

HRM RESOURCES

Location: COLORADO Slot: SLOT#04 ALMA 1S-66-2524-4NH (337°FSL & 1889°FEL, SEC.25)
Field: ADAMS COUNTY Well: ALMA 1S-66-2524-4NH
Facility: SEC.25-T01S-R66W Wellbore: ALMA 1S-66-2524-4NH PWB

Plot reference wellpath is ALMA 1S-66-2524-4NH PWP (REV.A.0)	Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet
True vertical depths are referenced to RIG (RKB)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to RIG (RKB)	North Reference: True north
RIG (RKB) to Mean Sea Level: 5195 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#04 ALMA 1S-66-2524-4NH (337°FSL & 1889°FEL, SEC.25): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: ingram on 2016-10-14
	Database: WA_DEN_Denver_Deln

Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.25-T01S-R66W	3218416.711	1218223.151	39°55'47.172"N	104°43'16.176"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
SLOT#04 ALMA 1S-66-2524-4NH (337°FSL & 1889°FEL, SEC.25)	0.00	-44.87	3218371.842	1218222.756
RIG (RKB) to Mud line (At Slot: SLOT#04 ALMA 1S-66-2524-4NH (337°FSL & 1889°FEL, SEC.25)				5195ft
Mean Sea Level to Mud line (At Slot: SLOT#04 ALMA 1S-66-2524-4NH (337°FSL & 1889°FEL, SEC.25)				0ft
RIG (RKB) to Mean Sea Level				5195ft

Well Profile Data

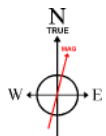
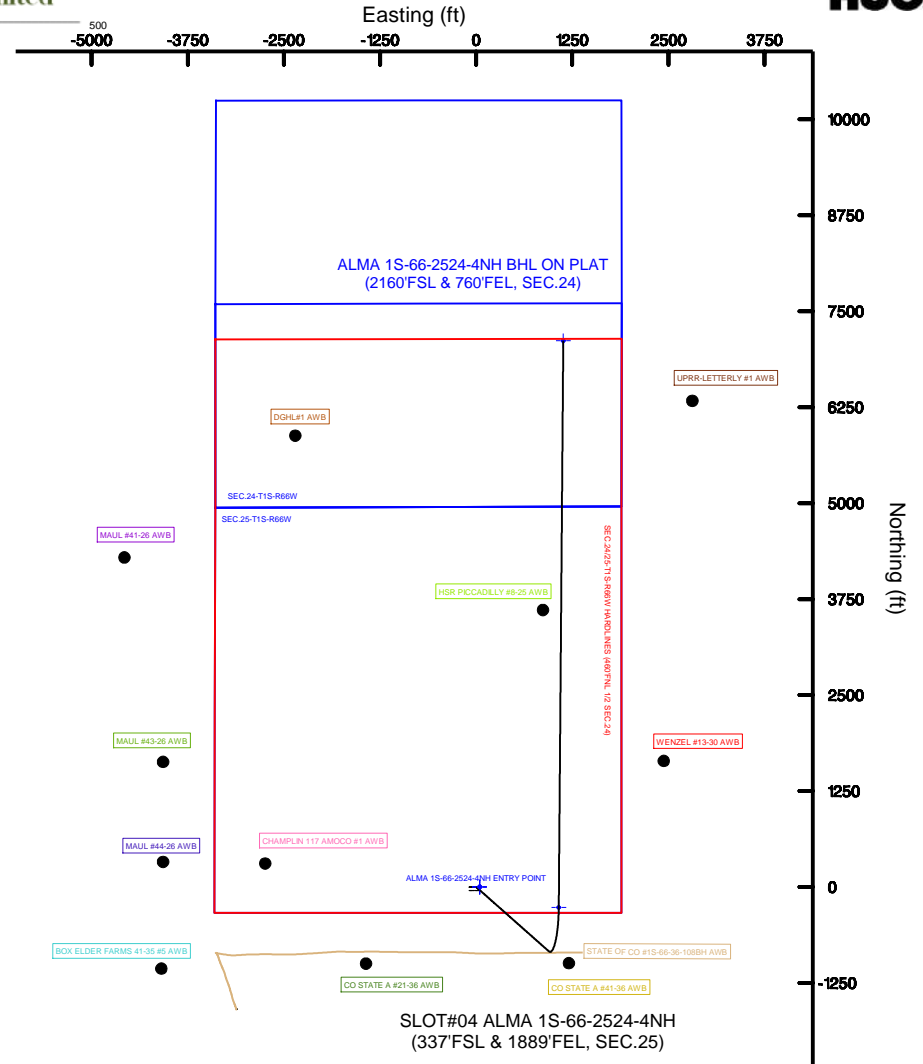
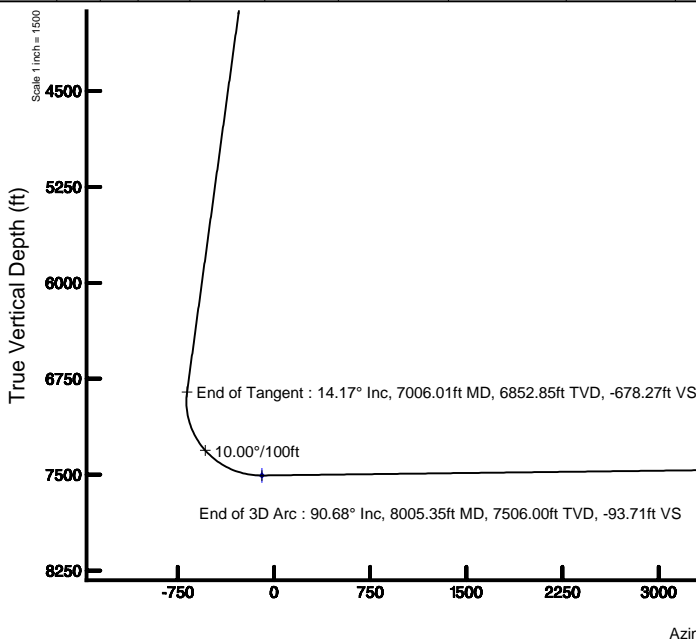
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	14.00	0.000	131.570	14.00	0.00	0.00	0.00	0.00
End of Tangent	1500.00	0.000	131.570	1500.00	0.00	0.00	0.00	0.00
End of Build	2208.47	14.169	131.570	2201.27	-57.83	65.21	2.00	-46.86
End of Tangent	7006.01	14.169	131.570	6852.85	-837.08	943.82	0.00	-678.27
End of 3D Arc	8005.35	90.683	0.455	7506.00	-265.90	1074.14	10.00	-93.71
End of Tangent	15386.48	90.683	0.455	7418.00	7114.47	1132.70	0.00	7204.07

Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.24-T1S-R66W		0.00	0.00	44.87	3218416.71	1218223.15	39°55'47.172"N	104°43'16.176"W
SEC.24-T1S-R66W SOUTH 1/2 SECTION		0.00	0.00	44.87	3218416.71	1218223.15	39°55'47.172"N	104°43'16.176"W
SEC.25-T1S-R66W		0.00	0.00	44.87	3218416.71	1218223.15	39°55'47.172"N	104°43'16.176"W
ALMA 1S-66-2524-4NH BHL ON PLAT (2160°FSL & 760°FEL, SEC.24)	15386.48	7418.00	7114.47	1132.70	3219441.99	1225346.69	39°56'57.480"N	104°43'02.208"W
ALMA 1S-66-2524-4NH ENTRY POINT	8005.35	7506.00	-265.90	1074.14	3219448.24	1217966.30	39°55'44.544"N	104°43'02.364"W
SEC.24-T1S-R66W HARDLINE (460°FNL 1/2 SEC.24)		7500.00	0.00	44.87	3218416.71	1218223.15	39°55'47.172"N	104°43'16.176"W

Bottom Hole Location

MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
15386.48	90.683	0.455	7418.00	7114.47	1132.70	3219441.99	1225346.69	39°56'57.480"N	104°43'02.208"W



BGGM (1900.0 to 2018.0) Dip: 66.55° Field: 52266.2 nT
Magnetic North is 8.40 degrees East of True North (at 10/7/2016)

To correct azimuth from Magnetic to True add 8.40 degrees

Scale 1 inch = 1500



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Planned Wellpath Report

ALMA 1S-66-2524-4NH PWP (REV-A.0)

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REFERENCE WELLPATH IDENTIFICATION

Operator	HRM RESOURCES	Slot	SLOT#04 ALMA 1S-66-2524-4NH (337'FSL & 1889'FEL, SEC.25)
Area	COLORADO	Well	ALMA 1S-66-2524-4NH
Field	ADAMS COUNTY	Wellbore	ALMA 1S-66-2524-4NH PWB
Facility	SEC.25-T01S-R66W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado SP, Northern Zone (501), US feet	Software System	WellArchitect® 5.0
North Reference	True	User	Ingmjmr
Scale	0.999972	Report Generated	10/14/2016 at 12:20:23 PM
Convergence at slot	0.51° East	Database/Source file	WA_DEN_Denver_Defn/ALMA_1S-66-2524-4NH_PWP_REV-A.0_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	-44.87	3218371.84	1218222.76	39°55'47.172"N	104°43'16.752"W
Facility Reference Pt			3218416.71	1218223.15	39°55'47.172"N	104°43'16.176"W
Field Reference Pt			3218416.71	1218223.15	39°55'47.172"N	104°43'16.176"W

