District I 1625 N. French Dr., Hobbs, NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720 District II 811 S. First St., Artesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720 1000 Rio Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 1220 S. St. Francis Dr., Santa Fe, NM 87505

Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505

**FORM C-102** Revised August 1, 2011 Submit one copy to appropriate **District Office** 

AMENDED REPORT **AS-DRILLED** 

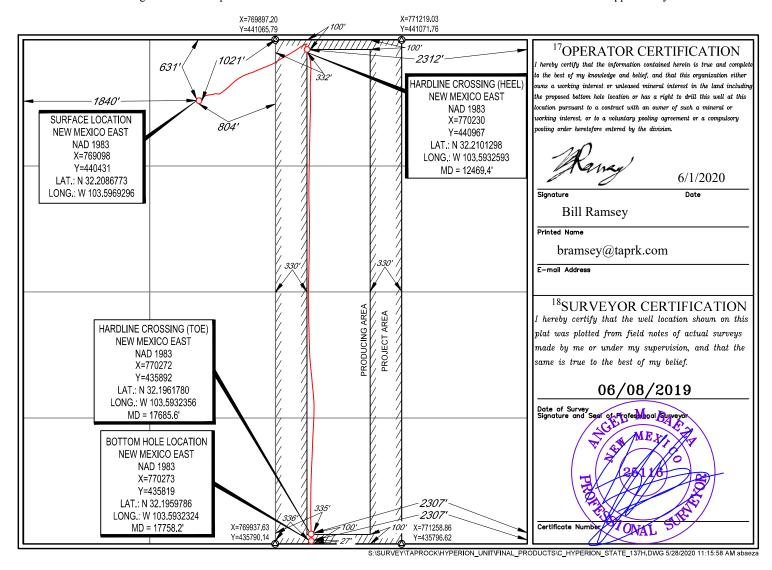
#### WELL LOCATION AND ACREAGE DEDICATION PLAT

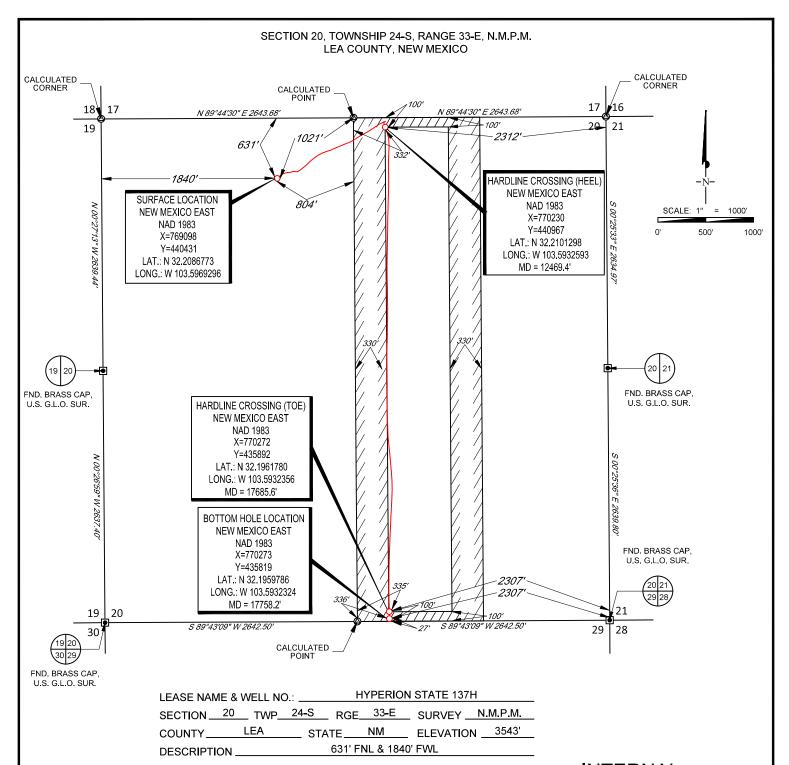
<sup>1</sup> API Numbo 30-025-467	<sup>2</sup> Pool Code 98135	<sup>3</sup> Pool Name WC025 G09 S243310P; UPPER W0	OLFCAMP				
<sup>4</sup> Property Code		<sup>5</sup> Property Name <sup>6</sup> Well Number					
325410		RION STATE	137H				
OGRID No.	<sup>8</sup> Operator Name <sup>9</sup> Elevation						
372043	TAP ROCK OPERATING, LLC. 3543'						

<sup>10</sup>Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	20	24-S	33-E	-	631'	NORTH	1840'	WEST	LEA
			<sup>11</sup> I	Bottom Ho	le Location If D	oifferent From Su	rface		
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	20	24-S	33-Е	-	27'	SOUTH	2307'	EAST	LEA
<sup>12</sup> Dedicated Acres	<sup>13</sup> Joint or l	nfill 14Co	nsolidation Cod	le <sup>15</sup> Ord	er No.	•	•	•	

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.





INTERNAL PRE-COMPLETION **PLAT** 

1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140 TELEPHONE: (817) 744-7512 • FAX (817) 744-7554 2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705 TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743 WWW.TOPOGRAPHIC.COM

HYPERION STATE	R	EVISION:	1
137H	INT	DATE	2
PRE-COMPLETION			3
DATE: 05/22/2020			
FILE:C_HYPERION_STATE_137H			
DRAWN BY: H.B.			
SHEET: 1 OF 1			

ORIGINAL DOCUMENT SIZE: 8.5" X 11"

CALGERIAL DECEMENT SIZE: 3.3 X TO A CONTINUE OF THE PROPERTY OF THE NEW MEXICO COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET.

THIS WELL LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO

THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY TAP ROCK OPERATING, LLC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.



