

HRM RESOURCES

Location: COLORADO Slot: SLOT#08 ALMA 1S-66-2524-8NH (337'FSL & 1949'FEL, SEC.25)
Field: ADAMS COUNTY Well: ALMA 1S-66-2524-8NH
Facility: SEC.25-T01S-R66W Wellbore: ALMA 1S-66-2524-8NH PWB

Plot reference wellpath is ALMA 1S-66-2524-8NH 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: 5193 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#08 ALMA 1S-66-2524-8NH (337'FSL & 1949'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_Data

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#08 ALMA 1S-66-2524-8NH (337'FSL & 1949'FEL, SEC.25)	0.00	-103.77	3218312.952	1218222.239	39°55'47.172"N	104°43'17.508"W
RIG (RKB) to Mud line (At Slot: SLOT#08 ALMA 1S-66-2524-8NH (337'FSL & 1949'FEL, SEC.25))					5193ft	
Mean Sea Level to Mud line (At Slot: SLOT#08 ALMA 1S-66-2524-8NH (337'FSL & 1949'FEL, SEC.25))					0ft	
RIG (RKB) to Mean Sea Level					5193ft	

Well Profile Data

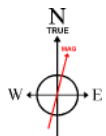
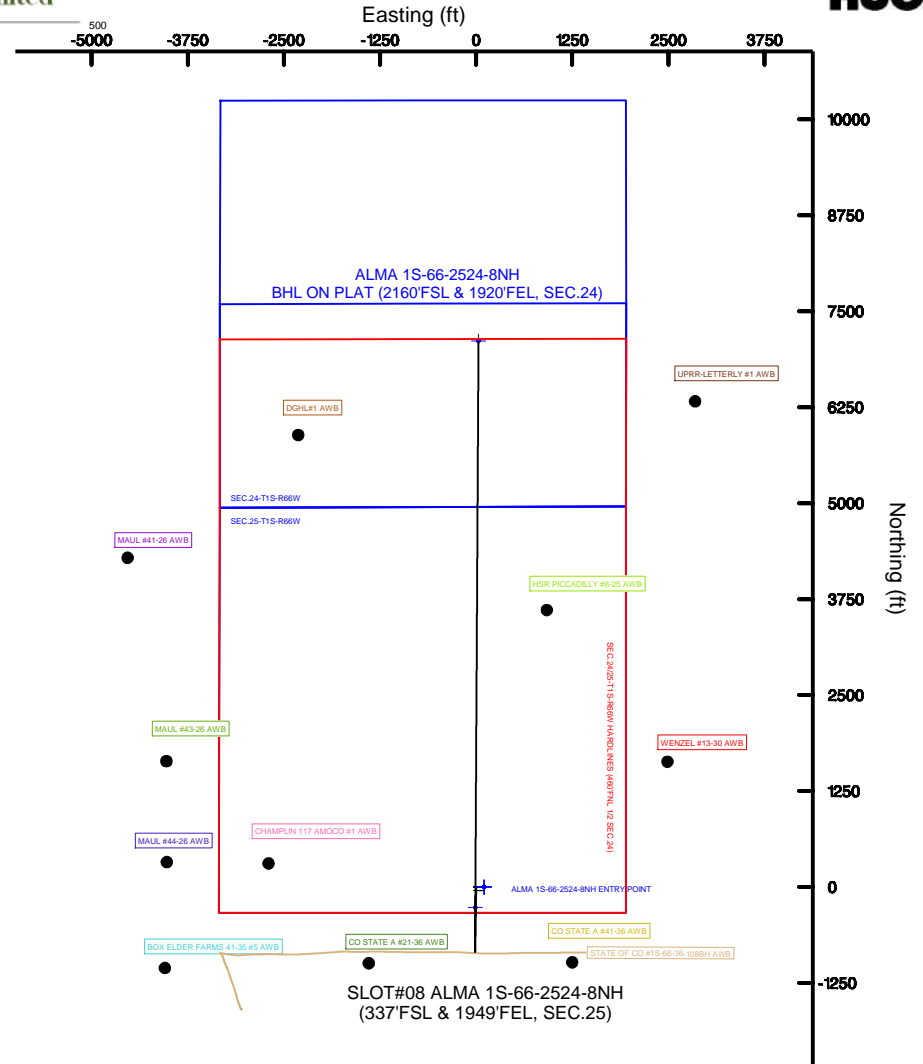
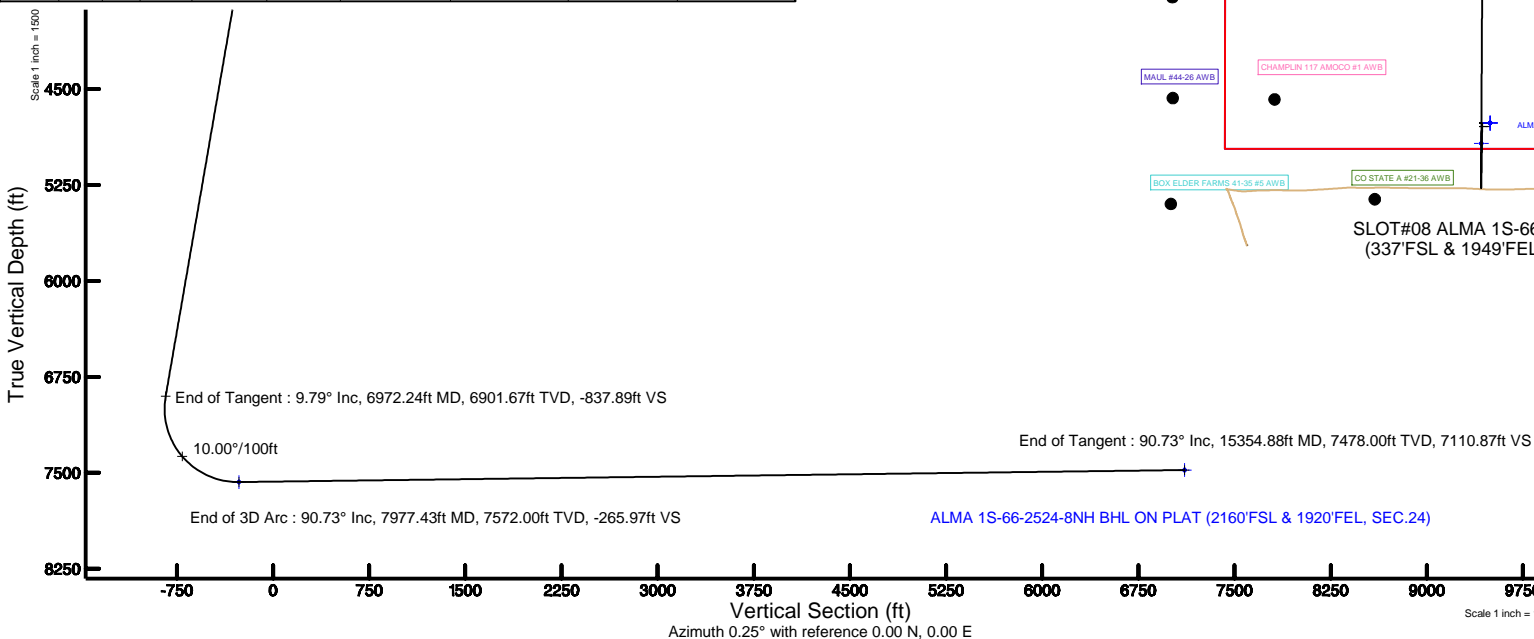
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	14.00	0.000	180.909	14.00	0.00	0.00	0.00	0.00
End of Tangent	1800.00	0.000	180.909	1800.00	0.00	0.00	0.00	0.00