WELLPATH DATUM

Calculation method	Minimum curvature	RIG (RKB) to Facility Vertical Datum	5195.00ft
Horizontal Reference Pt	Slot	RIG (RKB) to Mean Sea Level	5195.00ft
Vertical Reference Pt	RIG (RKB)	RIG (RKB) to Mud Line at Slot (SLOT#04 ALMA 1S-66-2524-4NH (337'FSL & 1889'FEL, SEC.25))	5195.00ft
MD Reference Pt	RIG (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	9.05°



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ALMA 1S-66-2524-4NH PWP (REV-A.0)

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REFERENCE WELLPATH IDENTIFICATION

Operator	HRM RESOURCES	Slot	SLOT#04 ALMA 1S-66-2524-4NH (337'FSL & 1889'FEL, SEC.25)
Area	COLORADO	Well	ALMA 1S-66-2524-4NH
Field	ADAMS COUNTY	Wellbore	ALMA 1S-66-2524-4NH PWB
Facility	SEC.25-T01S-R66W		

WELLPATH DATA (160 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	131.570	0.00	0.00	0.00	0.00	39°55'47.172"N	104°43'16.752"W	0.00	
14.00	0.000	131.570	14.00	0.00	0.00	0.00	39°55'47.172"N	104°43'16.752"W	0.00	Tie On
114.00†	0.000	131.570	114.00	0.00	0.00	0.00	39°55'47.172"N	104°43'16.752"W	0.00	
214.00†	0.000	131.570	214.00	0.00	0.00	0.00	39°55'47.172"N	104°43'16.752"W	0.00	
314.00†	0.000	131.570	314.00	0.00	0.00	0.00	39°55'47.172"N	104°43'16.752"W	0.00	
414.00†	0.000	131.570	414.00	0.00	0.00	0.00	39°55'47.172"N	104°43'16.752"W	0.00	
514.00†	0.000	131.570	514.00	0.00	0.00	0.00	39°55'47.172"N	104°43'16.752"W	0.00	
614.00†	0.000	131.570	614.00	0.00	0.00	0.00	39°55'47.172"N	104°43'16.752"W	0.00	
714.00†	0.000	131.570	714.00	0.00	0.00	0.00	39°55'47.172"N	104°43'16.752"W	0.00	
814.00†	0.000	131.570	814.00	0.00	0.00	0.00	39°55'47.172"N	104°43'16.752"W	0.00	
914.00†	0.000	131.570	914.00	0.00	0.00	0.00	39°55'47.172"N	104°43'16.752"W	0.00	
1014.00†	0.000	131.570	1014.00	0.00	0.00	0.00	39°55'47.172"N	104°43'16.752"W	0.00	
1114.00†	0.000	131.570	1114.00	0.00	0.00	0.00	39°55'47.172"N	104°43'16.752"W	0.00	
1214.00†	0.000	131.570	1214.00	0.00	0.00	0.00	39°55'47.172"N	104°43'16.752"W	0.00	
1314.00†	0.000	131.570	1314.00	0.00	0.00	0.00	39°55'47.172"N	104°43'16.752"W	0.00	
1414.00†	0.000	131.570	1414.00	0.00	0.00	0.00	39°55'47.172"N	104°43'16.752"W	0.00	
1500.00	0.000	131.570	1500.00	0.00	0.00	0.00	39°55'47.172"N	104°43'16.752"W	0.00	End of Tangent
1514.00†	0.280	131.570	1514.00	-0.02	-0.02	0.03	39°55'47.172"N	104°43'16.752"W	2.00	
1614.00†	2.280	131.570	1613.97	-1.22	-1.50	1.70	39°55'47.157"N	104°43'16.730"W	2.00	
