

HRM RESOURCES

Location: COLORADO Slot: SLOT#07 ALMA 1S-66-2524-7CDH (337FSL & 1934FEL, SEC.25)
 Field: ADAMS COUNTY Well: ALMA 1S-66-2524-7CDH
 Facility: SEC-25-T01S-R66W Wellbore: ALMA 1S-66-2524-7CDH PWB

Plot reference wellpath is ALMA 1S-66-2524-7CDH PWP (REV-A.0)

True vertical depths are referenced to RIG (RKB)	* - Wellpath was transformed from a different geoidetic datum
Measured depths are referenced to RIG (RKB)	North Reference: True north
RIG (RKB) to Mean Sea Level: 5193 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#07 ALMA 1S-66-2524-7CDH (337FSL & 1934FEL, SEC.25)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: ingrgar on 2016-10-14
	Database: WA_DEN_Denver_Defn

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)	Latitude	Longitude
SLOT#07 ALMA 1S-66-2524-7CDH (337FSL & 1934FEL, SEC.25)	0.00	-89.74	3218326.973	1218222.362	39°55'47.172"N	104°43'17.328"W
RIG (RKB) to Mud line (At Slot: SLOT#07 ALMA 1S-66-2524-7CDH (337FSL & 1934FEL, SEC.25))						5193ft
Mean Sea Level to Mud line (At Slot: SLOT#07 ALMA 1S-66-2524-7CDH (337FSL & 1934FEL, SEC.25))						0ft
RIG (RKB) to Mean Sea Level						5193ft

Well Profile Data

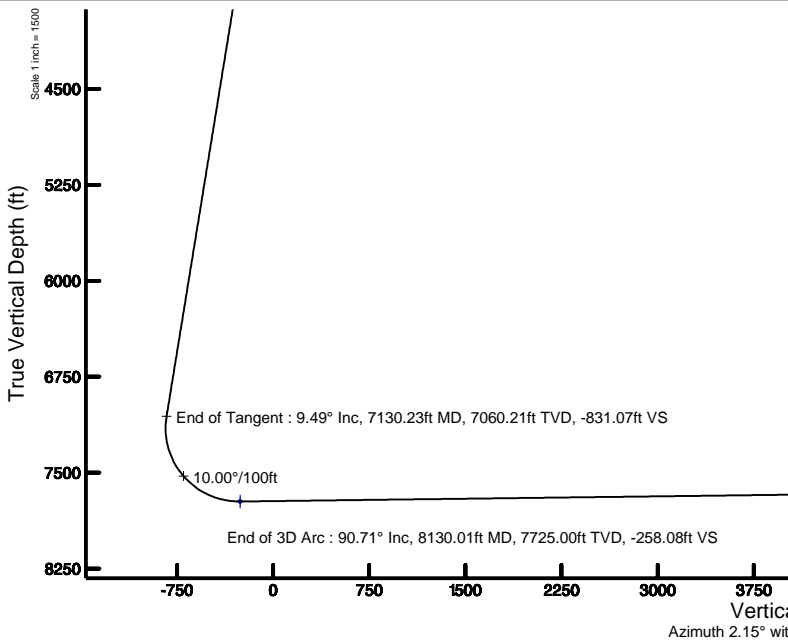
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	14.00	0.000	168.148	14.00	0.00	0.00	0.00	0.00
End of Tangent	1700.00	0.000	168.148	1700.00	0.00	0.00	0.00	0.00
End of Build	2174.63	9.493	168.148	2172.46	-38.39	8.06	2.00	-38.06
End of Tangent	7130.23	9.493	168.148	7060.21	-838.24	175.91	0.00	-831.07
End of 3D Arc	8130.01	90.707	0.479	7725.00	-265.93	204.73	10.00	-258.08
End of Tangent	15507.56	90.707	0.479	7634.00	7110.80	266.35	0.00	7115.79