End of Build	2289.49	9.790	180.909	2287.11	-41.71	-0.66	2.00	-41.71
End of Tangent	6972.24	9.790	180.909	6901.67	-837.84	-13.29	0.00	-837.89
End of 3D Arc	7977.43	90.730	0.327	7572.00	-265.93	-11.22	10.00	-265.97
End of Tangent	15354.88	90.730	0.327	7478.00	7110.80	30.84	0.00	7110.87

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		-3.00	0.00	103.77	3218416.71	1218223.15	39°55'47.172"N	104°43'16.176"W
SEC.24-T1S-R66W SOUTH 1/2 SECTION		-3.00	0.00	103.77	3218416.71	1218223.15	39°55'47.172"N	104°43'16.176"W
SEC.25-T1S-R66W		-2.00	0.00	103.77	3218416.71	1218223.15	39°55'47.172"N	104°43'16.176"W
ALMA 1S-66-2524-8NH BHL ON PLAT (2160'FSL & 1920'FEL, SEC.24)	10354.88	7478.00	7110.80	30.84	3218281.37	1225332.82	39°56'57.444"N	104°43'17.112"W
ALMA 1S-66-2524-8NH ENTRY POINT	7977.43	7572.00	-265.93	-11.22	3218304.07	1217956.25	39°55'44.544"N	104°43'17.652"W
SEC.24/25-T1S-R66W HARDLINE (460'FSL 1/2 SEC.24)		7796.00	0.00	103.77	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
15354.88	90.730	0.327	7478.00	7110.80	30.84	3218281.37	1225332.82	39°56'57.444"N	104°43'17.112"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