1714.00†	4.280	131.570	1713.80	-4.30	-5.30	5.98	39°55'47.120"N	104°43'16.675"W	2.00	
1814.00†	6.280	131.570	1813.37	-9.24	-11.41	12.86	39°55'47.059"N	104°43'16.587"W	2.00	
1914.00†	8.280	131.570	1912.56	-16.06	-19.81	22.34	39°55'46.976"N	104°43'16.465"W	2.00	
2014.00†	10.280	131.570	2011.25	-24.73	-30.51	34.41	39°55'46.870"N	104°43'16.310"W	2.00	
2114.00†	12.280	131.570	2109.31	-35.24	-43.49	49.04	39°55'46.742"N	104°43'16.123"W	2.00	
2208.47	14.169	131.570	2201.27	-46.86	-57.83	65.21	39°55'46.600"N	104°43'15.915"W	2.00	End of Build
2214.00†	14.169	131.570	2206.63	-47.59	-58.73	66.22	39°55'46.592"N	104°43'15.902"W	0.00	
2314.00†	14.169	131.570	2303.59	-60.75	-74.97	84.53	39°55'46.431"N	104°43'15.667"W	0.00	
2414.00†	14.169	131.570	2400.55	-73.91	-91.22	102.85	39°55'46.271"N	104°43'15.432"W	0.00	
2514.00†	14.169	131.570	2497.51	-87.07	-107.46	121.16	39°55'46.110"N	104°43'15.197"W	0.00	
2614.00†	14.169	131.570	2594.46	-100.23	-123.70	139.47	39°55'45.950"N	104°43'14.962"W	0.00	
2714.00†	14.169	131.570	2691.42	-113.39	-139.94	157.79	39°55'45.789"N	104°43'14.727"W	0.00	
2814.00†	14.169	131.570	2788.38	-126.56	-156.19	176.10	39°55'45.628"N	104°43'14.491"W	0.00	
2914.00†	14.169	131.570	2885.34	-139.72	-172.43	194.42	39°55'45.468"N	104°43'14.256"W	0.00	
3014.00†	14.169	131.570	2982.29	-152.88	-188.67	212.73	39°55'45.307"N	104°43'14.021"W	0.00	
3114.00†	14.169	131.570	3079.25	-166.04	-204.91	231.04	39°55'45.147"N	104°43'13.786"W	0.00	
3214.00†	14.169	131.570	3176.21	-179.20	-221.16	249.36	39°55'44.986"N	104°43'13.551"W	0.00	
3314.00†	14.169	131.570	3273.17	-192.36	-237.40	267.67	39°55'44.826"N	104°43'13.316"W	0.00	
3414.00†	14.169	131.570	3370.12	-205.52	-253.64	285.99	39°55'44.665"N	104°43'13.081"W	0.00	
3514.00†	14.169	131.570	3467.08	-218.68	-269.89	304.30	39°55'44.505"N	104°43'12.846"W	0.00	
3614.00†	14.169	131.570	3564.04	-231.84	-286.13	322.61	39°55'44.344"N	104°43'12.611"W	0.00	
3714.00†	14.169	131.570	3661.00	-245.01	-302.37	340.93	39°55'44.184"N	104°43'12.376"W	0.00	
3814.00†	14.169	131.570	3757.95	-258.17	-318.61	359.24	39°55'44.023"N	104°43'12.141"W	0.00	
3914.00†	14.169	131.570	3854.91	-271.33	-334.86	377.55	39°55'43.863"N	104°43'11.906"W	0.00	
4014.00†	14.169	131.570	3951.87	-284.49	-351.10	395.87	39°55'43.702"N	104°43'11.671"W	0.00	
4114.00†	14.169	131.570	4048.83	-297.65	-367.34	414.18	39°55'43.542"N	104°43'11.435"W	0.00	