## Tap Rock Resources, LLC

Lea County, NM (NAD 83 NME) (Hyperion) Sec-20\_T-24-S\_R-33-E Hyperion State #137H

**OWB** 

Design: AWB

# **Standard Survey Report**

31 March, 2020





Operator: Taprock Resources LLC Well Name: Hyperion State #137H

County: Lea

State: New Mexico Rig Name: H&P 388 API: 30-025-46765

Intrepid Directional Drilling Specialists certifies that the surveys performed on the above referenced well are true and correct MWD surveys, data provided as follows:

Surveyor: Intrepid Directional Drilling Specialists

Survey Depths: 150' MD – 17,687' MD

Projection to Bit: 17,760' MD

Dates Performed: 12/17/2019 - 3/31/2020

Type of Survey: MWD

Sincerely,

James Burleson

Vice President of MWD Operations Intrepid Directional Drilling Specialists







Company: Tap Rock Resources, LLC
Project: Lea County, NM (NAD 83 NME)
Site: (Hyperion) Sec-20\_T-24-S\_R-33-E

Well: Hyperion State #137H

Wellbore: OWB
Design: AWB

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Well Hyperion State #137H KB @ 3568.0usft (H&P 388) KB @ 3568.0usft (H&P 388)

Grid

Survey Calculation Method: Minimum Curvature

Database:

System Datum:

EDM 5000.15 Single User Db

Project Lea County, NM (NAD 83 NME)

Map System:US State Plane 1983Geo Datum:North American Datum 1983Map Zone:New Mexico Eastern Zone

Mean Sea Level

Site (Hyperion) Sec-20\_T-24-S\_R-33-E

Northing: 440,505.00 usft Site Position: Latitude: 32° 12' 32.058 N 103° 36' 4.072 W 767,798.00 usft From: Мар Easting: Longitude: Slot Radius: 13-3/16 " 0.39° **Position Uncertainty:** 0.0 usft **Grid Convergence:** 

Well Hyperion State #137H

**Well Position** +N/-S 0.0 usft Northing: 440,431.00 usft Latitude: 32° 12' 31,237 N +E/-W 0.0 usft Easting: 769,098.00 usft Longitude: 103° 35' 48.947 W 0.0 usft Wellhead Elevation: usft Ground Level: 3,542.0 usft **Position Uncertainty** 

Wellbore OWB

 Magnetics
 Model Name
 Sample Date
 Declination (°)
 Dip Angle (°)
 Field Strength (nT)

 IGRF2015
 2020/02/21
 6.67
 60.01
 47,649.85293742

Design AWB

Audit Notes:

Version:1.0Phase:ACTUALTie On Depth:0.0

 Vertical Section:
 Depth From (TVD) (usft)
 +N/-S +E/-W (usft)
 Direction (usft)

 0.0
 0.0
 0.0
 179.55

Survey Program Date 2020/03/31

From To

(usft) (usft) Survey (Wellbore) Tool Name Description

150.0 17,760.0 Intrepid MWD (OWB) MWD OWSG MWD - Standard

Survey Measured Vertical Vertical Dogleg Build Turn Depth Depth Section Rate Inclination +N/-S +E/-W Rate Rate Azimuth (usft) (usft) (usft) (°/100usft) (°/100usft) (°/100usft) (usft) (usft) (°) (°) 0.0 0.00 0.00 0.0 0.0 0.0 0.0 0.00 0.00 0.00 150.0 0.44 220.82 150.0 -0.4 -0.4 0.4 0.29 0.29 0.00 271.0 0.66 180.57 271.0 -1.5 -0.7 1.5 0.36 0.18 -33.26 331.0 0.66 160.79 331.0 -2.2 -0.6 2.2 0.38 0.00 -32.97 390.0 0.88 156.66 390.0 -2.9 -0.3 2.9 0.38 0.37 -7.00 3.8 0.25 451.0 0.92 165.89 451.0 -3.8 0.0 0.07 15.13 541.0 1.14 144.44 541.0 -5.2 0.7 5.2 0.49 0.24 -23.83 -7.6 694.0 1.32 128.18 693.9 7.6 0.26 3.0 0.12 -10.63 785.0 1.23 102.52 784.9 -8.4 4.8 8.5 0.63 -28.20 -0.10 876.9 6.4 -0.42 877.0 0.84 96.72 -8.7 8.8 0.44 -6.30





Company: Tap Rock Resources, LLC Lea County, NM (NAD 83 NME) Project: (Hyperion) Sec-20\_T-24-S\_R-33-E Hyperion State #137H Site:

Well:

Wellbore: OWB AWB Design:

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Database:

Well Hyperion State #137H KB @ 3568.0usft (H&P 388)

KB @ 3568.0usft (H&P 388)