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Planned Wellpath Report

ALMA 1S-66-2524-8NH PWP (REV-A.0)

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REFERENCE WELLPATH IDENTIFICATION

Operator	HRM RESOURCES	Slot	SLOT#08 ALMA 1S-66-2524-8NH (337'FSL & 1949'FEL, SEC.25)
Area	COLORADO	Well	ALMA 1S-66-2524-8NH
Field	ADAMS COUNTY	Wellbore	ALMA 1S-66-2524-8NH 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 12:38:59 PM
Convergence at slot	0.51° East	Database/Source file	WA_DEN_Denver_Defn/ALMA_1S-66-2524-8NH_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	-103.77	3218312.95	1218222.24	39°55'47.172"N	104°43'17.508"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#08 ALMA 1S-66-2524-8NH (337'FSL & 1949'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	0.25°



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REFERENCE WELLPATH IDENTIFICATION

Operator	HRM RESOURCES	Slot	SLOT#08 ALMA 1S-66-2524-8NH (337'FSL & 1949'FEL, SEC.25)
Area	COLORADO	Well	ALMA 1S-66-2524-8NH
Field	ADAMS COUNTY	Wellbore	ALMA 1S-66-2524-8NH 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	180.909	0.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.508"W	0.00	
14.00	0.000	180.909	14.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.508"W	0.00	Tie On
114.00†	0.000	180.909	114.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.508"W	0.00	
214.00†	0.000	180.909	214.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.508"W	0.00	
314.00†	0.000	180.909	314.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.508"W	0.00	
414.00†	0.000	180.909	414.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.508"W	0.00	
514.00†	0.000	180.909	514.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.508"W	0.00	
614.00†	0.000	180.909	614.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.508"W	0.00	
714.00†	0.000	180.909	714.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.508"W	0.00	
814.00†	0.000	180.909	814.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.508"W	0.00	
914.00†	0.000	180.909	914.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.508"W	0.00	
1014.00†	0.000	180.909	1014.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.508"W	0.00	
1114.00†	0.000	180.909	1114.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.508"W	0.00	
1214.00†	0.000	180.909	1214.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.508"W	0.00	
1314.00†	0.000	180.909	1314.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.508"W	0.00	
1414.00†	0.000	180.909	1414.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.508"W	0.00	
1514.00†	0.000	180.909	1514.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.508"W	0.00	
1614.00†	0.000	180.909	1614.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.508"W	0.00	
1714.00†	0.000	180.909	1714.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.508"W	0.00	
1800.00	0.000	180.909	1800.00	0.00	0.00	0.00	39°55'47.172"N	104°43'17.508"W	0.00	End of Tangent
1814.00†	0.280	180.909	1814.00	-0.03	-0.03	0.00	39°55'47.172"N	104°43'17.508"W	2.00	
1914.00†	2.280	180.909	1913.97	-2.27	-2.27	-0.04	39°55'47.150"N	104°43'17.508"W	2.00	
2014.00†	4.280	180.909	2013.80	-7.99	-7.99	-0.13	39°55'47.093"N	104°43'17.510"W	2.00	
2114.00†	6.280	180.909	2113.37	-17.19	-17.19	-0.27	39°55'47.002"N	104°43'17.511"W	2.00	
2214.00†	8.280	180.909	2212.56	-29.86	-29.86	-0.47	39°55'46.877"N	104°43'17.514"W	2.00	
2289.49	9.790	180.909	2287.11	-41.71	-41.71	-0.66	39°55'46.760"N	104°43'17.516"W	2.00	End of Build
2314.00†	9.790	180.909	2311.26	-45.88	-45.88	-0.73	39°55'46.719"N	104°43'17.517"W	0.00	
2414.00†	9.790	180.909	2409.81	-62.88	-62.88	-1.00	39°55'46.551"N	104°43'17.521"W	0.00	
2514.00†	9.790	180.909	2508.35	-79.89	-79.88	-1.27	39°55'46.383"N	104°43'17.524"W	0.00	
2614.00†	9.790	180.909	2606.90	-96.89	-96.88	-1.54	39°55'46.215"N	104°43'17.528"W	0.00	
2714.00†	9.790	180.909	2705.44	-113.89	-113.88	-1.81	39°55'46.047"N	104°43'17.531"W	0.00	
2814.00†	9.790	180.909	2803.98	-130.89	-130.88	-2.08	39°55'45.879"N	104°43'17.535"W	0.00	
2914.00†	9.790	180.909	2902.53	-147.89	-147.89	-2.35	39°55'45.711"N	104°43'17.538"W	0.00	
3014.00†	9.790	180.909	3001.07	-164.90	-164.89	-2.62	39°55'45.543"N	104°43'17.542"W	0.00	
3114.00†	9.790	180.909	3099.62	-181.90	-181.89	-2.88	39°55'45.374"N	104°43'17.545"W	0.00	
3214.00†	9.790	180.909	3198.16	-198.90	-198.89	-3.15	39°55'45.206"N	104°43'17.548"W	0.00	
3314.00†	9.790	180.909	3296.70	-215.90	-215.89	-3.42	39°55'45.038"N	104°43'17.552"W	0.00	
3414.00†	9.790	180.909	3395.25	-232.91	-232.89	-3.69	39°55'44.870"N	104°43'17.555"W	0.00	
3514.00†	9.790	180.909	3493.79	-249.91	-249.89	-3.96	39°55'44.702"N	104°43'17.559"W	0.00	
3614.00†	9.790	180.909	3592.33	-266.91	-266.90	-4.23	39°55'44.534"N	104°43'17.562"W	0.00	
3714.00†	9.790	180.909	3690.88	-283.91	-283.90	-4.50	39°55'44.366"N	104°43'17.566"W	0.00	
3814.00†	9.790	180.909	3789.42	-300.92	-300.90	-4.77	39°55'44.198"N	104°43'17.569"W	0.00	
3914.00†	9.790	180.909	3887.97	-317.92	-317.90	-5.04	39°55'44.030"N	104°43'17.573"W	0.00	
4014.00†	9.790	180.909	3986.51	-334.92	-334.90	-5.31	39°55'43.862"N	104°43'17.576"W	0.00	
4114.00†	9.790	180.909	4085.05	-351.92	-351.90	-5.58	39°55'43.694"N	104°43'17.580"W	0.00	