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Planned Wellpath Report

ALMA 1S-66-2524-4NH PWP (REV-A.0)

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Operator	HRM RESOURCES	Slot	SLOT#04 ALMA 1S-66-2524-4NH (337'FSL & 1889'FEL, SEC.25)
Area	COLORADO	Well	ALMA 1S-66-2524-4NH
Field	ADAMS COUNTY	Wellbore	ALMA 1S-66-2524-4NH PWB
Facility	SEC.25-T01S-R66W		

WELLPATH DATA (160 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4214.00†	14.169	131.570	4145.78	-310.81	-383.58	432.50	39°55'43.381"N	104°43'11.200"W	0.00	
4314.00†	14.169	131.570	4242.74	-323.97	-399.83	450.81	39°55'43.221"N	104°43'10.965"W	0.00	
4414.00†	14.169	131.570	4339.70	-337.13	-416.07	469.12	39°55'43.060"N	104°43'10.730"W	0.00	
4514.00†	14.169	131.570	4436.66	-350.30	-432.31	487.44	39°55'42.900"N	104°43'10.495"W	0.00	
4614.00†	14.169	131.570	4533.62	-363.46	-448.55	505.75	39°55'42.739"N	104°43'10.260"W	0.00	
4714.00†	14.169	131.570	4630.57	-376.62	-464.80	524.06	39°55'42.579"N	104°43'10.025"W	0.00	
4814.00†	14.169	131.570	4727.53	-389.78	-481.04	542.38	39°55'42.418"N	104°43'09.790"W	0.00	
4914.00†	14.169	131.570	4824.49	-402.94	-497.28	560.69	39°55'42.258"N	104°43'09.555"W	0.00	
5014.00†	14.169	131.570	4921.45	-416.10	-513.53	579.01	39°55'42.097"N	104°43'09.320"W	0.00	
5114.00†	14.169	131.570	5018.40	-429.26	-529.77	597.32	39°55'41.937"N	104°43'09.085"W	0.00	
5214.00†	14.169	131.570	5115.36	-442.42	-546.01	615.63	39°55'41.776"N	104°43'08.850"W	0.00	
5314.00†	14.169	131.570	5212.32	-455.58	-562.25	633.95	39°55'41.615"N	104°43'08.615"W	0.00	
5414.00†	14.169	131.570	5309.28	-468.75	-578.50	652.26	39°55'41.455"N	104°43'08.379"W	0.00	
5514.00†	14.169	131.570	5406.23	-481.91	-594.74	670.58	39°55'41.294"N	104°43'08.144"W	0.00	
5614.00†	14.169	131.570	5503.19	-495.07	-610.98	688.89	39°55'41.134"N	104°43'07.909"W	0.00	
5714.00†	14.169	131.570	5600.15	-508.23	-627.22	707.20	39°55'40.973"N	104°43'07.674"W	0.00	
5814.00†	14.169	131.570	5697.11	-521.39	-643.47	725.52	39°55'40.813"N	104°43'07.439"W	0.00	
5914.00†	14.169	131.570	5794.06	-534.55	-659.71	743.83	39°55'40.652"N	104°43'07.204"W	0.00	
6014.00†	14.169	131.570	5891.02	-547.71	-675.95	762.14	39°55'40.492"N	104°43'06.969"W	0.00	
6114.00†	14.169	131.570	5987.98	-560.87	-692.20	780.46	39°55'40.331"N	104°43'06.734"W	0.00	
6214.00†	14.169	131.570	6084.94	-574.04	-708.44	798.77	39°55'40.171"N	104°43'06.499"W	0.00	
6314.00†	14.169	131.570	6181.89	-587.20	-724.68	817.09	39°55'40.010"N	104°43'06.264"W	0.00	
6414.00†	14.169	131.570	6278.85	-600.36	-740.92	835.40	39°55'39.850"N	104°43'06.029"W	0.00	
6514.00†	14.169	131.570	6375.81	-613.52	-757.17	853.71	39°55'39.689"N	104°43'05.794"W	0.00	
6614.00†	14.169	131.570	6472.77	-626.68	-773.41	872.03	39°55'39.529"N	104°43'05.559"W	0.00	
6714.00†	14.169	131.570	6569.72	-639.84	-789.65	890.34	39°55'39.368"N	104°43'05.323"W	0.00	
6814.00†	14.169	131.570	6666.68	-653.00	-805.89	908.66	39°55'39.208"N	104°43'05.088"W	0.00	
6914.00†	14.169	131.570	6763.64	-666.16	-822.14	926.97	39°55'39.047"N	104°43'04.853"W	0.00	
7006.01	14.169	131.570	6852.85	-678.27	-837.08	943.82	39°55'38.899"N	104°43'04.637"W	0.00	End of Tangent
7014.00†	13.668	128.984	6860.61	-679.27	-838.32	945.29	39°55'38.887"N	104°43'04.618"W	10.00	
7114.00†	10.901	82.308	6958.54	-682.45	-844.51	963.89	39°55'38.826"N	104°43'04.379"W	10.00	
7214.00†	15.763	43.052	7056.00	-668.43	-833.29	982.58	39°55'38.937"N	104°43'04.140"W	10.00	
7314.00†	23.994	25.937	7150.04	-637.64	-805.01	1000.79	39°55'39.216"N	104°43'03.906"W	10.00	
7414.00†	33.173	17.535	7237.79	-591.01	-760.52	1017.97	39°55'39.656"N	104°43'03.685"W	10.00	
7514.00†	42.690	12.508	7316.60	-529.95	-701.19	1033.59	39°55'40.242"N	104°43'03.485"W	10.00	
7614.00†	52.360	9.037	7384.05	-456.33	-628.81	1047.19	39°55'40.958"N	104°43'03.310"W	10.00	
7714.00†	62.107	6.375	7438.12	-372.39	-545.57	1058.34	39°55'41.780"N	104°43'03.167"W	10.00	
7814.00†	71.897	4.157	7477.14	-280.66	-454.02	1066.72	39°55'42.685"N	104°43'03.059"W	10.00	
7914.00†	81.710	2.176	7499.95	-183.94	-356.94	1072.05	39°55'43.644"N	104°43'02.991"W	10.00	
8005.35	90.683	0.455	7506.00†	-93.71	-265.90	1074.14	39°55'44.544"N	104°43'02.964"W	10.00	End of 3D Arc
8014.00†	90.683	0.455	7505.90	-85.16	-257.26	1074.21	39°55'44.629"N	104°43'02.963"W	0.00	
8114.00†	90.683	0.455	7504.70	13.71	-157.27	1075.00	39°55'45.618"N	104°43'02.953"W	0.00	
8214.00†	90.683	0.455	7503.51	112.58	-57.28	1075.79	39°55'46.606"N	104°43'02.943"W	0.00	
8314.00†	90.683	0.455	7502.32	211.45	42.71	1076.59	39°55'47.594"N	104°43'02.932"W	0.00	
8414.00†	90.683	0.455	7501.13	310.32	142.70	1077.38	39°55'48.582"N	104°43'02.922"W	0.00	