Targets

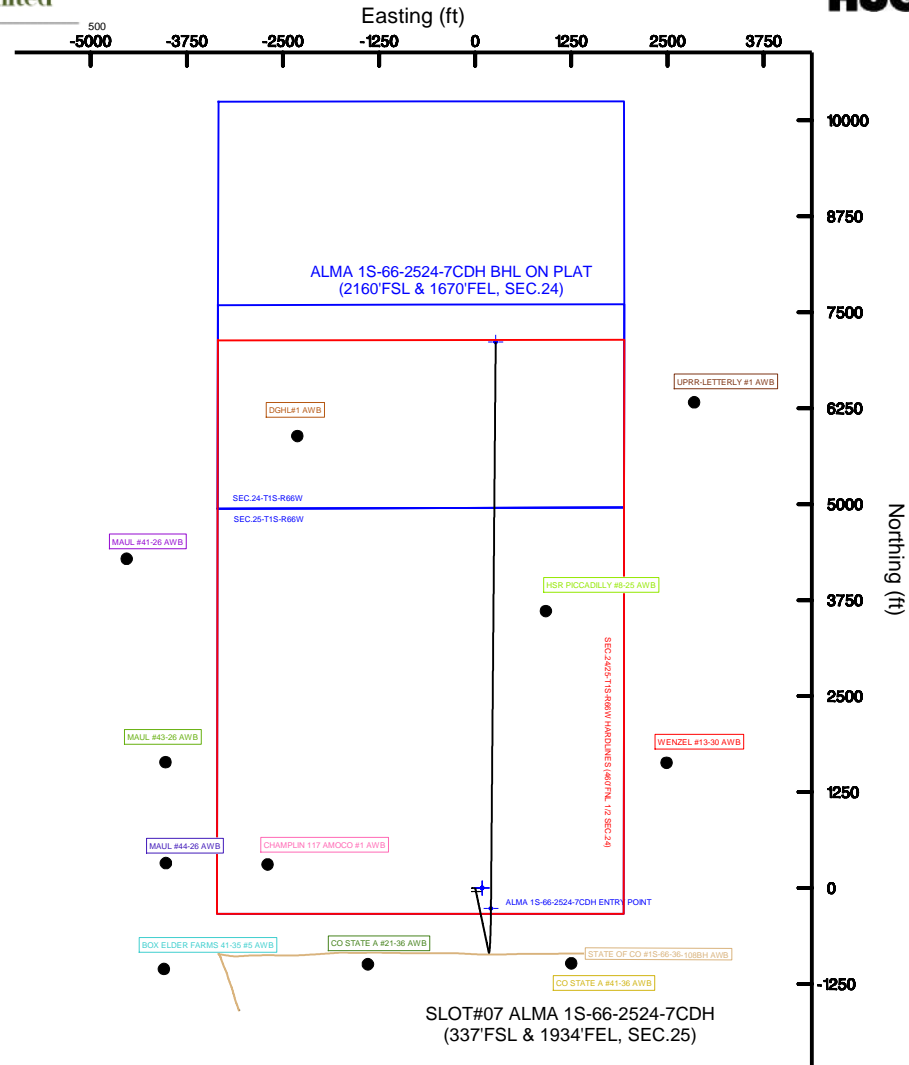
Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC-24-T1S-R66W	-2.00	0.00	89.74	3218416.71	1218223.15	39°55'47.172"N	104°43'16.176"W	
SEC-24-T1S-R66W SOUTH 1/2 SECTION	-2.00	0.00	89.74	3218416.71	1218223.15	39°55'47.172"N	104°43'16.176"W	
SEC-25-T1S-R66W	-2.00	0.00	89.74	3218416.71	1218223.15	39°55'47.172"N	104°43'16.176"W	
ALMA 1S-66-2524-7CDH BHL ON PLAT (2160FSL & 1670FEL, SEC.24)	15507.56	7634.00	7110.80	266.35	3218330.88	1225335.02	39°56'57.444"N	104°43'13.908"W
ALMA 1S-66-2524-7CDH ENTRY POINT	8130.01	7725.00	-265.93	204.73	3218334.02	1217958.25	39°55'44.544"N	104°43'14.700"W
SEC-24/25-T1S-R66W PARADISE (460FNL, 1/2 SEC.24)	7798.00	0.00	89.74	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
15507.56	90.707	0.479	7634.00	7110.80	266.35	3218530.88	1225335.02	39°56'57.444"N	104°43'13.908"W



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End of Tangent : 90.71° Inc, 15507.56ft MD, 7634.00ft TVD, 7115.79ft VS

ALMA 1S-66-2524-7CDH BHL ON PLAT (2160FSL & 1670FEL, SEC.24)



BGGM (1900.0 to 2018.0) Dp: 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

Vertical Section (ft)
 Azimuth 2.15° with reference 0.00 N, 0.00 E



Resources Limited

Planned Wellpath Report

ALMA 1S-66-2524-7CDH PWP (REV-A.0)