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Planned Wellpath Report

ALMA 1S-66-2524-8NH PWP (REV-A.0)

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REFERENCE WELLPATH IDENTIFICATION

Operator	HRM RESOURCES	Slot	SLOT#08 ALMA 1S-66-2524-8NH (337'FSL & 1949'FEL, SEC.25)
Area	COLORADO	Well	ALMA 1S-66-2524-8NH
Field	ADAMS COUNTY	Wellbore	ALMA 1S-66-2524-8NH 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†	9.790	180.909	4183.60	-368.92	-368.90	-5.85	39°55'43.526"N	104°43'17.583"W	0.00	
4314.00†	9.790	180.909	4282.14	-385.93	-385.90	-6.12	39°55'43.358"N	104°43'17.587"W	0.00	
4414.00†	9.790	180.909	4380.68	-402.93	-402.91	-6.39	39°55'43.190"N	104°43'17.590"W	0.00	
4514.00†	9.790	180.909	4479.23	-419.93	-419.91	-6.66	39°55'43.022"N	104°43'17.593"W	0.00	
4614.00†	9.790	180.909	4577.77	-436.93	-436.91	-6.93	39°55'42.854"N	104°43'17.597"W	0.00	
4714.00†	9.790	180.909	4676.32	-453.94	-453.91	-7.20	39°55'42.686"N	104°43'17.600"W	0.00	
4814.00†	9.790	180.909	4774.86	-470.94	-470.91	-7.47	39°55'42.518"N	104°43'17.604"W	0.00	
4914.00†	9.790	180.909	4873.40	-487.94	-487.91	-7.74	39°55'42.350"N	104°43'17.607"W	0.00	
5014.00†	9.790	180.909	4971.95	-504.94	-504.91	-8.01	39°55'42.182"N	104°43'17.611"W	0.00	
5114.00†	9.790	180.909	5070.49	-521.95	-521.91	-8.28	39°55'42.014"N	104°43'17.614"W	0.00	
5214.00†	9.790	180.909	5169.04	-538.95	-538.92	-8.55	39°55'41.846"N	104°43'17.618"W	0.00	
5314.00†	9.790	180.909	5267.58	-555.95	-555.92	-8.82	39°55'41.678"N	104°43'17.621"W	0.00	
5414.00†	9.790	180.909	5366.12	-572.95	-572.92	-9.09	39°55'41.510"N	104°43'17.625"W	0.00	
5514.00†	9.790	180.909	5464.67	-589.95	-589.92	-9.36	39°55'41.342"N	104°43'17.628"W	0.00	
5614.00†	9.790	180.909	5563.21	-606.96	-606.92	-9.63	39°55'41.174"N	104°43'17.632"W	0.00	
5714.00†	9.790	180.909	5661.75	-623.96	-623.92	-9.90	39°55'41.006"N	104°43'17.635"W	0.00	
5814.00†	9.790	180.909	5760.30	-640.96	-640.92	-10.17	39°55'40.838"N	104°43'17.638"W	0.00	
5914.00†	9.790	180.909	5858.84	-657.96	-657.92	-10.44	39°55'40.670"N	104°43'17.642"W	0.00	
6014.00†	9.790	180.909	5957.39	-674.97	-674.93	-10.70	39°55'40.502"N	104°43'17.645"W	0.00	
6114.00†	9.790	180.909	6055.93	-691.97	-691.93	-10.97	39°55'40.334"N	104°43'17.649"W	0.00	