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ALMA 1S-66-2524-4NH PWP (REV-A.0)

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**BAKER
HUGHES**

REFERENCE WELLPATH IDENTIFICATION

Operator	HRM RESOURCES	Slot	SLOT#04 ALMA 1S-66-2524-4NH (337'FSL & 1889'FEL, SEC.25)
Area	COLORADO	Well	ALMA 1S-66-2524-4NH
Field	ADAMS COUNTY	Wellbore	ALMA 1S-66-2524-4NH PWB
Facility	SEC.25-T01S-R66W		

WELLPATH DATA (160 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8514.00†	90.683	0.455	7499.94	409.19	242.69	1078.17	39°55'49.570"N	104°43'02.912"W	0.00	
8614.00†	90.683	0.455	7498.74	508.06	342.68	1078.97	39°55'50.558"N	104°43'02.902"W	0.00	
8714.00†	90.683	0.455	7497.55	606.94	442.67	1079.76	39°55'51.546"N	104°43'02.891"W	0.00	
8814.00†	90.683	0.455	7496.36	705.81	542.66	1080.55	39°55'52.535"N	104°43'02.881"W	0.00	
8914.00†	90.683	0.455	7495.17	804.68	642.65	1081.35	39°55'53.523"N	104°43'02.871"W	0.00	
9014.00†	90.683	0.455	7493.97	903.55	742.64	1082.14	39°55'54.511"N	104°43'02.861"W	0.00	
9114.00†	90.683	0.455	7492.78	1002.42	842.63	1082.93	39°55'55.499"N	104°43'02.850"W	0.00	
9214.00†	90.683	0.455	7491.59	1101.29	942.62	1083.73	39°55'56.487"N	104°43'02.840"W	0.00	
9314.00†	90.683	0.455	7490.40	1200.16	1042.61	1084.52	39°55'57.475"N	104°43'02.830"W	0.00	
9414.00†	90.683	0.455	7489.21	1299.03	1142.60	1085.31	39°55'58.463"N	104°43'02.820"W	0.00	
9514.00†	90.683	0.455	7488.01	1397.90	1242.59	1086.11	39°55'59.452"N	104°43'02.810"W	0.00	
9614.00†	90.683	0.455	7486.82	1496.77	1342.58	1086.90	39°56'00.440"N	104°43'02.799"W	0.00	
9714.00†	90.683	0.455	7485.63	1595.64	1442.57	1087.69	39°56'01.428"N	104°43'02.789"W	0.00	
9814.00†	90.683	0.455	7484.44	1694.51	1542.56	1088.49	39°56'02.416"N	104°43'02.779"W	0.00	
9914.00†	90.683	0.455	7483.24	1793.38	1642.55	1089.28	39°56'03.404"N	104°43'02.769"W	0.00	
10014.00†	90.683	0.455	7482.05	1892.26	1742.54	1090.07	39°56'04.392"N	104°43'02.758"W	0.00	
10114.00†	90.683	0.455	7480.86	1991.13	1842.53	1090.87	39°56'05.380"N	104°43'02.748"W	0.00	
10214.00†	90.683	0.455	7479.67	2090.00	1942.52	1091.66	39°56'06.369"N	104°43'02.738"W	0.00	
10314.00†	90.683	0.455	7478.48	2188.87	2042.51	1092.45	39°56'07.357"N	104°43'02.728"W	0.00	
10414.00†	90.683	0.455	7477.28	2287.74	2142.50	1093.25	39°56'08.345"N	104°43'02.717"W	0.00	