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REFERENCE WELLPATH IDENTIFICATION			
Operator	HRM RESOURCES	Slot	SLOT#07 ALMA 1S-66-2524-7CDH (337'FSL & 1934'FEL, SEC.25)
Area	COLORADO	Well	ALMA 1S-66-2524-7CDH
Field	ADAMS COUNTY	Wellbore	ALMA 1S-66-2524-7CDH 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	Ingmjamr
Scale	0.999972	Report Generated	10/14/2016 at 12:34:26 PM
Convergence at slot	0.51° East	Database/Source file	WA_DEN_Denver_Defn/ALMA_1S-66-2524-7CDH_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	-89.74	3218326.97	1218222.36	39°55'47.172"N	104°43'17.328"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	5193.00ft
Horizontal Reference Pt	Slot	RIG (RKB) to Mean Sea Level	5193.00ft
Vertical Reference Pt	RIG (RKB)	RIG (RKB) to Mud Line at Slot (SLOT#07 ALMA 1S-66-2524-7CDH (337'FSL & 1934'FEL, SEC.25))	5193.00ft
MD Reference Pt	RIG (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	2.15°



REFERENCE WELLPATH IDENTIFICATION			
Operator	HRM RESOURCES	Slot	SLOT#07 ALMA 1S-66-2524-7CDH (337'FSL & 1934'FEL, SEC.25)
Area	COLORADO	Well	ALMA 1S-66-2524-7CDH
Field	ADAMS COUNTY	Wellbore	ALMA 1S-66-2524-7CDH PWB
Facility	SEC.25-T01S-R66W		

WELLPATH DATA (161 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	168.148	0.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.328"W	0.00	
14.00	0.000	168.148	14.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.328"W	0.00	
114.00†	0.000	168.148	114.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.328"W	0.00	
214.00†	0.000	168.148	214.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.328"W	0.00	
314.00†	0.000	168.148	314.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.328"W	0.00	
414.00†	0.000	168.148	414.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.328"W	0.00	
514.00†	0.000	168.148	514.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.328"W	0.00	
614.00†	0.000	168.148	614.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.328"W	0.00	
714.00†	0.000	168.148	714.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.328"W	0.00	
814.00†	0.000	168.148	814.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.328"W	0.00	
914.00†	0.000	168.148	914.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.328"W	0.00	
1014.00†	0.000	168.148	1014.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.328"W	0.00	
1114.00†	0.000	168.148	1114.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.328"W	0.00	
1214.00†	0.000	168.148	1214.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.328"W	0.00	
1314.00†	0.000	168.148	1314.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.328"W	0.00	
1414.00†	0.000	168.148	1414.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.328"W	0.00	
1514.00†	0.000	168.148	1514.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.328"W	0.00	
1614.00†	0.000	168.148	1614.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.328"W	0.00	
1700.00	0.000	168.148	1700.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.328"W	0.00	
1714.00†	0.280	168.148	1714.00	-0.03	-0.03	0.01	39°55'47.172"N	104°43'17.328"W	2.00	
1814.00†	2.280	168.148	1813.97	-2.20	-2.22	0.47	39°55'47.150"N	104°43'17.322"W	2.00	
1914.00†	4.280	168.148	1913.80	-7.75	-7.82	1.64	39°55'47.095"N	104°43'17.307"W	2.00	
2014.00†	6.280	168.148	2013.37	-16.68	-16.82	3.53	39°55'47.006"N	104°43'17.283"W	2.00	
2114.00†	8.280	168.148	2112.56	-28.98	-29.23	6.13	39°55'46.883"N	104°43'17.249"W	2.00	
2174.63	9.493	168.148	2172.46	-38.06	-38.39	8.06	39°55'46.793"N	104°43'17.225"W	2.00	
2214.00†	9.493	168.148	2211.29	-44.36	-44.75	9.39	39°55'46.730"N	104°43'17.207"W	0.00	
2314.00†	9.493	168.148	2309.92	-60.37	-60.89	12.78	39°55'46.570"N	104°43'17.164"W	0.00	
2414.00†	9.493	168.148	2408.55	-76.37	-77.03	16.16	39°55'46.411"N	104°43'17.121"W	0.00	
2514.00†	9.493	168.148	2507.18	-92.37	-93.17	19.55	39°55'46.251"N	104°43'17.077"W	0.00	
2614.00†	9.493	168.148	2605.82	-108.37	-109.31	22.94	39°55'46.092"N	104°43'17.034"W	0.00	
2714.00†	9.493	168.148	2704.45	-124.37	-125.45	26.33	39°55'45.932"N	104°43'16.990"W	0.00	
2814.00†	9.493	168.148	2803.08	-140.38	-141.59	29.71	39°55'45.773"N	104°43'16.947"W	0.00	
2914.00†	9.493	168.148	2901.71	-156.38	-157.73	33.10	39°55'45.613"N	104°43'16.903"W	0.00	
3014.00†	9.493	168.148	3000.34	-172.38	-173.87	36.49	39°55'45.454"N	104°43'16.860"W	0.00	
3114.00†	9.493	168.148	3098.97	-188.38	-190.01	39.87	39°55'45.294"N	104°43'16.816"W	0.00	
3214.00†	9.493	168.148	3197.60	-204.38	-206.15	43.26	39°55'45.135"N	104°43'16.773"W	0.00	
3314.00†	9.493	168.148	3296.23	-220.39	-222.29	46.65	39°55'44.975"N	104°43'16.729"W	0.00	
3414.00†	9.493	168.148	3394.86	-236.39	-238.43	50.04	39°55'44.816"N	104°43'16.686"W	0.00	
3514.00†	9.493	168.148	3493.49	-252.39	-254.57	53.42	39°55'44.656"N	104°43'16.642"W	0.00	
3614.00†	9.493	168.148	3592.12	-268.39	-270.71	56.81	39°55'44.497"N	104°43'16.599"W	0.00	
3714.00†	9.493	168.148	3690.75	-284.40	-286.85	60.20	39°55'44.337"N	104°43'16.555"W	0.00	
3814.00†	9.493	168.148	3789.38	-300.40	-302.99	63.58	39°55'44.178"N	104°43'16.512"W	0.00	
3914.00†	9.493	168.148	3888.01	-316.40	-319.13	66.97	39°55'44.018"N	104°43'16.468"W	0.00	
4014.00†	9.493	168.148	3986.65	-332.40	-335.27	70.36	39°55'43.859"N	104°43'16.425"W	0.00	
4114.00†	9.493	168.148	4085.28	-348.40	-351.41	73.75	39°55'43.699"N	104°43'16.381"W	0.00	



