

Downhole Schematic for HMU Federal 16-9C (J16W)



Project : South Piceance		API # :05045204020000		Surface Location : NWSE Sec 16 T7S - R93W 6th PM																																																																																																																																																																																																																																																																													
Area : Mamm Creek		County :		BHL : NWSE-16-7S-93 W 6th PM																																																																																																																																																																																																																																																																													
As Of :		GL : 0.0 ft		KB to GL : ft		KB : 0.0 ft																																																																																																																																																																																																																																																																											
Set @ 72		<div>Casing Details</div> <table><tr><th>Section</th><th>Hole</th><th>Casing</th><th>Mass</th><th>Set At</th><th>Length</th><th>Thread</th><th>Grade</th><th>Description</th></tr><tr><td>Conductor</td><td>26.000</td><td>16</td><td>42</td><td>72</td><td>72</td><td></td><td>A52A</td><td>Joint</td></tr><tr><td>Surface</td><td>12.250</td><td>9.875</td><td>0</td><td>1,568</td><td>2</td><td>LT&C</td><td></td><td>Float Shoe</td></tr><tr><td></td><td></td><td>9.875</td><td>36</td><td>1,567</td><td>44</td><td>LT&C</td><td>J-55</td><td>Casing</td></tr><tr><td></td><td></td><td>9.875</td><td>0</td><td>1,523</td><td>2</td><td>LT&C</td><td></td><td>Float Collar</td></tr><tr><td></td><td></td><td>9.875</td><td>36</td><td>1,521</td><td>1,493</td><td>LT&C</td><td>J-55</td><td>Casing</td></tr><tr><td></td><td></td><td>9.875</td><td>0</td><td>28</td><td>5</td><td>LT&C</td><td></td><td>Wellhead</td></tr><tr><td></td><td></td><td>9.875</td><td>36</td><td>23</td><td>27</td><td>LT&C</td><td>J-55</td><td>Landing Jt.</td></tr><tr><td>Production</td><td>8.750</td><td>4.5</td><td>11.6</td><td>9,878</td><td>1</td><td>Butt</td><td>S 80</td><td>Float shoe</td></tr><tr><td></td><td></td><td>4.5</td><td>11.6</td><td>9,877</td><td>44</td><td>Butt</td><td>S 80</td><td>Shoe joint</td></tr><tr><td></td><td></td><td>4.5</td><td>11.6</td><td>9,833</td><td>1</td><td>Butt</td><td>S 80</td><td>Float collar</td></tr><tr><td></td><td></td><td>4.5</td><td>11.6</td><td>9,832</td><td>1,358</td><td>Butt</td><td>S 80</td><td>Casing</td></tr><tr><td></td><td></td><td>4.5</td><td>11.6</td><td>8,474</td><td>22</td><td>Butt</td><td>S 80</td><td>Marker joint</td></tr><tr><td></td><td></td><td>4.5</td><td>11.6</td><td>8,452</td><td>967</td><td>Butt</td><td>S 80</td><td>Casing</td></tr><tr><td></td><td></td><td>4.5</td><td>11.6</td><td>7,485</td><td>22</td><td>Butt</td><td>S 80</td><td>Marker joint</td></tr><tr><td></td><td></td><td>4.5</td><td>11.6</td><td>7,463</td><td>7,435</td><td>Butt</td><td>S 80</td><td>Casing</td></tr><tr><td></td><td></td><td>4.5</td><td>11.6</td><td>28</td><td>5</td><td>Butt</td><td>P 110</td><td>Casing mandrel</td></tr><tr><td></td><td></td><td>4.5</td><td>11.6</td><td>23</td><td>27</td><td>Butt</td><td>S 80</td><td>Landing joint</td></tr></table>								Section	Hole	Casing	Mass	Set At	Length	Thread	Grade	Description	Conductor	26.000	16	42	72	72		A52A	Joint	Surface	12.250	9.875	0	1,568	2	LT&C		Float Shoe			9.875	36	1,567	44	LT&C	J-55	Casing			9.875	0	1,523	2	LT&C		Float Collar			9.875	36	1,521	1,493	LT&C	J-55	Casing			9.875	0	28	5	LT&C		Wellhead			9.875	36	23	27	LT&C	J-55	Landing Jt.	Production	8.750	4.5	11.6	9,878	1	Butt	S 80	Float shoe			4.5	11.6	9,877	44	Butt	S 80	Shoe joint			4.5	11.6	9,833	1	Butt	S 80	Float collar			4.5	11.6	9,832	1,358	Butt	S 80	Casing			4.5	11.6	8,474	22	Butt	S 80	Marker joint			4.5	11.6	8,452	967	Butt	S 80	Casing			4.5	11.6	7,485	22	Butt	S 80	Marker joint			4.5	11.6	7,463	7,435	Butt	S 80	Casing			4.5	11.6	28	5	Butt	P 110	Casing mandrel			4.5	11.6	23	27	Butt	S 80	Landing joint																																																																																																						
Section	Hole	Casing	Mass	Set At	Length	Thread	Grade	Description																																																																																																																																																																																																																																																																									
Conductor	26.000	16	42	72	72		A52A	Joint																																																																																																																																																																																																																																																																									
Surface	12.250	9.875	0	1,568	2	LT&C		Float Shoe																																																																																																																																																																																																																																																																									
		9.875	36	1,567	44	LT&C	J-55	Casing																																																																																																																																																																																																																																																																									
		9.875	0	1,523	2	LT&C		Float Collar																																																																																																																																																																																																																																																																									
		9.875	36	1,521	1,493	LT&C	J-55	Casing																																																																																																																																																																																																																																																																									
		9.875	0	28	5	LT&C		Wellhead																																																																																																																																																																																																																																																																									
		9.875	36	23	27	LT&C	J-55	Landing Jt.																																																																																																																																																																																																																																																																									
Production	8.750	4.5	11.6	9,878	1	Butt	S 80	Float shoe																																																																																																																																																																																																																																																																									