Grid

Minimum Curvature

Messured Open	ey									
Depth   Inclination   Azimuth (usft)	- •									
1,062.0	Depth			Depth			Section	Rate	Rate	Rate
1,180.2	968.0									
1,346,0										
1,346.0 1,80 43.72 1,345.8 -1.2 13.3 1.3 0.24 0.22 3.42 1,440.0 1,67 40,65 1,439.7 0.9 15.2 -0.8 0,17 -0.14 -3.27 1,525.3 1,70 33.76 1,525.0 2.9 16.7 -2.8 0.24 0.04 -8.07 Top Salt 1,535.0 1.71 33.00 1,534.7 3.2 16.9 -3.0 0.24 0.06 -7.87 1,629.0 1.67 27.64 1,628.6 5.6 18.3 -5.4 0.17 -0.04 -5.70 1,724.0 1.19 33.79 1,723.6 7.6 19.4 -7.4 0.53 -0.51 6.47 1,819.0 0.97 29.92 1,818.6 9.1 20.4 -9.0 0.24 -0.23 4.07 1,819.0 0.97 29.92 1,818.6 9.1 20.4 -9.0 0.24 -0.23 4.07 1,913.0 1.14 35.37 1,912.6 10.6 21.3 -10.4 0.21 0.18 5.80 2.008.0 1.01 359.16 2.007.6 12.2 21.9 -12.0 0.72 -0.14 -38.12 2,197.0 1.27 1,234 2,196.5 15.9 22.3 -15.7 0.19 0.14 6.97 2,292.0 3.82 35.64 2,291.4 19.5 24.4 -19.3 2.84 2.68 24.53 2,387.0 5.85 44.95 2,386.1 25.5 29.6 -25.3 2.28 2.14 9.80 2,576.0 5.71 53.04 2,574.1 38.0 43.9 -37.6 0.44 -0.07 4.28 2,671.0 5.46 62.36 2,668.7 42.9 61.7 -42.5 0.99 -0.27 9.80 2,765.0 5.49 68.52 2,762.3 47.3 59.5 46.9 0.42 0.04 -4.39 2.860.0 5.49 66.57 2.865 6.15 6.75 5-10 0.84 0.00 8.79 3,049.0 5.58 81.69 3.044.9 56.5 84.9 -55.8 0.77 0.05 8.00 3,144.0 4.53 80.37 3,139.6 57.8 9.32 -57.0 1.11 -1.11 -1.39 3,234.0 4.92 81.34 3,234.3 59.0 10.9 -58.2 0.42 0.44 0.00 8.79 3,049.0 5.58 81.69 3.044.9 56.5 84.9 -55.8 0.77 0.05 8.00 3,144.0 4.53 80.37 3,139.6 57.8 9.32 -57.0 1.11 -1.11 -1.39 3,234.0 4.70 83.36 3,328.9 60.1 108.8 -59.2 0.29 -0.23 2.13 3,440.0 4.89 84.86 3,422.6 60.8 116.0 -59.9 0.57 -0.55 1.59 3,523.0 3,91 78.97 3,517.4 61.7 12.27 -60.8 0.52 0.92 -0.28 -0.28 -0.28 0.42 0.04 4.39 3,523.0 3,91 78.97 3,517.4 61.7 12.27 -60.8 0.52 0.02 -0.09 3,98 3,997.0 1.93 84.06 3,990.8 65.6 145.2 -63.9 0.57 -0.05 1.59 4.89 0.00 3,390.0 5.59 81.69 3,442.6 60.8 116.0 -59.9 0.57 -0.55 1.59 4.89 0.00 3,390.0 5.59 0.10 0.8 6.59 0.57 -0.55 1.59 0.55 1.59 0.28 0.04 0.00 0.09 3,98 3,997.0 1.93 84.06 3,990.8 65.6 145.2 -63.9 0.20 -0.09 3,98 3,997.0 1.93 84.06 3,990.8 65.6 145.5 -64.4 0.54 -0.52 0.28 0.42 0.44 0.54 0.52 0.55 4.21 0.50 0.28 0.55 0.28 0.55 0.28 0.29 0.29 0.23 3.50 0.20 0.09 3,98 3,997.0 1.93 84.06 3,990.8 65.6 145.8 -64.4 0.54 0			38.05	1,180.0	<b>-4</b> .7	10.2	4.8	0.24	0.21	5.17
1,440.0 1,67 40.65 1,439.7 0.9 15.2 -0.8 0.17 -0.14 -3.27 1,525.3 1.70 33.76 1,525.0 2.9 16.7 -2.8 0.24 0.04 -8.07 Top Salt 1.535.0 1.71 33.00 1,534.7 3.2 16.9 -3.0 0.24 0.06 -7.87 1,525.0 1.67 27.64 1,628.6 5.6 18.3 -5.4 0,17 -0.04 -5.70 1,724.0 1.19 33.79 1,723.6 7.6 19.4 -7.4 0.53 -0.51 6.47 1,819.0 0.97 29.92 1,818.6 9.1 20.4 -9.0 0.24 -0.23 -4.07 1,819.0 0.97 29.92 1,818.6 9.1 20.4 -9.0 0.24 -0.23 -4.07 1,819.0 1.14 35.37 1,912.6 10.6 21.3 -10.4 0.21 0.18 5.80 2,008.0 1.01 359.16 2,007.6 12.2 21.9 -12.0 0.72 -0.14 -8.12 2,197.0 1.27 12.34 2,196.5 15.9 22.3 -15.7 0.19 0.14 6.97 2,292.0 3.82 35.64 2,291.4 19.5 24.4 -19.3 2.84 2.68 24.53 2.387.0 5.88 44.95 2,386.1 25.5 29.6 2-5.3 2.28 2.14 9.80 2,576.0 5.71 53.04 2,574.1 38.0 43.9 -37.6 0.44 -0.07 4.28 2.671.0 5.45 6.23 2.28 2.276.3 2.38 2.2 2.688.7 42.9 51.7 -42.5 0.99 -0.27 9.80 2,765.0 5.49 68.52 2,762.3 47.3 59.5 46.9 0.42 0.04 4.39 2,860.0 5.49 68.57 2.886.8 51.5 67.5 -51.0 0.84 0.00 8.79 3,049.0 5.58 81.69 3,044.9 56.5 84.9 -55.8 0.77 0.05 8.00 3,144.0 4.53 80.37 3,139.6 57.8 93.2 -57.0 1.11 1.11 1.13 1.39 3,239.0 4.92 81.34 3,234.3 59.0 100.9 -58.2 0.42 0.44 0.00 8.79 3,049.0 5.58 81.69 3,044.9 56.5 84.9 -55.8 0.77 0.05 8.00 3,144.0 4.53 80.37 3,139.6 57.8 93.2 -57.0 1.11 1.11 1.11 1.13 1.39 3,239.0 4.92 81.34 3,234.3 59.0 100.9 -58.2 0.42 0.44 0.41 1.02 3,340.0 4.70 83.36 3,328.9 60.1 108.8 -59.2 0.29 -0.23 2.13 3,234.0 4.70 83.36 3,328.9 60.1 108.8 -59.2 0.29 -0.23 2.13 3,234.0 4.70 83.36 3,328.9 60.1 108.8 -59.2 0.29 -0.23 2.13 3,234.0 4.70 83.36 3,328.9 60.1 108.8 -59.2 0.29 -0.23 2.13 3,248.0 4.18 84.85 3,422.6 60.8 116.0 -59.9 0.57 -0.55 1.59 3,523.0 3.91 78.97 3,517.4 61.7 122.7 60.8 0.52 -0.28 6.19 3,422.6 60.8 116.0 -59.9 0.57 -0.55 1.59 3,523.0 3.91 78.97 3,517.4 61.7 122.7 60.8 0.52 -0.28 6.19 3,422.6 60.8 116.0 -59.9 0.57 -0.55 1.59 3,523.0 3.91 78.97 3,517.4 61.7 122.7 60.8 0.52 -0.28 -6.19 3,502.0 2.42 80.02 3,895.9 65.0 142.2 63.9 0.20 0.09 3.98 6.56 145.8 64.4 0.54 4.054 4.54 4.54 4.54 4.54 4.54										
1,525.3 1,70 33.76 1,525.0 2.9 16.7 -2.8 0.24 0.04 -8.07  Top Salt  1,535.0 1,71 33.00 1,534.7 3.2 16.9 -3.0 0.24 0.06 -7.87 1,629.0 1.67 27.64 1,628.6 5.6 18.3 -5.4 0.17 -0.04 -5.70 1,724.0 1.19 33.79 1,723.6 7.6 19.4 -7.4 0.53 -0.51 6.47 1,819.0 0.97 29.92 1,818.6 9.1 20.4 -9.0 0.24 -0.23 -4.07  1,913.0 1.14 35.37 1,912.6 10.6 21.3 -10.4 0.21 0.18 5.80 2,008.0 1.01 359.16 2,007.6 12.2 21.9 -12.0 0.72 -0.14 38.12 2,197.0 1.27 12.34 2,196.5 15.9 22.3 -16.7 0.19 0.14 6.97 2,292.0 3.82 35.64 2,291.4 19.5 24.4 -19.3 2.84 2.68 24.53 2,387.0 5.85 44.95 2,386.1 25.5 29.6 -25.3 2.28 2.14 9.80 2,576.0 5.71 53.04 2.574.1 38.0 43.9 -37.6 0.44 -0.07 4.28 2,671.0 5.45 62.35 2,568.7 42.9 51.7 42.5 0.99 -0.27 9.80 2,765.0 5.49 58.22 2,762.3 47.3 59.6 46.9 0.42 0.04 4.39 2,880.0 5.49 66.57 2,868.6 51.5 67.5 -51.0 0.84 0.00 8.79 3,049.0 5.58 81.69 3,044.9 56.5 84.9 -56.8 0.77 0.05 8.00 3,144.0 4.53 80.37 3,139.6 57.8 93.2 -57.0 1.11 -1.11 -1.13 3,239.0 4.92 81.34 3,234.3 59.0 100.9 -58.2 0.42 0.41 0.00 8.79 3,049.0 5.58 81.69 3,044.9 