REFERENCE WELLPATH IDENTIFICATION			
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Area	COLORADO	Well	ALMA 1S-66-2524-7CDH
Field	ADAMS COUNTY	Wellbore	ALMA 1S-66-2524-7CDH PWB
Facility	SEC.25-T01S-R66W		

WELLPATH DATA (161 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4214.00†	9.493	168.148	4183.91	-364.41	-367.55	77.13	39°55'43.540"N	104°43'16.338"W	0.00	
4314.00†	9.493	168.148	4282.54	-380.41	-383.69	80.52	39°55'43.380"N	104°43'16.294"W	0.00	
4414.00†	9.493	168.148	4381.17	-396.41	-399.83	83.91	39°55'43.221"N	104°43'16.251"W	0.00	
4514.00†	9.493	168.148	4479.80	-412.41	-415.97	87.29	39°55'43.061"N	104°43'16.207"W	0.00	
4614.00†	9.493	168.148	4578.43	-428.42	-432.11	90.68	39°55'42.902"N	104°43'16.164"W	0.00	
4714.00†	9.493	168.148	4677.06	-444.42	-448.25	94.07	39°55'42.742"N	104°43'16.121"W	0.00	
4814.00†	9.493	168.148	4775.69	-460.42	-464.39	97.46	39°55'42.583"N	104°43'16.077"W	0.00	
4914.00†	9.493	168.148	4874.32	-476.42	-480.53	100.84	39°55'42.423"N	104°43'16.034"W	0.00	
5014.00†	9.493	168.148	4972.95	-492.42	-496.67	104.23	39°55'42.264"N	104°43'15.990"W	0.00	
5114.00†	9.493	168.148	5071.58	-508.43	-512.81	107.62	39°55'42.104"N	104°43'15.947"W	0.00	
5214.00†	9.493	168.148	5170.21	-524.43	-528.95	111.00	39°55'41.945"N	104°43'15.903"W	0.00	
5314.00†	9.493	168.148	5268.84	-540.43	-545.09	114.39	39°55'41.785"N	104°43'15.860"W	0.00	
5414.00†	9.493	168.148	5367.48	-556.43	-561.23	117.78	39°55'41.626"N	104°43'15.816"W	0.00	
5514.00†	9.493	168.148	5466.11	-572.44	-577.38	121.17	39°55'41.466"N	104°43'15.773"W	0.00	
5614.00†	9.493	168.148	5564.74	-588.44	-593.52	124.55	39°55'41.307"N	104°43'15.729"W	0.00	
5714.00†	9.493	168.148	5663.37	-604.44	-609.66	127.94	39°55'41.147"N	104°43'15.686"W	0.00	
5814.00†	9.493	168.148	5762.00	-620.44	-625.80	131.33	39°55'40.988"N	104°43'15.642"W	0.00	
5914.00†	9.493	168.148	5860.63	-636.44	-641.94	134.71	39°55'40.828"N	104°43'15.599"W	0.00	
6014.00†	9.493	168.148	5959.26	-652.45	-658.08	138.10	39°55'40.669"N	104°43'15.555"W	0.00	
6114.00†	9.493	168.148	6057.89	-668.45	-674.22	141.49	39°55'40.509"N	104°43'15.512"W	0.00	
6214.00†	9.493	168.148	6156.52	-684.45	-690.36	144.88	39°55'40.350"N	104°43'15.468"W	0.00	
6314.00†	9.493	168.148	6255.15	-700.45	-706.50	148.26	39°55'40.190"N	104°43'15.425"W	0.00	