		4.5	11.6	9,877	44	Butt	S 80	Shoe joint																																																																																																																																																																																																																																																																									
		4.5	11.6	9,833	1	Butt	S 80	Float collar																																																																																																																																																																																																																																																																									
		4.5	11.6	9,832	1,358	Butt	S 80	Casing																																																																																																																																																																																																																																																																									
		4.5	11.6	8,474	22	Butt	S 80	Marker joint																																																																																																																																																																																																																																																																									
		4.5	11.6	8,452	967	Butt	S 80	Casing																																																																																																																																																																																																																																																																									
		4.5	11.6	7,485	22	Butt	S 80	Marker joint																																																																																																																																																																																																																																																																									
		4.5	11.6	7,463	7,435	Butt	S 80	Casing																																																																																																																																																																																																																																																																									
		4.5	11.6	28	5	Butt	P 110	Casing mandrel																																																																																																																																																																																																																																																																									
		4.5	11.6	23	27	Butt	S 80	Landing joint																																																																																																																																																																																																																																																																									
		<div>Cement Details</div> <table><tr><th>Section</th><th>Sequence</th><th>Top</th><th>Density</th><th>Blend / Additives</th></tr><tr><td>Conductor</td><td>Fill</td><td>0</td><td>0.0</td><td>4 yards redi mix /</td></tr><tr><td>Surface</td><td></td><td>0</td><td>8.3</td><td>Water 20 bbl /</td></tr><tr><td></td><td>Lead</td><td>0</td><td>12.5</td><td>G Lead / G + 2.0% DO79 + 0.2% DO46 + 0.25#/sx DO29</td></tr><tr><td></td><td>Tail</td><td>1,235</td><td>15.8</td><td>G Tail / G + 1.0% S001 + 0.2% DO46 + 0.25#/sx DO29</td></tr><tr><td>Production</td><td>Scavenger</td><td>4,698</td><td>11.3</td><td>Mud push II 40 /</td></tr><tr><td></td><td>Lead</td><td>5,429</td><td>12.0</td><td>TXI / D049 75# SK, D079 1%, D013 .9%, D046 .5%, D029 .25LB/SK</td></tr><tr><td></td><td>Tail</td><td>8,018</td><td>13.0</td><td>TXI / D049 75# SK, D020 3%, D112 .2%, D013 .5%, D046 .5%, D029 .25LB/SK</td></tr></table>								Section	Sequence	Top	Density	Blend / Additives	Conductor	Fill	0	0.0	4 yards redi mix /	Surface		0	8.3	Water 20 bbl /		Lead	0	12.5	G Lead / G + 2.0% DO79 + 0.2% DO46 + 0.25#/sx DO29		Tail	1,235	15.8	G Tail / G + 1.0% S001 + 0.2% DO46 + 0.25#/sx DO29	Production	Scavenger	4,698	11.3	Mud push II 40 /		Lead	5,429	12.0	TXI / D049 75# SK, D079 1%, D013 .9%, D046 .5%, D029 .25LB/SK		Tail	8,018	13.0	TXI / D049 75# SK, D020 3%, D112 .2%, D013 .5%, D046 .5%, D029 .25LB/SK																																																																																																																																																																																																																																
Section	Sequence	Top	Density	Blend / Additives																																																																																																																																																																																																																																																																													
Conductor	Fill	0	0.0	4 yards redi mix /																																																																																																																																																																																																																																																																													
Surface		0	8.3	Water 20 bbl /																																																																																																																																																																																																																																																																													
	Lead	0	12.5	G Lead / G + 2.0% DO79 + 0.2% DO46 + 0.25#/sx DO29																																																																																																																																																																																																																																																																													
	Tail	1,235	15.8	G Tail / G + 1.0% S001 + 0.2% DO46 + 0.25#/sx DO29																																																																																																																																																																																																																																																																													
Production	Scavenger	4,698	11.3	Mud push II 40 /																																																																																																																																																																																																																																																																													
	Lead	5,429	12.0	TXI / D049 75# SK, D079 1%, D013 .9%, D046 .5%, D029 .25LB/SK																																																																																																																																																																																																																																																																													