56.5 84.9 -56.8 0.77 0.05 8.00 3,144.0 4.53 80.37 3,139.6 67.8 93.2 -57.0 1.11 -1.11 -1.13 3,239.0 4.92 81.34 3,234.3 59.0 100.9 -58.2 0.42 0.41 0.00 8.79 3,049.0 5.58 81.69 3,044.9 56.5 84.9 -56.8 0.77 0.05 8.00 3,144.0 4.53 80.37 3,139.6 67.8 93.2 -57.0 1.11 -1.11 -1.13 3,239.0 4.92 81.34 3,234.3 59.0 100.9 -58.2 0.29 -0.23 2.13 3,428.0 4.18 84.86 3,224.6 60.8 116.0 -59.9 0.57 -0.55 1.59 3,523.0 3.91 78.97 3,517.4 61.7 12.27 -60.8 0.52 0.29 -0.23 2.13 3,428.0 4.18 84.86 3,422.6 60.8 116.0 -59.9 0.57 -0.55 1.59 3,713.0 2.86 77.74 3,707.1 63.2 133.9 -62.2 0.82 -0.44 -0.54 -0.24 4,091.0 1.63 81.43 4,084.8 65.9 148.7 -64.7 0.33 -0.37 -0.64 -0.24 4,091.0 1.63 81.43 4,084.8 65.9 148.7 -64.7 0.33 -0.37 -0.20 -0.99 3,98 3,997.0 1.93 84.06 3,990.8 65.6 145.9 -64.4 0.54 -0.52 4.26 4,091.0 1.63 81.43 4,084.8 65.9 148.7 -64.7 0.33 -0.37 -0.23 -2.80 4,186.0 1.45 55.41 4,179.7 66.8 151.0 -65.6 0.75 -0.19 -27.39 4,281.0 2.11 58.84 4,274.7 68.4 150.5 -67.2 0.70 0.69 3.61 4,950.0 3,74 8,43 4,368.6 7.71 15.6 6.8										
Top Salt         1,535.0         1,73         3.0         1,534.7         3.2         16.9         -3.0         0.24         0.06         -7.87           1,629.0         1.67         27.64         1,628.6         5.6         18.3         -5.4         0.17         -0.04         -5.70           1,724.0         1.19         33.79         1,723.6         7.6         19.4         -7.4         0.53         -0.51         6.47           1,819.0         0.97         29.92         1,818.6         9.1         20.4         -9.0         0.24         -0.23         -4.07           1,913.0         1.14         35.37         1,912.6         10.6         21.3         -10.4         0.21         0.18         5.80           2,008.0         1.01         359.16         2,007.6         12.2         21.9         -12.0         0.72         -0.14         -38.12         2.197.0         1.7         12.34         2.196.5         15.9         22.3         -15.7         0.19         0.14         -3.8         2.2         2.93         2.54         -4.93         2.24         -4.93         2.24         -4.93         2.24         -4.93         2.24         -4.93         2.24         -4.93	1,440.0	1.67	40.65	1,439.7	0.9	15.2	-0.8	0.17	-0.14	-3.27
1,535.0         1,71         33.00         1,534.7         3.2         16.9         -3.0         0.24         0.06         -7.87           1,629.0         1,67         27,54         1,628.6         5.6         18.3         -5.4         0.17         -0.04         -5.70           1,724.0         1,19         33.79         1,723.6         7.6         19.4         -7.4         0.53         -0.51         6.47           1,819.0         0.97         29.92         1,818.6         9.1         20.4         -9.0         0.24         -0.23         -4.07           1,913.0         1.14         35.37         1,912.6         10.6         21.3         -10.4         0.21         0.18         5.80           2,008.0         1.01         359.16         2,007.6         12.2         21.9         -12.0         0.72         -0.14         -38.12           2,197.0         1.27         12.34         2,196.5         15.9         22.3         -15.7         0.19         0.14         6.97           2,292.0         3.82         3.56.4         2,291.4         19.5         24.4         -19.3         2.84         2.68         24.53           2,387.0         5.8         <	1,525.3	1.70	33.76	1,525.0	2.9	16.7	-2.8	0.24	0.04	<b>-</b> 8.07
1,629.0	Top Salt									
1,724.0 1,19 33.79 1,723.6 7.6 19,4 -7.4 0,53 -0.51 6,47 1,819.0 0,97 29,92 1,818.6 9,1 20.4 -9.0 0,24 -0.23 -0.23 -4.07 1,913.0 1,14 35.37 1,912.6 10.6 21.3 -10.4 0,21 0,18 5.80 2,008.0 1,01 359.16 2,007.6 12.2 21.9 -12.0 0,72 -0.14 -38.12 2,197.0 1,27 12.34 2,196.5 15.9 22.3 -15.7 0,19 0,14 6,97 2,292.0 3,82 35.64 2,96.5 12.2 21.9 -2.3 -15.7 0,19 0,14 6,97 2,292.0 3,82 35.64 2,914 19.5 24.4 -19.3 2,84 2,68 24.53 2,387.0 5,85 44.95 2,386.1 25.5 29.6 -25.3 2,28 2,14 9,80 2,576.0 5,71 53.04 2,574.1 38.0 43.9 -37.6 0,44 -0.07 4,28 2,671.0 5,45 62.35 2,568.7 42.9 51.7 42.5 0,99 -0.27 9,80 2,765.0 5,49 68.27 2,765.3 47.3 59.5 46.9 0,42 0,04 4,39 2,800.0 5,49 66.57 2,858.8 51.5 67.5 -46.9 0,42 0,04 4,39 3,049.0 5,58 81.69 3,044.9 56.5 84.9 -55.8 0,77 0,05 8.00 3,144.0 4,53 80.37 3,139.6 57.8 93.2 -57.0 1,11 -1.11 -1.39 3,239.0 4,92 81.34 3,234.3 59.0 100.9 -58.2 0,42 0,41 1,02 3,334.0 4,70 83.36 3,328.9 60.1 108.8 -59.2 0,42 0,41 1,02 3,334.0 4,70 83.36 3,328.9 60.1 108.8 -59.2 0,29 -0.23 2,13 3,428.0 4,18 84.85 3,422.6 60.8 116.0 -59.9 0,57 -0.55 1,59 3,523.0 3,91 78.97 3,517.4 61.7 122.7 60.8 0,52 -0.28 -6.19 3,902.0 2,42 80.02 3,895.9 65.0 142.2 -63.9 0,57 -0.55 1,59 3,997.0 1,93 84.06 3,990.8 65.6 145.8 -64.4 0,54 -0.52 4,25 4,25 4,25 4,26 4,20 1,41 5,25 4,25 4,25 4,25 4,25 4,25 4,25 4,25							-3.0			