6414.00†	9.493	168.148	6353.78	-716.45	-722.64	151.65	39°55'40.031"N	104°43'15.381"W	0.00	
6514.00†	9.493	168.148	6452.41	-732.46	-738.78	155.04	39°55'39.871"N	104°43'15.338"W	0.00	
6614.00†	9.493	168.148	6551.04	-748.46	-754.92	158.43	39°55'39.712"N	104°43'15.294"W	0.00	
6714.00†	9.493	168.148	6649.67	-764.46	-771.06	161.81	39°55'39.552"N	104°43'15.251"W	0.00	
6814.00†	9.493	168.148	6748.31	-780.46	-787.20	165.20	39°55'39.393"N	104°43'15.207"W	0.00	
6914.00†	9.493	168.148	6846.94	-796.47	-803.34	168.59	39°55'39.233"N	104°43'15.164"W	0.00	
7014.00†	9.493	168.148	6945.57	-812.47	-819.48	171.97	39°55'39.074"N	104°43'15.121"W	0.00	
7114.00†	9.493	168.148	7044.20	-828.47	-835.62	175.36	39°55'38.914"N	104°43'15.077"W	0.00	
7130.23	9.493	168.148	7060.21	-831.07	-838.24	175.91	39°55'38.888"N	104°43'15.070"W	0.00	
7214.00†	2.236	114.080	7143.52	-838.39	-845.68	178.83	39°55'38.815"N	104°43'15.033"W	10.00	
7314.00†	9.332	13.080	7243.07	-831.14	-838.56	182.45	39°55'38.885"N	104°43'14.986"W	10.00	
7414.00†	19.212	6.397	7339.87	-806.71	-814.25	186.13	39°55'39.125"N	104°43'14.939"W	10.00	
7514.00†	29.172	4.179	7430.98	-765.85	-773.49	189.75	39°55'39.528"N	104°43'14.892"W	10.00	
7614.00†	39.151	3.023	7513.62	-709.78	-717.52	193.20	39°55'40.081"N	104°43'14.848"W	10.00	
7714.00†	49.138	2.278	7585.29	-640.23	-648.03	196.37	39°55'40.768"N	104°43'14.807"W	10.00	
7814.00†	59.128	1.730	7643.80	-559.29	-567.15	199.18	39°55'41.567"N	104°43'14.771"W	10.00	
7914.00†	69.120	1.286	7687.39	-469.44	-477.32	201.53	39°55'42.455"N	104°43'14.741"W	10.00	
8014.00†	79.113	0.898	7714.72	-373.40	-381.27	203.35	39°55'43.404"N	104°43'14.718"W	10.00	
8114.00†	89.107	0.536	7724.97	-274.08	-281.94	204.59	39°55'44.386"N	104°43'14.702"W	10.00	
8130.01	90.707	0.479	7725.00†	-258.08	-265.93	204.73	39°55'44.544"N	104°43'14.700"W	10.00	
8214.00†	90.707	0.479	7723.96	-174.13	-181.95	205.43	39°55'45.374"N	104°43'14.691"W	0.00	
8314.00†	90.707	0.479	7722.73	-74.18	-81.96	206.27	39°55'46.362"N	104°43'14.680"W	0.00	
8414.00†	90.707	0.479	7721.50	25.77	18.03	207.10	39°55'47.350"N	104°43'14.670"W	0.00	



REFERENCE WELLPATH IDENTIFICATION			
Operator	HRM RESOURCES	Slot	SLOT#07 ALMA 1S-66-2524-7CDH (337'FSL & 1934'FEL, SEC.25)
Area	COLORADO	Well	ALMA 1S-66-2524-7CDH
Field	ADAMS COUNTY	Wellbore	ALMA 1S-66-2524-7CDH PWB
Facility	SEC.25-T01S-R66W		