	Tail	8,018	13.0	TXI / D049 75# SK, D020 3%, D112 .2%, D013 .5%, D046 .5%, D029 .25LB/SK																																																																																																																																																																																																																																																																													
		<div>Perforations</div> <table><tr><th>Stage</th><th>Date</th><th>From</th><th>To</th><th>Shots</th><th></th><th></th><th></th></tr><tr><td rowspan="5">Stage 1</td><td rowspan="5">07/05/2012</td><td>9,628</td><td>9,629</td><td>3</td><td></td><td>8,636</td><td>8,637</td></tr><tr><td>9,610</td><td>9,611</td><td>3</td><td></td><td>8,618</td><td>8,619</td></tr><tr><td>9,512</td><td>9,513</td><td>3</td><td></td><td>8,604</td><td>8,605</td></tr><tr><td>9,478</td><td>9,479</td><td>3</td><td></td><td>8,566</td><td>8,567</td></tr><tr><td>9,460</td><td>9,461</td><td>3</td><td></td><td>8,532</td><td>8,533</td></tr><tr><td rowspan="5">Stage 2</td><td rowspan="5">07/10/2012</td><td>9,442</td><td>9,443</td><td>3</td><td></td><td></td><td></td></tr><tr><td>9,388</td><td>9,389</td><td>3</td><td></td><td></td><td></td></tr><tr><td>9,348</td><td>9,349</td><td>3</td><td></td><td></td><td></td></tr><tr><td>9,328</td><td>9,329</td><td>3</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td rowspan="5">Stage 3</td><td rowspan="5">07/13/2012</td><td>9,258</td><td>9,259</td><td>3</td><td></td><td></td><td></td></tr><tr><td>9,242</td><td>9,243</td><td>3</td><td></td><td></td><td></td></tr><tr><td>9,226</td><td>9,227</td><td>3</td><td></td><td></td><td></td></tr><tr><td>9,214</td><td>9,215</td><td>3</td><td></td><td></td><td></td></tr><tr><td>9,168</td><td>9,169</td><td>3</td><td></td><td></td><td></td></tr><tr><td rowspan="5">Stage 4</td><td rowspan="5">07/16/2012</td><td>9,126</td><td>9,127</td><td>3</td><td></td><td></td><td></td></tr><tr><td>9,098</td><td>9,099</td><td>3</td><td></td><td></td><td></td></tr><tr><td>9,076</td><td>9,077</td><td>3</td><td></td><td></td><td></td></tr><tr><td>9,060</td><td>9,061</td><td>3</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td rowspan="5">Stage 5</td><td rowspan="5">07/17/2012</td><td>8,484</td><td>8,485</td><td>3</td><td></td><td></td><td></td></tr><tr><td>8,440</td><td>8,441</td><td>3</td><td></td><td></td><td></td></tr><tr><td>8,394</td><td>8,395</td><td>3</td><td></td><td></td><td></td></tr><tr><td>8,372</td><td>8,373</td><td>3</td><td></td><td></td><td></td></tr><tr><td>8,344</td><td>8,345</td><td>3</td><td></td><td></td><td></td></tr><tr><td rowspan="5">Stage 6</td><td rowspan="5">07/19/2012</td><td>8,330</td><td>8,331</td><td>3</td><td></td><td></td><td></td></tr><tr><td>8,308</td><td>8,309</td><td>3</td><td></td><td></td><td></td></tr><tr><td>8,276</td><td>8,277</td><td>3</td><td></td><td></td><td></td></tr><tr><td>8,254</td><td>8,255</td><td>3</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td rowspan="5">Stage 7</td><td rowspan="5">07/20/2012</td><td>7,952</td><td>7,953</td><td>3</td><td></td><td></td><td></td></tr><tr><td>7,914</td><td>7,915</td><td>3</td><td></td><td></td><td></td></tr><tr><td>7,896</td><td>7,897</td><td>3</td><td></td><td></td><td></td></tr><tr><td>7,882</td><td>7,883</td><td>3</td><td></td><td></td><td></td></tr><tr><td>7,848</td><td>7,849</td><td>3</td><td></td><td></td><td></td></tr><tr><td rowspan="5">Stage 8</td><td rowspan="5">07/23/2012</td><td>7,830</td><td>7,831</td><td>3</td><td></td><td></td><td></td></tr><tr><td>7,800</td><td>7,801</td><td>3</td><td></td><td></td><td></td></tr><tr><td>7,782</td><td>7,783</td><td>3</td><td></td><td></td><td></td></tr><tr><td>7,756</td><td>7,757</td><td>3</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>								Stage	Date	From	To	Shots				Stage 1	07/05/2012	9,628	9,629	3		8,636	8,637	9,610	9,611	3		8,618	8,619	9,512	9,513	3		8,604	8,605	9,478	9,479	3		8,566	8,567	9,460	9,461	3		8,532	8,533	Stage 2	07/10/2012	9,442	9,443	3				9,388	9,389	3				9,348	9,349	3				9,328	9,329	3										Stage 3	07/13/2012	9,258	9,259	3				9,242	9,243	3				9,226	9,227	3				9,214	9,215	3				9,168	9,169	3				Stage 4	07/16/2012	9,126	9,127	3				9,098	9,099	3				9,076	9,077	3				9,060	9,061	3										Stage 5	07/17/2012	8,484	8,485	3				8,440	8,441	3				8,394	8,395	3				8,372	8,373	3				8,344	8,345	3				Stage 6	07/19/2012	8,330	8,331	3				8,308	8,309	3				8,276	8,277	3				8,254	8,255	3										Stage 7	07/20/2012	7,952	7,953	3				7,914	7,915	3				7,896	7,897	3				7,882	7,883	3				7,848	7,849	3				Stage 8	07/23/2012	7,830	7,831	3				7,800	7,801	3				7,782	7,783	3				7,756	7,757	3									
Stage	Date	From	To	Shots																																																																																																																																																																																																																																																																													
Stage 1	07/05/2012	9,628	9,629	3		8,636	8,637																																																																																																																																																																																																																																																																										
		9,610	9,611	3		8,618	8,619																																																																																																																																																																																																																																																																										
		9,512	9,513	3		8,604	8,605																																																																																																																																																																																																																																																																										
		9,478	9,479	3		8,566	8,567																																																																																																																																																																																																																																																																										
		9,460	9,461	3		8,532	8,533																																																																																																																																																																																																																																																																										
Stage 2	07/10/2012	9,442	9,443	3																																																																																																																																																																																																																																																																													
		9,388	9,389	3																																																																																																																																																																																																																																																																													