1,819.0 0.97 29.92 1,818.6 9.1 20.4 -9.0 0.24 -0.23 4-0.7  1,913.0 1.14 35.37 1,912.6 10.6 21.3 -10.4 0.21 0.18 5.80 2,008.0 1.01 359.16 2,007.6 12.2 21.9 -12.0 0.72 -0.14 -38.12 2,197.0 1.27 12.34 2,196.5 15.9 22.3 -15.7 0.19 0.14 6.97 2,292.0 3.82 35.64 2,291.4 19.5 24.4 -19.3 2.84 2.68 24.53 2,387.0 5.85 44.95 2,386.1 25.5 29.6 -25.3 2.28 2.14 9.80 2,567.0 5.71 53.04 2,574.1 38.0 43.9 -37.6 0.44 -0.07 4.28 2,671.0 5.45 62.35 2,668.7 42.9 51.7 -42.5 0.99 -0.27 9.80 2,765.0 5.49 58.22 2,762.3 47.3 59.5 46.9 0.42 0.04 -4.39 2,860.0 5.49 66.57 2,856.8 51.5 67.5 -51.0 0.84 0.00 8.79 3,049.0 5.58 81.69 3,044.9 56.5 84.9 -55.8 0.77 0.05 8.00 3,144.0 4.53 80.37 3,139.6 57.8 93.2 -57.0 1.11 -1.11 -1.39 3,239.0 4.92 81.34 3,234.3 59.0 100.9 -58.2 0.42 0.41 1.02 3,334.0 4.70 83.36 3,328.9 60.1 108.8 -59.2 0.29 -0.23 2.13 3,428.0 4.18 84.85 3,422.6 60.8 116.0 -59.9 0.57 -0.55 1.59 3,523.0 3.91 78.97 3,517.4 61.7 122.7 -60.8 0.52 -0.28 -6.19 3,618.0 3.47 86.52 3,612.2 62.5 128.7 -61.5 0.69 -0.46 7.95 3,713.0 2.86 77.74 3,707.1 63.2 133.9 -62.2 0.82 -0.64 -9.24 4,186.0 1.45 55.41 4,179.7 66.8 151.0 -65.6 0.75 -0.19 -27.39 4,281.0 2.11 58.84 4,274.7 68.4 153.5 -67.2 0.70 0.69 3.61 4,375.0 3.38 7.34 3,498.8 65.9 148.7 -64.7 0.33 -0.32 -2.80 4,091.0 1.63 81.43 4,084.8 65.9 148.7 -64.7 0.33 -0.32 -2.80 4,091.0 1.63 81.43 4,084.8 65.9 148.7 -64.7 0.33 -0.32 -2.80 4,091.0 1.63 81.43 4,084.8 65.9 148.7 -64.7 0.33 -0.32 -2.80 4,091.0 1.63 81.43 4,084.8 65.9 148.7 -64.7 0.33 -0.32 -2.80 4,091.0 1.63 81.43 4,084.8 65.9 148.7 -64.7 0.33 -0.32 -2.80 4,091.0 1.63 81.43 4,084.8 65.9 148.7 -64.7 0.33 -0.32 -2.80 4,091.0 1.63 81.43 4,084.8 65.9 148.7 -64.7 0.33 -0.32 -2.80 4,091.0 1.63 81.43 4,084.8 65.9 148.7 -64.7 0.33 -0.32 -2.80 4,091.0 1.63 81.43 4,084.8 65.9 148.7 -64.7 0.33 -0.32 -2.80 4,186.0 1.45 55.41 4,179.7 66.8 151.0 -66.6 0.75 -0.19 -27.39 4,281.0 2.11 58.84 4,274.7 68.4 151.5 -66.8 1.50 -0.05 -0.19 -27.39 4,281.0 2.11 58.84 4,274.7 68.4 151.5 -66.8 1.50 -0.70 0.69 3.61 4,375.0 3.38 73.43 4,366.6 70.1 157.6 68.8 1.50 -70.1										
1,913.0         1.14         35.37         1,912.6         10.6         21.3         -10.4         0.21         0.18         5.80           2,008.0         1.01         359.16         2,007.6         12.2         21.9         -12.0         0.72         -0.14         -38.12           2,197.0         1.27         12.34         2,196.5         15.9         22.3         -15.7         0.19         0.14         6.97           2,292.0         3.82         35.64         2,291.4         19.5         24.4         -19.3         2.84         2.68         24.53           2,387.0         5.85         44.95         2,386.1         25.5         29.6         -25.3         2.28         2.14         9.80           2,576.0         5.71         53.04         2,574.1         38.0         43.9         -37.6         0.44         -0.07         4.28           2,765.0         5.49         58.22         2,762.3         47.3         59.5         -46.9         0.42         0.04         -4.39           2,860.0         5.49         66.57         2,866.8         51.5         67.5         -51.0         0.84         0.00         8.79           3,049.0         55.68										
2,008.0         1,01         359.16         2,007.6         12,2         21.9         -12.0         0,72         -0,14         -38.12           2,197.0         1,27         1,234         2,196.5         15.9         22.3         -15.7         0,19         0,14         6.97           2,292.0         3,82         35.64         2,291.4         19.5         24.4         -19.3         2,84         2,68         24.53           2,387.0         5,85         44.95         2,386.1         25.5         29.6         -25.3         2,28         2,14         9.80           2,576.0         5,71         53.04         2,574.1         38.0         43.9         -37.6         0,44         -0,07         4,28           2,765.0         5,49         58.22         2,762.3         47.3         59.5         -46.9         0,42         0,04         -4.39           2,860.0         5,49         66.57         2,856.8         51.5         67.5         -51.0         0,84         0,00         8.79           3,049.0         5,58         81.69         3,044.9         56.5         84.9         -55.8         0,77         0,05         8.00           3,144.0         4,53	1,819.0	0.97	29.92	1,818.6	9.1	20.4	-9.0	0.24	-0.23	<del>-4</del> .07
2,008.0       1,01       359.16       2,007.6       12.2       21,9       -12.0       0.72       -0.14       -38.12         2,197.0       1,27       12.34       2,196.5       15.9       22.3       -15.7       0.19       0.14       6,97         2,292.0       3.82       35.64       2,291.4       19.5       24.4       -19.3       2.84       2.68       24.53         2,387.0       5.85       44.95       2,386.1       25.5       29.6       -25.3       2.28       2.14       9.80         2,576.0       5.71       53.04       2,574.1       38.0       43.9       -37.6       0.44       -0.07       4.28         2,671.0       5.45       62.35       2,688.7       42.9       51.7       -42.5       0.99       -0.27       9.80         2,765.0       5.49       66.22       2,762.3       47.3       59.5       -46.9       0.42       0.04       -4.39         2,860.0       5.49       66.57       2,856.8       51.5       67.5       -51.0       0.84       0.00       8.79         3,144.0       4.53       80.37       3,139.6       57.8       93.2       -57.0       1.11       -1.11       -1	1,913.0	1.14	35.37	1,912.6	10.6	21.3	-10.4	0.21	0.18	5.80