WELLPATH DATA (161 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8514.00†	90.707	0.479	7720.26	125.72	118.02	207.94	39°55'48.338"N	104°43'14.659"W	0.00	
8614.00†	90.707	0.479	7719.03	225.67	218.01	208.77	39°55'49.326"N	104°43'14.648"W	0.00	
8714.00†	90.707	0.479	7717.80	325.62	318.00	209.61	39°55'50.315"N	104°43'14.637"W	0.00	
8814.00†	90.707	0.479	7716.56	425.57	417.99	210.44	39°55'51.303"N	104°43'14.627"W	0.00	
8914.00†	90.707	0.479	7715.33	525.52	517.98	211.28	39°55'52.291"N	104°43'14.616"W	0.00	
9014.00†	90.707	0.479	7714.10	625.47	617.96	212.11	39°55'53.279"N	104°43'14.605"W	0.00	
9114.00†	90.707	0.479	7712.86	725.42	717.95	212.95	39°55'54.267"N	104°43'14.594"W	0.00	
9214.00†	90.707	0.479	7711.63	825.37	817.94	213.78	39°55'55.255"N	104°43'14.584"W	0.00	
9314.00†	90.707	0.479	7710.40	925.32	917.93	214.62	39°55'56.243"N	104°43'14.573"W	0.00	
9414.00†	90.707	0.479	7709.16	1025.27	1017.92	215.46	39°55'57.232"N	104°43'14.562"W	0.00	
9514.00†	90.707	0.479	7707.93	1125.22	1117.91	216.29	39°55'58.220"N	104°43'14.551"W	0.00	
9614.00†	90.707	0.479	7706.70	1225.17	1217.90	217.13	39°55'59.208"N	104°43'14.541"W	0.00	
9714.00†	90.707	0.479	7705.46	1325.12	1317.89	217.96	39°56'00.196"N	104°43'14.530"W	0.00	
9814.00†	90.707	0.479	7704.23	1425.07	1417.88	218.80	39°56'01.184"N	104°43'14.519"W	0.00	
9914.00†	90.707	0.479	7702.99	1525.02	1517.86	219.63	39°56'02.172"N	104°43'14.509"W	0.00	
10014.00†	90.707	0.479	7701.76	1624.97	1617.85	220.47	39°56'03.160"N	104°43'14.498"W	0.00	
10114.00†	90.707	0.479	7700.53	1724.92	1717.84	221.30	39°56'04.148"N	104°43'14.487"W	0.00	
10214.00†	90.707	0.479	7699.29	1824.87	1817.83	222.14	39°56'05.137"N	104°43'14.476"W	0.00	
10314.00†	90.707	0.479	7698.06	1924.82	1917.82	222.97	39°56'06.125"N	104°43'14.466"W	0.00	
10414.00†	90.707	0.479	7696.83	2024.77	2017.81	223.81	39°56'07.113"N	104°43'14.455"W	0.00	
10514.00†	90.707	0.479	7695.59	2124.72	2117.80	224.64	39°56'08.101"N	104°43'14.444"W	0.00	
10614.00†	90.707	0.479	7694.36	2224.67	2217.79	225.48	39°56'09.089"N	104°43'14.433"W	0.00	
10714.00†	90.707	0.479	7693.13	2324.62	2317.78	226.31	39°56'10.077"N	104°43'14.423"W	0.00	
10814.00†	90.707	0.479	7691.89	2424.57	2417.77	227.15	39°56'11.065"N	104°43'14.412"W	0.00	
10914.00†	90.707	0.479	7690.66	2524.52	2517.75	227.98	39°56'12.054"N	104°43'14.401"W	0.00	
11014.00†	90.707	0.479	7689.43	2624.47	2617.74	228.82	39°56'13.042"N	104°43'14.390"W	0.00	
11114.00†	90.707	0.479	7688.19	2724.42	2717.73	229.65	39°56'14.030"N	104°43'14.380"W	0.00	
11214.00†	90.707	0.479	7686.96	2824.37	2817.72	230.49	39°56'15.018"N	104°43'14.369"W	0.00	
11314.00†	90.707	0.479	7685.73	2924.32	2917.71	231.33	39°56'16.006"N	104°43'14.358"W	0.00	
11414.00†	90.707	0.479	7684.49	3024.27	3017.70	232.16	39°56'16.994"N	104°43'14.348"W	0.00	
11514.00†	90.707	0.479	7683.26	3124.22	3117.69	233.00	39°56'17.982"N	104°43'14.337"W	0.00	
11614.00†	90.707	0.479	7682.03	3224.17	3217.68	233.83	39°56'18.970"N	104°43'14.326"W	0.00	
11714.00†	90.707	0.479	7680.79	3324.12	3317.67	234.67	39°56'19.959"N	104°43'14.315"W	0.00	
11814.00†	90.707	0.479	7679.56	3424.07	3417.65	235.50	39°56'20.947"N	104°43'14.305"W	0.00	
11914.00†	90.707	0.479	7678.33	3524.02	3517.64	236.34	39°56'21.935"N	104°43'14.294"W	0.00	
12014.00†	90.707	0.479	7677.09	3623.97	3617.63	237.17	39°56'22.923"N	104°43'14.283"W	0.00	
12114.00†	90.707	0.479	7675.86	3723.92	3717.62	238.01	39°56'23.911"N	104°43'14.272"W	0.00	
12214.00†	90.707	0.479	7674.63	3823.87	3817.61	238.84	39°56'24.899"N	104°43'14.262"W	0.00	
12314.00†	90.707	0.479	7673.39	3923.82	3917.60	239.68	39°56'25.887"N	104°43'14.251"W	0.00	
12414.00†	90.707	0.479	7672.16	4023.77	4017.59	240.51	39°56'26.876"N	104°43'14.240"W	0.00	
12514.00†	90.707	0.479	7670.92	4123.72	4117.58	241.35	39°56'27.864"N	104°43'14.229"W	0.00	
12614.00†	90.707	0.479	7669.69	4223.67	4217.57	242.18	39°56'28.852"N	104°43'14.219"W	0.00	
12714.00†	90.707	0.479	7668.46	4323.63	4317.55	243.02	39°56'29.840"N	104°43'14.208"W	0.00	
12814.00†	90.707	0.479	7667.22	4423.58	4417.54	243.85	39°56'30.828"N	104°43'14.197"W	0.00	
12914.00†	90.707	0.479	7665.99	4523.53	4517.53	244.69	39°56'31.816"N	104°43'14.186"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	HRM RESOURCES	Slot	SLOT#07 ALMA 1S-66-2524-7CDH (337'FSL & 1934'FEL, SEC.25)
Area	COLORADO	Well	ALMA 1S-66-2524-7CDH
Field	ADAMS COUNTY	Wellbore	ALMA 1S-66-2524-7CDH PWB
Facility	SEC.25-T01S-R66W		

