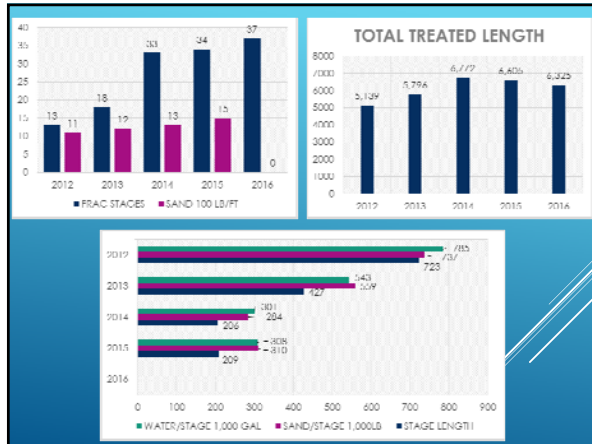


WV WELL ACTIVITY BY COUNTY

COUNTY	COMP	DRLD	EXPR	PERM	PLUG	PROD	SI	TOTAL
Doddridge	23	2	12	311	-	370	-	718
Wetzel	4	-	9	162	2	331	2	510
Marshall	23	3	12	140	-	265	4	450
Harrison	9	1	10	89	2	211	-	321
Taylor	8	-	15	197	-	73	-	293
Richie	13	-	1	164	-	81	-	259
Logan	1	-	-	2	-	140	-	143
Marion	-	1	9	54	-	52	-	116
Ohio	1	-	2	19	-	90	-	112
Mingo	-	-	-	-	-	110	-	110
TOTAL	81	7	70	1,138	4	1,726	6	3,032

COUNTY	2011	2012	2013	2014	2015	2016	TOTAL
Doddridge	48	20	61	157	82	-	368
Wetzel	27	54	81	92	27	3	284
Marshall	22	63	61	71	35	-	252
Harrison	47	57	60	19	9	-	192
Richie	1	7	18	40	27	-	93
Ohio	9	34	15	16	17	-	91
Taylor	6	12	15	27	21	-	81
Waylar	15	12	8	18	6	-	59
Marion	14	20	2	7	2	-	45
Brooke	7	20	13	1	-	-	41
OTHER	50	50	28	35	15	0	178
TOTAL	256	349	362	483	241	3	1,694





- ▶ **Improvise**
- ▶ **Adapt,**
- ▶ **Overcome**

THANK YOU!
JAMES KNOBLOCH PETROLEUM CONSULTANTS