2,197.0       1,27       12,34       2,196.5       15,9       22,3       -15,7       0,19       0,14       6,97         2,292.0       3,82       35,64       2,291.4       19,5       24,4       -19,3       2,284       2,268       24,63         2,387.0       5,85       44,95       2,386.1       25,5       29,6       -25,3       2,28       2,14       9,80         2,576.0       5,71       53,04       2,574.1       38,0       43,9       -37,6       0,44       -0,07       4,28         2,671.0       5,45       62,35       2,668.7       42,9       51,7       -42,5       0,99       -0,27       9,80         2,765.0       5,49       66,57       2,866.8       51,5       67,5       -51,0       0,44       0,04       0,04       -4,39         2,860.0       5,49       66,57       2,866.8       51,5       67,5       -51,0       0,44       0,00       8,79         3,049.0       5,58       81,69       3,044.9       56,5       84,9       -55,8       0,77       0,05       8,00         3,144.0       4,53       30,37       3,139,6       57,8       93,2       -57,0       1,11       -1,11										
2,387.0       5.85       44.95       2,386.1       25.5       29.6       -25.3       2,28       2,14       9.80         2,576.0       5.71       53.04       2,574.1       38.0       43.9       -37.6       0.44       -0.07       4.28         2,671.0       5.45       62.35       2,668.7       42.9       51.7       -42.5       0.99       -0.27       9.80         2,765.0       5.49       58.22       2,762.3       47.3       59.5       -46.9       0.42       0.04       -4.39         2,860.0       5.49       66.57       2,856.8       51.5       67.5       -51.0       0.84       0.00       8.79         3,049.0       5.58       81.69       3,044.9       56.5       84.9       -55.8       0.77       0.05       8.00         3,144.0       4.53       80.37       3,139.6       57.8       93.2       -57.0       1.11       -1.11 <td< td=""><td>2,197.0</td><td>1.27</td><td>12.34</td><td>2,196.5</td><td>15.9</td><td>22.3</td><td>-15.7</td><td>0.19</td><td>0.14</td><td></td></td<>	2,197.0	1.27	12.34	2,196.5	15.9	22.3	-15.7	0.19	0.14	
2,576.0       5.71       53.04       2,574.1       38.0       43.9       -37.6       0.44       -0.07       4.28         2,671.0       5.45       62.35       2,668.7       42.9       51.7       -42.5       0.99       -0.27       9.80         2,765.0       5.49       68.22       2,762.3       47.3       59.5       -46.9       0.42       0.04       -4.39         2,860.0       5.49       66.57       2,856.8       51.5       67.5       -51.0       0.84       0.00       8.79         3,049.0       5.58       81.69       3,044.9       56.5       84.9       -55.8       0.77       0.05       8.00         3,144.0       4.53       80.37       3,139.6       57.8       93.2       -57.0       1.11       -1.11       -1.39         3,239.0       4.92       81.34       3,234.3       59.0       100.9       -58.2       0.42       0.41       1.02         3,3428.0       4.18       84.85       3,422.6       60.8       116.0       -59.9       0.57       -0.55       1.59         3,618.0       3.47       86.52       3,612.2       62.5       128.7       -61.5       0,69       -0.46			35.64				-19.3		2.68	
2,671.0       5.45       62.35       2,668.7       42.9       51.7       -42.5       0.99       -0.27       9.80         2,765.0       5.49       68.22       2,762.3       47.3       59.5       -46.9       0.42       0.04       -4.39         3,049.0       5.58       81.69       3,044.9       56.5       84.9       -55.8       0.77       0.05       8.00         3,144.0       4.53       80.37       3,139.6       57.8       93.2       -57.0       1.11       -1.11       -1.39         3,239.0       4.92       81.34       3,234.3       59.0       100.9       -58.2       0.42       0.41       1.02         3,334.0       4.70       83.36       3,328.9       60.1       108.8       -59.2       0.29       -0.23       2.13         3,623.0       3.91       78.97       3,517.4       61.7       122.7       -60.8       0.52       -0.28       -6.19         3,618.0       3.47       86.52       3,612.2       62.5       128.7       -61.5       0.69       -0.46       7.95         3,713.0       2.86       77.74       3,707.1       63.2       133.9       -62.2       0.82       -0.64       <	2,387.0	5.85	44.95	2,386.1	25.5	29.6	<b>-</b> 25.3	2.28	2.14	9.80
2,671.0       5.45       62.35       2,668.7       42.9       51.7       -42.5       0.99       -0.27       9.80         2,765.0       5.49       68.22       2,762.3       47.3       59.5       -46.9       0.42       0.04       4.39         3,049.0       5.58       81.69       3,044.9       56.5       84.9       -55.8       0.77       0.05       8.00         3,144.0       4.53       80.37       3,139.6       57.8       93.2       -57.0       1.11       -1.11       -1.39         3,239.0       4.92       81.34       3,234.3       59.0       100.9       -58.2       0.42       0.41       1.02         3,334.0       4.70       83.36       3,328.9       60.1       108.8       -59.2       0.29       -0.23       2.13         3,623.0       3.91       78.97       3,517.4       61.7       122.7       -60.8       0.52       -0.28       -6.19         3,618.0       3.47       86.52       3,612.2       62.5       128.7       -61.5       0.69       -0.46       7.95         3,713.0       2.86       77.74       3,707.1       63.2       133.9       -62.2       0.82       -0.64 <t< td=""><td>2 576 0</td><td>5 71</td><td>53 04</td><td>2 574 1</td><td>38.0</td><td><b>43</b> 9</td><td>-37.6</td><td>0.44</td><td>-0.07</td><td>4 28</td></t<>	2 576 0	5 71	53 04	2 574 1	38.0	<b>43</b> 9	-37.6	0.44	-0.07	4 28