		9,348	9,349	3																																																																																																																																																																																																																																																																													
		9,328	9,329	3																																																																																																																																																																																																																																																																													
Stage 3	07/13/2012	9,258	9,259	3																																																																																																																																																																																																																																																																													
		9,242	9,243	3																																																																																																																																																																																																																																																																													
		9,226	9,227	3																																																																																																																																																																																																																																																																													
		9,214	9,215	3																																																																																																																																																																																																																																																																													
		9,168	9,169	3																																																																																																																																																																																																																																																																													
Stage 4	07/16/2012	9,126	9,127	3																																																																																																																																																																																																																																																																													
		9,098	9,099	3																																																																																																																																																																																																																																																																													
		9,076	9,077	3																																																																																																																																																																																																																																																																													
		9,060	9,061	3																																																																																																																																																																																																																																																																													
Stage 5	07/17/2012	8,484	8,485	3																																																																																																																																																																																																																																																																													
		8,440	8,441	3																																																																																																																																																																																																																																																																													
		8,394	8,395	3																																																																																																																																																																																																																																																																													
		8,372	8,373	3																																																																																																																																																																																																																																																																													
		8,344	8,345	3																																																																																																																																																																																																																																																																													
Stage 6	07/19/2012	8,330	8,331	3																																																																																																																																																																																																																																																																													
		8,308	8,309	3																																																																																																																																																																																																																																																																													
		8,276	8,277	3																																																																																																																																																																																																																																																																													
		8,254	8,255	3																																																																																																																																																																																																																																																																													
Stage 7	07/20/2012	7,952	7,953	3																																																																																																																																																																																																																																																																													
		7,914	7,915	3																																																																																																																																																																																																																																																																													
		7,896	7,897	3																																																																																																																																																																																																																																																																													
		7,882	7,883	3																																																																																																																																																																																																																																																																													