WELLPATH DATA (161 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Latitude	Longitude	DLS [°/100ft]	Comments
13014.00†	90.707	0.479	7664.76	4623.48	4617.52	245.52	39°56'32.804"N	104°43'14.176"W	0.00	
13114.00†	90.707	0.479	7663.52	4723.43	4717.51	246.36	39°56'33.792"N	104°43'14.165"W	0.00	
13214.00†	90.707	0.479	7662.29	4823.38	4817.50	247.19	39°56'34.781"N	104°43'14.154"W	0.00	
13314.00†	90.707	0.479	7661.06	4923.33	4917.49	248.03	39°56'35.769"N	104°43'14.144"W	0.00	
13414.00†	90.707	0.479	7659.82	5023.28	5017.48	248.87	39°56'36.757"N	104°43'14.133"W	0.00	
13514.00†	90.707	0.479	7658.59	5123.23	5117.47	249.70	39°56'37.745"N	104°43'14.122"W	0.00	
13614.00†	90.707	0.479	7657.36	5223.18	5217.45	250.54	39°56'38.733"N	104°43'14.111"W	0.00	
13714.00†	90.707	0.479	7656.12	5323.13	5317.44	251.37	39°56'39.721"N	104°43'14.101"W	0.00	
13814.00†	90.707	0.479	7654.89	5423.08	5417.43	252.21	39°56'40.709"N	104°43'14.090"W	0.00	
13914.00†	90.707	0.479	7653.66	5523.03	5517.42	253.04	39°56'41.698"N	104°43'14.079"W	0.00	
14014.00†	90.707	0.479	7652.42	5622.98	5617.41	253.88	39°56'42.686"N	104°43'14.068"W	0.00	
14114.00†	90.707	0.479	7651.19	5722.93	5717.40	254.71	39°56'43.674"N	104°43'14.058"W	0.00	
14214.00†	90.707	0.479	7649.96	5822.88	5817.39	255.55	39°56'44.662"N	104°43'14.047"W	0.00	
14314.00†	90.707	0.479	7648.72	5922.83	5917.38	256.38	39°56'45.650"N	104°43'14.036"W	0.00	
14414.00†	90.707	0.479	7647.49	6022.78	6017.37	257.22	39°56'46.638"N	104°43'14.025"W	0.00	
14514.00†	90.707	0.479	7646.26	6122.73	6117.35	258.05	39°56'47.626"N	104°43'14.015"W	0.00	
14614.00†	90.707	0.479	7645.02	6222.68	6217.34	258.89	39°56'48.614"N	104°43'14.004"W	0.00	
14714.00†	90.707	0.479	7643.79	6322.63	6317.33	259.72	39°56'49.603"N	104°43'13.993"W	0.00	
14814.00†	90.707	0.479	7642.55	6422.58	6417.32	260.56	39°56'50.591"N	104°43'13.982"W	0.00	
14914.00†	90.707	0.479	7641.32	6522.53	6517.31	261.39	39°56'51.579"N	104°43'13.972"W	0.00	
15014.00†	90.707	0.479	7640.09	6622.48	6617.30	262.23	39°56'52.567"N	104°43'13.961"W	0.00	
15114.00†	90.707	0.479	7638.85	6722.43	6717.29	263.06	39°56'53.555"N	104°43'13.950"W	0.00	
15214.00†	90.707	0.479	7637.62	6822.38	6817.28	263.90	39°56'54.543"N	104°43'13.940"W	0.00	
15314.00†	90.707	0.479	7636.39	6922.33	6917.27	264.74	39°56'55.531"N	104°43'13.929"W	0.00	
15414.00†	90.707	0.479	7635.15	7022.28	7017.25	265.57	39°56'56.520"N	104°43'13.918"W	0.00	
15507.56	90.707	0.479	7634.00 ²	7115.79	7110.80	266.35	39°56'57.444"N	104°43'13.908"W	0.00	