6214.00†	9.790	180.909	6154.47	-708.97	-708.93	-11.24	39°55'40.166"N	104°43'17.652"W	0.00	
6314.00†	9.790	180.909	6253.02	-725.97	-725.93	-11.51	39°55'39.998"N	104°43'17.656"W	0.00	
6414.00†	9.790	180.909	6351.56	-742.98	-742.93	-11.78	39°55'39.830"N	104°43'17.659"W	0.00	
6514.00†	9.790	180.909	6450.11	-759.98	-759.93	-12.05	39°55'39.662"N	104°43'17.663"W	0.00	
6614.00†	9.790	180.909	6548.65	-776.98	-776.93	-12.32	39°55'39.494"N	104°43'17.666"W	0.00	
6714.00†	9.790	180.909	6647.19	-793.98	-793.94	-12.59	39°55'39.326"N	104°43'17.670"W	0.00	
6814.00†	9.790	180.909	6745.74	-810.98	-810.94	-12.86	39°55'39.158"N	104°43'17.673"W	0.00	
6914.00†	9.790	180.909	6844.28	-827.99	-827.94	-13.13	39°55'38.990"N	104°43'17.677"W	0.00	
6972.24	9.790	180.909	6901.67	-837.89	-837.84	-13.29	39°55'38.892"N	104°43'17.679"W	0.00	End of Tangent
7014.00†	5.614	181.349	6943.05	-843.48	-843.43	-13.39	39°55'38.837"N	104°43'17.680"W	10.00	
7114.00†	4.388	359.014	7042.91	-844.55	-844.50	-13.57	39°55'38.826"N	104°43'17.682"W	10.00	
7214.00†	14.387	359.933	7141.45	-828.26	-828.21	-13.66	39°55'38.987"N	104°43'17.683"W	10.00	
7314.00†	24.387	0.103	7235.66	-795.11	-795.06	-13.63	39°55'39.315"N	104°43'17.683"W	10.00	
7414.00†	34.387	0.178	7322.68	-746.10	-746.05	-13.51	39°55'39.799"N	104°43'17.681"W	10.00	
7514.00†	44.387	0.223	7399.87	-682.73	-682.68	-13.28	39°55'40.425"N	104°43'17.678"W	10.00	
7614.00†	54.387	0.253	7464.88	-606.91	-606.86	-12.97	39°55'41.175"N	104°43'17.674"W	10.00	
7714.00†	64.387	0.277	7515.74	-520.96	-520.91	-12.57	39°55'42.024"N	104°43'17.669"W	10.00	
7814.00†	74.387	0.297	7550.90	-427.48	-427.43	-12.10	39°55'42.948"N	104°43'17.663"W	10.00	
7914.00†	84.387	0.315	7569.30	-329.32	-329.27	-11.57	39°55'43.918"N	104°43'17.657"W	10.00	
7977.43	90.730	0.327	7572.00†	-265.97	-265.93	-11.22	39°55'44.544"N	104°43'17.652"W	10.00	End of 3D Arc
8014.00†	90.730	0.327	7571.53	-229.41	-229.36	-11.01	39°55'44.905"N	104°43'17.649"W	0.00	
8114.00†	90.730	0.327	7570.26	-129.42	-129.37	-10.44	39°55'45.893"N	104°43'17.642"W	0.00	
8214.00†	90.730	0.327	7568.99	-29.43	-29.38	-9.87	39°55'46.882"N	104°43'17.635"W	0.00	
8314.00†	90.730	0.327	7567.71	70.57	70.61	-9.30	39°55'47.870"N	104°43'17.627"W	0.00	
8414.00†	90.730	0.327	7566.44	170.56	170.60	-8.73	39°55'48.858"N	104°43'17.620"W	0.00	