10514.00†	90.683	0.455	7476.09	2386.61	2242.49	1094.04	39°56'09.333"N	104°43'02.707"W	0.00	
10614.00†	90.683	0.455	7474.90	2485.48	2342.48	1094.83	39°56'10.321"N	104°43'02.697"W	0.00	
10714.00†	90.683	0.455	7473.71	2584.35	2442.47	1095.63	39°56'11.309"N	104°43'02.687"W	0.00	
10814.00†	90.683	0.455	7472.51	2683.22	2542.46	1096.42	39°56'12.297"N	104°43'02.676"W	0.00	
10914.00†	90.683	0.455	7471.32	2782.09	2642.45	1097.21	39°56'13.286"N	104°43'02.666"W	0.00	
11014.00†	90.683	0.455	7470.13	2880.96	2742.43	1098.01	39°56'14.274"N	104°43'02.656"W	0.00	
11114.00†	90.683	0.455	7468.94	2979.83	2842.42	1098.80	39°56'15.262"N	104°43'02.646"W	0.00	
11214.00†	90.683	0.455	7467.75	3078.71	2942.41	1099.59	39°56'16.250"N	104°43'02.635"W	0.00	
11314.00†	90.683	0.455	7466.55	3177.58	3042.40	1100.39	39°56'17.238"N	104°43'02.625"W	0.00	
11414.00†	90.683	0.455	7465.36	3276.45	3142.39	1101.18	39°56'18.226"N	104°43'02.615"W	0.00	
11514.00†	90.683	0.455	7464.17	3375.32	3242.38	1101.97	39°56'19.214"N	104°43'02.605"W	0.00	
11614.00†	90.683	0.455	7462.98	3474.19	3342.37	1102.77	39°56'20.203"N	104°43'02.594"W	0.00	
11714.00†	90.683	0.455	7461.78	3573.06	3442.36	1103.56	39°56'21.191"N	104°43'02.584"W	0.00	
11814.00†	90.683	0.455	7460.59	3671.93	3542.35	1104.35	39°56'22.179"N	104°43'02.574"W	0.00	
11914.00†	90.683	0.455	7459.40	3770.80	3642.34	1105.15	39°56'23.167"N	104°43'02.564"W	0.00	
12014.00†	90.683	0.455	7458.21	3869.67	3742.33	1105.94	39°56'24.155"N	104°43'02.553"W	0.00	
12114.00†	90.683	0.455	7457.02	3968.54	3842.32	1106.73	39°56'25.143"N	104°43'02.543"W	0.00	
12214.00†	90.683	0.455	7455.82	4067.41	3942.31	1107.53	39°56'26.131"N	104°43'02.533"W	0.00	
12314.00†	90.683	0.455	7454.63	4166.28	4042.30	1108.32	39°56'27.120"N	104°43'02.523"W	0.00	
12414.00†	90.683	0.455	7453.44	4265.16	4142.29	1109.11	39°56'28.108"N	104°43'02.513"W	0.00	
12514.00†	90.683	0.455	7452.25	4364.03	4242.28	1109.91	39°56'29.096"N	104°43'02.502"W	0.00	
12614.00†	90.683	0.455	7451.05	4462.90	4342.27	1110.70	39°56'30.084"N	104°43'02.492"W	0.00	
12714.00†	90.683	0.455	7449.86	4561.77	4442.26	1111.49	39°56'31.072"N	104°43'02.482"W	0.00	
12814.00†	90.683	0.455	7448.67	4660.64	4542.25	1112.29	39°56'32.060"N	104°43'02.472"W	0.00	
12914.00†	90.683	0.455	7447.48	4759.51	4642.24	1113.08	39°56'33.048"N	104°43'02.461"W	0.00	