		7,848	7,849	3																																																																																																																																																																																																																																																																													
Stage 8	07/23/2012	7,830	7,831	3																																																																																																																																																																																																																																																																													
		7,800	7,801	3																																																																																																																																																																																																																																																																													
		7,782	7,783	3																																																																																																																																																																																																																																																																													
		7,756	7,757	3																																																																																																																																																																																																																																																																													
		<div>Frac Summary</div> <table><tr><td>Stage 1 : 9,328 - 9,629, 27 - 0.380" shots, 6762 bbls of Slickwater Report Date: 07/09/2012</td></tr><tr><td>Stage 2 : 9,060 - 9,259, 27 - 0.380" shots, 5143 bbls of Slickwater Report Date: 12/30/1899</td></tr><tr><td>Stage 3 : 8,792 - 9,031, 27 - 0.380" shots, 8672 bbls of Slickwater Report Date: 12/30/1899</td></tr><tr><td>Stage 4 : 8,532 - 8,737, 27 - 0.380" shots, 11810 bbls of Slickwater Report Date: 07/17/2012</td></tr><tr><td>Stage 5 : 8,254 - 8,485, 27 - 0.380" shots, 11905 bbls of Slickwater Report Date: 07/18/2012</td></tr><tr><td>Stage 6 : 7,988 - 8,219, 27 - 0.380" shots, 10190 bbls of Slickwater Report Date: 07/20/2012</td></tr><tr><td>Stage 7 : 7,756 - 7,953, 27 - 0.380" shots, 10333 bbls of Slickwater Report Date: 07/23/2012</td></tr></table>								Stage 1 : 9,328 - 9,629, 27 - 0.380" shots, 6762 bbls of Slickwater Report Date: 07/09/2012	Stage 2 : 9,060 - 9,259, 27 - 0.380" shots, 5143 bbls of Slickwater Report Date: 12/30/1899	Stage 3 : 8,792 - 9,031, 27 - 0.380" shots, 8672 bbls of Slickwater Report Date: 12/30/1899	Stage 4 : 8,532 - 8,737, 27 - 0.380" shots, 11810 bbls of Slickwater Report Date: 07/17/2012	Stage 5 : 8,254 - 8,485, 27 - 0.380" shots, 11905 bbls of Slickwater Report Date: 07/18/2012	Stage 6 : 7,988 - 8,219, 27 - 0.380" shots, 10190 bbls of Slickwater Report Date: 07/20/2012	Stage 7 : 7,756 - 7,953, 27 - 0.380" shots, 10333 bbls of Slickwater Report Date: 07/23/2012																																																																																																																																																																																																																																																																	
Stage 1 : 9,328 - 9,629, 27 - 0.380" shots, 6762 bbls of Slickwater Report Date: 07/09/2012																																																																																																																																																																																																																																																																																	
Stage 2 : 9,060 - 9,259, 27 - 0.380" shots, 5143 bbls of Slickwater Report Date: 12/30/1899																																																																																																																																																																																																																																																																																	
Stage 3 : 8,792 - 9,031, 27 - 0.380" shots, 8672 bbls of Slickwater Report Date: 12/30/1899																																																																																																																																																																																																																																																																																	
Stage 4 : 8,532 - 8,737, 27 - 0.380" shots, 11810 bbls of Slickwater Report Date: 07/17/2012																																																																																																																																																																																																																																																																																	
Stage 5 : 8,254 - 8,485, 27 - 0.380" shots, 11905 bbls of Slickwater Report Date: 07/18/2012																																																																																																																																																																																																																																																																																	
Stage 6 : 7,988 - 8,219, 27 - 0.380" shots, 10190 bbls of Slickwater Report Date: 07/20/2012																																																																																																																																																																																																																																																																																	
Stage 7 : 7,756 - 7,953, 27 - 0.380" shots, 10333 bbls of Slickwater Report Date: 07/23/2012																																																																																																																																																																																																																																																																																	
		<div>Bridge Plug Details</div> <table><tr><th>Depth</th><th>Date Set</th><th>Plug Type</th><th>Sacks Cement</th></tr><tr><td>5,708.0</td><td>08/01/2012</td><td>CBP</td><td>0</td></tr></table>								Depth	Date Set	Plug Type	Sacks Cement	5,708.0	08/01/2012	CBP	0																																																																																																																																																																																																																																																																
Depth	Date Set	Plug Type	Sacks Cement																																																																																																																																																																																																																																																																														
5,708.0	08/01/2012	CBP	0																																																																																																																																																																																																																																																																														