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Planned Wellpath Report

ALMA 1S-66-2524-8NH PWP (REV-A.0)

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**BAKER
HUGHES**

REFERENCE WELLPATH IDENTIFICATION

Operator	HRM RESOURCES	Slot	SLOT#08 ALMA 1S-66-2524-8NH (337'FSL & 1949'FEL, SEC.25)
Area	COLORADO	Well	ALMA 1S-66-2524-8NH
Field	ADAMS COUNTY	Wellbore	ALMA 1S-66-2524-8NH 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†	90.730	0.327	7565.16	270.55	270.59	-8.16	39°55'49.846"N	104°43'17.613"W	0.00	
8614.00†	90.730	0.327	7563.89	370.54	370.58	-7.59	39°55'50.834"N	104°43'17.605"W	0.00	
8714.00†	90.730	0.327	7562.62	470.53	470.57	-7.02	39°55'51.822"N	104°43'17.598"W	0.00	
8814.00†	90.730	0.327	7561.34	570.53	570.56	-6.45	39°55'52.811"N	104°43'17.591"W	0.00	
8914.00†	90.730	0.327	7560.07	670.52	670.55	-5.88	39°55'53.799"N	104°43'17.583"W	0.00	
9014.00†	90.730	0.327	7558.79	770.51	770.54	-5.31	39°55'54.787"N	104°43'17.576"W	0.00	
9114.00†	90.730	0.327	7557.52	870.50	870.53	-4.74	39°55'55.775"N	104°43'17.569"W	0.00	
9214.00†	90.730	0.327	7556.24	970.49	970.52	-4.17	39°55'56.763"N	104°43'17.562"W	0.00	
9314.00†	90.730	0.327	7554.97	1070.48	1070.51	-3.60	39°55'57.751"N	104°43'17.554"W	0.00	
9414.00†	90.730	0.327	7553.70	1170.48	1170.50	-3.03	39°55'58.739"N	104°43'17.547"W	0.00	
9514.00†	90.730	0.327	7552.42	1270.47	1270.49	-2.46	39°55'59.728"N	104°43'17.540"W	0.00	
9614.00†	90.730	0.327	7551.15	1370.46	1370.48	-1.89	39°56'00.716"N	104°43'17.532"W	0.00	
9714.00†	90.730	0.327	7549.87	1470.45	1470.47	-1.32	39°56'01.704"N	104°43'17.525"W	0.00	
9814.00†	90.730	0.327	7548.60	1570.44	1570.46	-0.75	39°56'02.692"N	104°43'17.518"W	0.00	
9914.00†	90.730	0.327	7547.33	1670.43	1670.45	-0.18	39°56'03.680"N	104°43'17.510"W	0.00	
10014.00†	90.730	0.327	7546.05	1770.43	1770.44	0.39	39°56'04.668"N	104°43'17.503"W	0.00	
10114.00†	90.730	0.327	7544.78	1870.42	1870.43	0.96	39°56'05.656"N	104°43'17.496"W	0.00	
10214.00†	90.730	0.327	7543.50	1970.41	1970.42	1.53	39°56'06.645"N	104°43'17.488"W	0.00	
10314.00†	90.730	0.327	7542.23	2070.40	2070.41	2.10	39°56'07.633"N	104°43'17.481"W	0.00	
10414.00†	90.730	0.327	7540.95	2170.39	2170.40	2.67	39°56'08.621"N	104°43'17.474"W	0.00	