2,765.0       5.49       58.22       2,762.3       47.3       59.5       -46.9       0.42       0.04       -4.39         2,860.0       5.49       66.57       2,856.8       51.5       67.5       -51.0       0.84       0.00       8.79         3,049.0       5.58       81.69       3,044.9       56.5       84.9       -55.8       0.77       0.05       8.00         3,144.0       4.53       80.37       3,139.6       57.8       93.2       -57.0       1.11       -1.11       -1.39         3,239.0       4.92       81.34       3,234.3       59.0       100.9       -58.2       0.42       0.41       1.02         3,3428.0       4.18       84.85       3,422.6       60.8       116.0       -59.9       0.57       -0.55       1.59         3,523.0       3.91       78.97       3,517.4       61.7       122.7       -60.8       0.52       -0.28       -6.19         3,618.0       3.47       86.52       3,612.2       62.5       128.7       -61.5       0.69       -0.46       7.95         3,713.0       2.86       77.74       3,707.1       63.2       133.9       -62.2       0.82       -0.64       <										
2,860.0       5.49       66.57       2,856.8       51.5       67.5       -51.0       0.84       0.00       8.79         3,049.0       5.58       81.69       3,044.9       56.5       84.9       -55.8       0.77       0.05       8.00         3,144.0       4.53       80.37       3,139.6       57.8       93.2       -57.0       1.11       -1.11       -1.39         3,239.0       4.92       81.34       3,234.3       59.0       100.9       -58.2       0.42       0.41       1.02         3,340.0       4.70       83.36       3,328.9       60.1       108.8       -59.2       0.29       -0.23       2.13         3,428.0       4.18       84.85       3,422.6       60.8       116.0       -59.9       0.57       -0.55       1.59         3,618.0       3.47       86.52       3,612.2       62.5       128.7       -61.5       0.69       -0.46       7.95         3,713.0       2.86       77.74       3,707.1       63.2       133.9       -62.2       0.82       -0.64       -9.24         3,807.0       2.51       76.24       3,801.0       64.2       138.2       -63.1       0.38       -0.37       <										
3,049.0 5.58 81.69 3,044.9 56.5 84.9 -55.8 0.77 0.05 8.00  3,144.0 4.53 80.37 3,139.6 57.8 93.2 -57.0 1.11 -1.11 -1.39 3,239.0 4.92 81.34 3,234.3 59.0 100.9 -58.2 0.42 0.41 1.02 3,334.0 4.70 83.36 3,328.9 60.1 108.8 -59.2 0.29 -0.23 2.13 3,428.0 4.18 84.85 3,422.6 60.8 116.0 -59.9 0.57 -0.55 1.59 3,523.0 3.91 78.97 3,517.4 61.7 122.7 -60.8 0.52 -0.28 -6.19  3,618.0 3.47 86.52 3,612.2 62.5 128.7 -61.5 0.69 -0.46 7.95 3,713.0 2.86 77.74 3,707.1 63.2 133.9 -62.2 0.82 -0.64 -9.24 3,807.0 2.51 76.24 3,801.0 64.2 138.2 -63.1 0.38 -0.37 -1.60 3,902.0 2.42 80.02 3,895.9 65.0 142.2 -63.9 0.20 -0.09 3.98 3,997.0 1.93 84.06 3,990.8 65.6 145.8 -64.4 0.54 -0.52 4.25  4,091.0 1.63 81.43 4,084.8 65.9 148.7 -64.7 0.33 -0.32 -2.80 4,186.0 1.45 55.41 4,179.7 66.8 151.0 -65.6 0.75 -0.19 -27.39 4,281.0 2.11 58.84 4,274.7 68.4 153.5 -67.2 0.70 0.69 3.61 4,375.0 3.38 73.43 4,368.6 70.1 157.6 -68.8 1.53 1.35 15.52 4,470.0 3.52 77.82 4,463.4 71.5 163.1 -70.2 0.31 0.15 4.62  4,565.0 3.21 83.27 4,558.2 72.4 168.6 -71.1 0.47 -0.33 5.74 4,659.0 3.74 87.23 4,652.1 72.9 174.3 -71.5 0.62 0.56 4.21 4,797.3 4.22 98.91 4,790.0 71.9 184.0 -70.4 0.21 0.00 -2.87  Base Salt										
3,239.0       4.92       81.34       3,234.3       59.0       100.9       -58.2       0.42       0.41       1.02         3,334.0       4.70       83.36       3,328.9       60.1       108.8       -59.2       0.29       -0.23       2.13         3,428.0       4.18       84.85       3,422.6       60.8       116.0       -59.9       0.57       -0.55       1.59         3,523.0       3.91       78.97       3,517.4       61.7       122.7       -60.8       0.52       -0.28       -6.19         3,618.0       3.47       86.52       3,612.2       62.5       128.7       -61.5       0.69       -0.46       7.95         3,713.0       2.86       77.74       3,707.1       63.2       133.9       -62.2       0.82       -0.64       -9.24         3,807.0       2.51       76.24       3,801.0       64.2       138.2       -63.1       0.38       -0.37       -1.60         3,997.0       1.93       84.06       3,995.9       65.0       142.2       -63.9       0.20       -0.09       3.98         4,091.0       1.63       81.43       4,084.8       65.9       148.7       -64.7       0.33       -0.32										
3,239.0       4.92       81.34       3,234.3       59.0       100.9       -58.2       0.42       0.41       1.02         3,334.0       4.70       83.36       3,328.9       60.1       108.8       -59.2       0.29       -0.23       2.13         3,428.0       4.18       84.85       3,422.6       60.8       116.0       -59.9       0.57       -0.55       1.59         3,523.0       3.91       78.97       3,517.4       61.7       122.7       -60.8       0.52       -0.28       -6.19         3,618.0       3.47       86.52       3,612.2       62.5       128.7       -61.5       0.69       -0.46       7.95         3,713.0       2.86       77.74       3,707.1       63.2       133.9       -62.2       0.82       -0.64       -9.24         3,807.0       2.51       76.24       3,801.0       64.2       138.2       -63.1       0.38       -0.37       -1.60         3,997.0       1.93       84.06       3,999.8       65.6       142.2       -63.9       0.20       -0.09       3.98         4,091.0       1.63       81.43       4,084.8       65.9       148.7       -64.7       0.33       -0.32	0.444.0	. 50	22.27	0.400.0	0	00.0				4.00