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		-2.00	0.00	89.74	3218416.71	1218223.15	39°55'47.172"N	104°43'16.176"W	polygon	
SEC.24-T1S-R66W SOUTH 1/2 SECTION		-2.00	0.00	89.74	3218416.71	1218223.15	39°55'47.172"N	104°43'16.176"W	polygon	
SEC.25-T1S-R66W		-2.00	0.00	89.74	3218416.71	1218223.15	39°55'47.172"N	104°43'16.176"W	polygon	
2) ALMA 1S-66-2524-7CDH BHL ON PLAT (2160'FSL & 1670'FEL, SEC.24)	15507.56	7634.00	7110.80	266.35	3218530.88	1225335.02	39°56'57.444"N	104°43'13.908"W	point	
1) ALMA 1S-66-2524-7CDH ENTRY POINT	8130.01	7725.00	-265.93	204.73	3218534.02	1217958.25	39°55'44.544"N	104°43'14.700"W	point	
SEC.24/25-T1S-R66W HARDLINES (460'FNL 1/2 SEC.24)		7798.00	0.00	89.74	3218416.71	1218223.15	39°55'47.172"N	104°43'16.176"W	polygon	



Resources Limited

Planned Wellpath Report

ALMA 1S-66-2524-7CDH PWP (REV-A.0)

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BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	HRM RESOURCES	Slot	SLOT#07 ALMA 1S-66-2524-7CDH (337'FSL & 1934'FEL, SEC.25)
Area	COLORADO	Well	ALMA 1S-66-2524-7CDH
Field	ADAMS COUNTY	Wellbore	ALMA 1S-66-2524-7CDH PWB
Facility	SEC.25-T01S-R66W		

SURVEY PROGRAM -				
Ref Wellbore: ALMA 1S-66-2524-7CDH PWB		Ref Wellpath: ALMA 1S-66-2524-7CDH PWP (REV-A.0)		
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
14.00	15507.56	Custom BHI AutoTrak Curve (Axial Corr, Short spacing) (Rockies 0.03Gt model)		ALMA 1S-66-2524-7CDH PWB



Resources Limited

Planned Wellpath Report

ALMA 1S-66-2524-7CDH PWP (REV-A.0)

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REFERENCE WELLPATH IDENTIFICATION

Operator	HRM RESOURCES	Slot	SLOT#07 ALMA 1S-66-2524-7CDH (337'FSL & 1934'FEL, SEC.25)
Area	COLORADO	Well	ALMA 1S-66-2524-7CDH
Field	ADAMS COUNTY	Wellbore	ALMA 1S-66-2524-7CDH PWB
Facility	SEC.25-T01S-R66W		

DESIGN COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
14.00	0.000	168.148	14.00	Tie On
1700.00	0.000	168.148	1700.00	End of Tangent
2174.63	9.493	168.148	2172.46	End of Build
7130.23	9.493	168.148	7060.21	End of Tangent
8130.01	90.707	0.479	7725.00	End of 3D Arc
15507.56	90.707	0.479	7634.00	End of Tangent