10514.00†	90.730	0.327	7539.68	2270.39	2270.39	3.24	39°56'09.609"N	104°43'17.466"W	0.00	
10614.00†	90.730	0.327	7538.41	2370.38	2370.38	3.81	39°56'10.597"N	104°43'17.459"W	0.00	
10714.00†	90.730	0.327	7537.13	2470.37	2470.37	4.38	39°56'11.585"N	104°43'17.452"W	0.00	
10814.00†	90.730	0.327	7535.86	2570.36	2570.36	4.95	39°56'12.573"N	104°43'17.444"W	0.00	
10914.00†	90.730	0.327	7534.58	2670.35	2670.35	5.52	39°56'13.562"N	104°43'17.437"W	0.00	
11014.00†	90.730	0.327	7533.31	2770.34	2770.34	6.09	39°56'14.550"N	104°43'17.430"W	0.00	
11114.00†	90.730	0.327	7532.04	2870.34	2870.33	6.66	39°56'15.538"N	104°43'17.422"W	0.00	
11214.00†	90.730	0.327	7530.76	2970.33	2970.32	7.23	39°56'16.526"N	104°43'17.415"W	0.00	
11314.00†	90.730	0.327	7529.49	3070.32	3070.32	7.80	39°56'17.514"N	104°43'17.408"W	0.00	
11414.00†	90.730	0.327	7528.21	3170.31	3170.31	8.37	39°56'18.502"N	104°43'17.400"W	0.00	
11514.00†	90.730	0.327	7526.94	3270.30	3270.30	8.94	39°56'19.490"N	104°43'17.393"W	0.00	
11614.00†	90.730	0.327	7525.66	3370.30	3370.29	9.51	39°56'20.479"N	104°43'17.386"W	0.00	
11714.00†	90.730	0.327	7524.39	3470.29	3470.28	10.08	39°56'21.467"N	104°43'17.379"W	0.00	
11814.00†	90.730	0.327	7523.12	3570.28	3570.27	10.65	39°56'22.455"N	104°43'17.371"W	0.00	
11914.00†	90.730	0.327	7521.84	3670.27	3670.26	11.22	39°56'23.443"N	104°43'17.364"W	0.00	
12014.00†	90.730	0.327	7520.57	3770.26	3770.25	11.79	39°56'24.431"N	104°43'17.357"W	0.00	
12114.00†	90.730	0.327	7519.29	3870.25	3870.24	12.36	39°56'25.419"N	104°43'17.349"W	0.00	
12214.00†	90.730	0.327	7518.02	3970.25	3970.23	12.93	39°56'26.408"N	104°43'17.342"W	0.00	
12314.00†	90.730	0.327	7516.75	4070.24	4070.22	13.50	39°56'27.396"N	104°43'17.335"W	0.00	
12414.00†	90.730	0.327	7515.47	4170.23	4170.21	14.07	39°56'28.384"N	104°43'17.327"W	0.00	
12514.00†	90.730	0.327	7514.20	4270.22	4270.20	14.64	39°56'29.372"N	104°43'17.320"W	0.00	
12614.00†	90.730	0.327	7512.92	4370.21	4370.19	15.21	39°56'30.360"N	104°43'17.313"W	0.00	
12714.00†	90.730	0.327	7511.65	4470.21	4470.18	15.79	39°56'31.348"N	104°43'17.305"W	0.00	
12814.00†	90.730	0.327	7510.37	4570.20	4570.17	16.36	39°56'32.336"N	104°43'17.298"W	0.00	
12914.00†	90.730	0.327	7509.10	4670.19	4670.16	16.93	39°56'33.325"N	104°43'17.291"W	0.00	