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ALMA 1S-66-2524-4NH PWP (REV-A.0)

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**BAKER
HUGHES****REFERENCE WELLPATH IDENTIFICATION**

Operator	HRM RESOURCES	Slot	SLOT#04 ALMA 1S-66-2524-4NH (337'FSL & 1889'FEL, SEC.25)
Area	COLORADO	Well	ALMA 1S-66-2524-4NH
Field	ADAMS COUNTY	Wellbore	ALMA 1S-66-2524-4NH PWB
Facility	SEC.25-T01S-R66W		

WELLPATH DATA (160 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
13014.00†	90.683	0.455	7446.29	4858.38	4742.23	1113.87	39°56'34.037"N	104°43'02.451"W	0.00	
13114.00†	90.683	0.455	7445.09	4957.25	4842.22	1114.67	39°56'35.025"N	104°43'02.441"W	0.00	
13214.00†	90.683	0.455	7443.90	5056.12	4942.21	1115.46	39°56'36.013"N	104°43'02.431"W	0.00	
13314.00†	90.683	0.455	7442.71	5154.99	5042.20	1116.25	39°56'37.001"N	104°43'02.420"W	0.00	
13414.00†	90.683	0.455	7441.52	5253.86	5142.19	1117.05	39°56'37.989"N	104°43'02.410"W	0.00	
13514.00†	90.683	0.455	7440.32	5352.73	5242.18	1117.84	39°56'38.977"N	104°43'02.400"W	0.00	
13614.00†	90.683	0.455	7439.13	5451.61	5342.17	1118.63	39°56'39.965"N	104°43'02.390"W	0.00	
13714.00†	90.683	0.455	7437.94	5550.48	5442.16	1119.43	39°56'40.954"N	104°43'02.379"W	0.00	
13814.00†	90.683	0.455	7436.75	5649.35	5542.15	1120.22	39°56'41.942"N	104°43'02.369"W	0.00	
13914.00†	90.683	0.455	7435.56	5748.22	5642.14	1121.01	39°56'42.930"N	104°43'02.359"W	0.00	
14014.00†	90.683	0.455	7434.36	5847.09	5742.13	1121.81	39°56'43.918"N	104°43'02.349"W	0.00	
14114.00†	90.683	0.455	7433.17	5945.96	5842.12	1122.60	39°56'44.906"N	104°43'02.338"W	0.00	
14214.00†	90.683	0.455	7431.98	6044.83	5942.11	1123.39	39°56'45.894"N	104°43'02.328"W	0.00	
14314.00†	90.683	0.455	7430.79	6143.70	6042.10	1124.19	39°56'46.882"N	104°43'02.318"W	0.00	
14414.00†	90.683	0.455	7429.59	6242.57	6142.09	1124.98	39°56'47.871"N	104°43'02.308"W	0.00	
14514.00†	90.683	0.455	7428.40	6341.44	6242.08	1125.77	39°56'48.859"N	104°43'02.297"W	0.00	
14614.00†	90.683	0.455	7427.21	6440.31	6342.07	1126.57	39°56'49.847"N	104°43'02.287"W	0.00	
14714.00†	90.683	0.455	7426.02	6539.18	6442.06	1127.36	39°56'50.835"N	104°43'02.277"W	0.00	
14814.00†	90.683	0.455	7424.83	6638.05	6542.05	1128.15	39°56'51.823"N	104°43'02.267"W	0.00	
14914.00†	90.683	0.455	7423.63	6736.93	6642.03	1128.95	39°56'52.811"N	104°43'02.256"W	0.00	
15014.00†	90.683	0.455	7422.44	6835.80	6742.02	1129.74	39°56'53.799"N	104°43'02.246"W	0.00	
15114.00†	90.683	0.455	7421.25	6934.67	6842.01	1130.53	39°56'54.788"N	104°43'02.236"W	0.00	
15214.00†	90.683	0.455	7420.06	7033.54	6942.00	1131.33	39°56'55.776"N	104°43'02.226"W	0.00	
15314.00†	90.683	0.455	7418.86	7132.41	7041.99	1132.12	39°56'56.764"N	104°43'02.215"W	0.00	
15386.48	90.683	0.455	7418.00 ²	7204.07	7114.47	1132.70	39°56'57.480"N	104°43'02.208"W	0.00	End of Tangent

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SEC.24-T1S-R66W		0.00	0.00	44.87	3218416.71	1218223.15	39°55'47.172"N	104°43'16.176"W	polygon
SEC.24-T1S-R66W SOUTH 1/2 SECTION		0.00	0.00	44.87	3218416.71	1218223.15	39°55'47.172"N	104°43'16.176"W	polygon
SEC.25-T1S-R66W		0.00	0.00	44.87	3218416.71	1218223.15	39°55'47.172"N	104°43'16.176"W	polygon
2) ALMA 1S-66-2524-4NH BHL ON PLAT (2160'FSL & 760'FEL, SEC.24)	15386.48	7418.00	7114.47	1132.70	3219441.99	1225346.69	39°56'57.480"N	104°43'02.208"W	point
1) ALMA 1S-66-2524-4NH ENTRY POINT	8005.35	7506.00	-265.90	1074.14	3219448.24	1217966.30	39°55'44.544"N	104°43'02.964"W	point
SEC.24/25-T1S-R66W HARDLINES (460'FNL 1/2 SEC.24)		7800.00	0.00	44.87	3218416.71	1218223.15	39°55'47.172"N	104°43'16.176"W	polygon



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ALMA 1S-66-2524-4NH PWP (REV-A.0)

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REFERENCE WELLPATH IDENTIFICATION

Operator	HRM RESOURCES	Slot	SLOT#04 ALMA 1S-66-2524-4NH (337'FSL & 1889'FEL, SEC.25)
Area	COLORADO	Well	ALMA 1S-66-2524-4NH
Field	ADAMS COUNTY	Wellbore	ALMA 1S-66-2524-4NH PWB
Facility	SEC.25-T01S-R66W		

SURVEY PROGRAM -

Ref Wellbore: ALMA 1S-66-2524-4NH PWB Ref Wellpath: ALMA 1S-66-2524-4NH PWP (REV-A.0)

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
14.00	15386.48	Custom BHI AutoTrak Curve (Axial Corr, Short spacing) (Rockies 0.03Gt model)		ALMA 1S-66-2524-4NH PWB



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REFERENCE WELLPATH IDENTIFICATION

Operator	HRM RESOURCES	Slot	SLOT#04 ALMA 1S-66-2524-4NH (337'FSL & 1889'FEL, SEC.25)
Area	COLORADO	Well	ALMA 1S-66-2524-4NH
Field	ADAMS COUNTY	Wellbore	ALMA 1S-66-2524-4NH PWB
Facility	SEC.25-T01S-R66W		

DESIGN COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
14.00	0.000	131.570	14.00	Tie On
1500.00	0.000	131.570	1500.00	End of Tangent
2208.47	14.169	131.570	2201.27	End of Build
7006.01	14.169	131.570	6852.85	End of Tangent
8005.35	90.683	0.455	7506.00	End of 3D Arc
15386.48	90.683	0.455	7418.00	End of Tangent