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HUGHES

REFERENCE WELLPATH IDENTIFICATION

Operator	HRM RESOURCES	Slot	SLOT#08 ALMA 1S-66-2524-8NH (337'FSL & 1949'FEL, SEC.25)
Area	COLORADO	Well	ALMA 1S-66-2524-8NH
Field	ADAMS COUNTY	Wellbore	ALMA 1S-66-2524-8NH 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†	90.730	0.327	7507.83	4770.18	4770.15	17.50	39°56'34.313"N	104°43'17.283"W	0.00	
13114.00†	90.730	0.327	7506.55	4870.17	4870.14	18.07	39°56'35.301"N	104°43'17.276"W	0.00	
13214.00†	90.730	0.327	7505.28	4970.16	4970.13	18.64	39°56'36.289"N	104°43'17.269"W	0.00	
13314.00†	90.730	0.327	7504.00	5070.16	5070.12	19.21	39°56'37.277"N	104°43'17.261"W	0.00	
13414.00†	90.730	0.327	7502.73	5170.15	5170.11	19.78	39°56'38.265"N	104°43'17.254"W	0.00	
13514.00†	90.730	0.327	7501.46	5270.14	5270.10	20.35	39°56'39.253"N	104°43'17.247"W	0.00	
13614.00†	90.730	0.327	7500.18	5370.13	5370.09	20.92	39°56'40.242"N	104°43'17.239"W	0.00	
13714.00†	90.730	0.327	7498.91	5470.12	5470.08	21.49	39°56'41.230"N	104°43'17.232"W	0.00	
13814.00†	90.730	0.327	7497.63	5570.11	5570.07	22.06	39°56'42.218"N	104°43'17.225"W	0.00	
13914.00†	90.730	0.327	7496.36	5670.11	5670.06	22.63	39°56'43.206"N	104°43'17.217"W	0.00	
14014.00†	90.730	0.327	7495.08	5770.10	5770.05	23.20	39°56'44.194"N	104°43'17.210"W	0.00	
14114.00†	90.730	0.327	7493.81	5870.09	5870.04	23.77	39°56'45.182"N	104°43'17.203"W	0.00	
14214.00†	90.730	0.327	7492.54	5970.08	5970.03	24.34	39°56'46.170"N	104°43'17.196"W	0.00	
14314.00†	90.730	0.327	7491.26	6070.07	6070.02	24.91	39°56'47.159"N	104°43'17.188"W	0.00	
14414.00†	90.730	0.327	7489.99	6170.07	6170.01	25.48	39°56'48.147"N	104°43'17.181"W	0.00	
14514.00†	90.730	0.327	7488.71	6270.06	6270.00	26.05	39°56'49.135"N	104°43'17.174"W	0.00	
14614.00†	90.730	0.327	7487.44	6370.05	6369.99	26.62	39°56'50.123"N	104°43'17.166"W	0.00	
14714.00†	90.730	0.327	7486.17	6470.04	6469.98	27.19	39°56'51.111"N	104°43'17.159"W	0.00	
14814.00†	90.730	0.327	7484.89	6570.03	6569.97	27.76	39°56'52.099"N	104°43'17.152"W	0.00	
14914.00†	90.730	0.327	7483.62	6670.02	6669.96	28.33	39°56'53.087"N	104°43'17.144"W	0.00	
15014.00†	90.730	0.327	7482.34	6770.02	6769.95	28.90	39°56'54.076"N	104°43'17.137"W	0.00	
15114.00†	90.730	0.327	7481.07	6870.01	6869.94	29.47	39°56'55.064"N	104°43'17.130"W	0.00	
15214.00†	90.730	0.327	7479.79	6970.00	6969.94	30.04	39°56'56.052"N	104°43'17.122"W	0.00	
15314.00†	90.730	0.327	7478.52	7069.99	7069.93	30.61	39°56'57.040"N	104°43'17.115"W	0.00	
15354.88	90.730	0.327	7478.00 ²	7110.87	7110.80	30.84	39°56'57.444"N	104°43'17.112"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		-2.00	0.00	103.77	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	103.77	3218416.71	1218223.15	39°55'47.172"N	104°43'16.176"W	polygon
SEC.25-T1S-R66W		-2.00	0.00	103.77	3218416.71	1218223.15	39°55'47.172"N	104°43'16.176"W	polygon
2) ALMA 1S-66-2524-8NH BHL ON PLAT (2160'FSL & 1920'FEL, SEC.24)	15354.88	7478.00	7110.80	30.84	3218281.37	1225332.82	39°56'57.444"N	104°43'17.112"W	point
1) ALMA 1S-66-2524-8NH ENTRY POINT	7977.43	7572.00	-265.93	-11.22	3218304.07	1217956.23	39°55'44.544"N	104°43'17.652"W	point
SEC.24/25-T1S-R66W HARDLINES (460'FNL 1/2 SEC.24)		7798.00	0.00	103.77	3218416.71	1218223.15	39°55'47.172"N	104°43'16.176"W	polygon



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Planned Wellpath Report

ALMA 1S-66-2524-8NH PWP (REV-A.0)

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REFERENCE WELLPATH IDENTIFICATION

Operator	HRM RESOURCES	Slot	SLOT#08 ALMA 1S-66-2524-8NH (337'FSL & 1949'FEL, SEC.25)
Area	COLORADO	Well	ALMA 1S-66-2524-8NH
Field	ADAMS COUNTY	Wellbore	ALMA 1S-66-2524-8NH PWB
Facility	SEC.25-T01S-R66W		

SURVEY PROGRAM -

Ref Wellbore: ALMA 1S-66-2524-8NH PWB Ref Wellpath: ALMA 1S-66-2524-8NH PWP (REV-A.0)

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
14.00	15354.88	Custom BHI AutoTrak Curve (Axial Corr, Short spacing) (Rockies 0.03Gt model)		ALMA 1S-66-2524-8NH PWB



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REFERENCE WELLPATH IDENTIFICATION

Operator	HRM RESOURCES	Slot	SLOT#08 ALMA 1S-66-2524-8NH (337'FSL & 1949'FEL, SEC.25)
Area	COLORADO	Well	ALMA 1S-66-2524-8NH
Field	ADAMS COUNTY	Wellbore	ALMA 1S-66-2524-8NH PWB
Facility	SEC.25-T01S-R66W		

DESIGN COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
14.00	0.000	180.909	14.00	Tie On
1800.00	0.000	180.909	1800.00	End of Tangent
2289.49	9.790	180.909	2287.11	End of Build
6972.24	9.790	180.909	6901.67	End of Tangent
7977.43	90.730	0.327	7572.00	End of 3D Arc
15354.88	90.730	0.327	7478.00	End of Tangent