3,334.0       4.70       83.36       3,328.9       60.1       108.8       -59.2       0.29       -0.23       2.13         3,428.0       4.18       84.85       3,422.6       60.8       116.0       -59.9       0.57       -0.55       1.59         3,523.0       3.91       78.97       3,517.4       61.7       122.7       -60.8       0.52       -0.28       -6.19         3,618.0       3.47       86.52       3,612.2       62.5       128.7       -61.5       0.69       -0.46       7.95         3,713.0       2.86       77.74       3,707.1       63.2       133.9       -62.2       0.82       -0.64       -9.24         3,807.0       2.51       76.24       3,801.0       64.2       138.2       -63.1       0.38       -0.37       -1.60         3,992.0       2.42       80.02       3,895.9       65.0       142.2       -63.9       0.20       -0.09       3.98         4,091.0       1.63       81.43       4,084.8       65.9       148.7       -64.7       0.33       -0.32       -2.80         4,186.0       1.45       55.41       4,179.7       66.8       151.0       -65.6       0.75       -0.19										
3,428.0       4,18       84.85       3,422.6       60.8       116.0       -59.9       0.57       -0.55       1.59         3,523.0       3,91       78.97       3,517.4       61.7       122.7       -60.8       0.52       -0.28       -6.19         3,618.0       3.47       86.52       3,612.2       62.5       128.7       -61.5       0.69       -0.46       7.95         3,713.0       2.86       77.74       3,707.1       63.2       133.9       -62.2       0.82       -0.64       -9.24         3,807.0       2.51       76.24       3,801.0       64.2       138.2       -63.1       0.38       -0.37       -1.60         3,902.0       2.42       80.02       3,895.9       65.0       142.2       -63.9       0.20       -0.09       3.98         3,997.0       1.93       84.06       3,990.8       65.6       145.8       -64.4       0.54       -0.52       4.25         4,091.0       1.63       81.43       4,084.8       65.9       148.7       -64.7       0.33       -0.32       -2.80         4,186.0       1.45       55.41       4,179.7       66.8       151.0       -65.6       0.75       -0.19										
3,523.0 3.91 78.97 3,517.4 61.7 122.7 -60.8 0.52 -0.28 -6.19  3,618.0 3.47 86.52 3,612.2 62.5 128.7 -61.5 0.69 -0.46 7.95  3,713.0 2.86 77.74 3,707.1 63.2 133.9 -62.2 0.82 -0.64 -9.24  3,807.0 2.51 76.24 3,801.0 64.2 138.2 -63.1 0.38 -0.37 -1.60  3,902.0 2.42 80.02 3,895.9 65.0 142.2 -63.9 0.20 -0.09 3.98  3,997.0 1.93 84.06 3,990.8 65.6 145.8 -64.4 0.54 -0.52 4.25  4,091.0 1.63 81.43 4,084.8 65.9 148.7 -64.7 0.33 -0.32 -2.80  4,186.0 1.45 55.41 4,179.7 66.8 151.0 -65.6 0.75 -0.19 -27.39  4,281.0 2.11 58.84 4,274.7 68.4 153.5 -67.2 0.70 0.69 3.61  4,375.0 3.38 73.43 4,368.6 70.1 157.6 -68.8 1.53 1.35 15.52  4,470.0 3.52 77.82 4,463.4 71.5 163.1 -70.2 0.31 0.15 4.62  4,565.0 3.21 83.27 4,558.2 72.4 168.6 -71.1 0.47 -0.33 5.74  4,659.0 3.74 87.23 4,652.1 72.9 174.3 -71.5 0.62 0.56 4.21  4,797.3 4.22 98.91 4,790.0 71.9 184.0 -70.4 0.21 0.00 -2.87  Base Salt  4,849.0 4.22 97.42 4,841.6 71.3 187.7 -69.9 0.21 0.00 -2.87										
3,618.0 3.47 86.52 3,612.2 62.5 128.7 -61.5 0.69 -0.46 7.95 3,713.0 2.86 77.74 3,707.1 63.2 133.9 -62.2 0.82 -0.64 -9.24 3,807.0 2.51 76.24 3,801.0 64.2 138.2 -63.1 0.38 -0.37 -1.60 3,902.0 2.42 80.02 3,895.9 65.0 142.2 -63.9 0.20 -0.09 3.98 3,997.0 1.93 84.06 3,990.8 65.6 145.8 -64.4 0.54 -0.52 4.25 4.25 4,186.0 1.45 55.41 4,179.7 66.8 151.0 -65.6 0.75 -0.19 -27.39 4,281.0 2.11 58.84 4,274.7 68.4 153.5 -67.2 0.70 0.69 3.61 4,375.0 3.38 73.43 4,368.6 70.1 157.6 -68.8 1.53 1.35 15.52 4,470.0 3.52 77.82 4,463.4 71.5 163.1 -70.2 0.31 0.15 4.62 4,565.0 3.21 83.27 4,558.2 72.4 168.6 -71.1 0.47 -0.33 5.74 4,659.0 3.74 87.23 4,652.1 72.9 174.3 -71.5 0.62 0.56 4.21 4,797.3 4.22 98.91 4,790.0 71.9 184.0 -70.4 0.21 0.00 -2.87 Base Salt 4,849.0 4.22 97.42 4,841.6 71.3 187.7 -69.9 0.21 0.00 -2.87										
3,713.0       2.86       77.74       3,707.1       63.2       133.9       -62.2       0.82       -0.64       -9.24         3,807.0       2.51       76.24       3,801.0       64.2       138.2       -63.1       0.38       -0.37       -1.60         3,902.0       2.42       80.02       3,895.9       65.0       142.2       -63.9       0.20       -0.09       3.98         3,997.0       1.93       84.06       3,990.8       65.6       145.8       -64.4       0.54       -0.52       4.25         4,091.0       1.63       81.43       4,084.8       65.9       148.7       -64.7       0.33       -0.32       -2.80         4,186.0       1.45       55.41       4,179.7       66.8       151.0       -65.6       0.75       -0.19       -27.39         4,281.0       2.11       58.84       4,274.7       68.4       153.5       -67.2       0.70       0.69       3.61         4,375.0       3.38       73.43       4,368.6       70.1       157.6       -68.8       1.53       1.35       15.52         4,470.0       3.52       77.82       4,463.4       71.5       163.1       -70.2       0.31       0.15	3,323.0	3.91	70.97	3,317.4	01.7	122.7	-00.0	0.52	-0.20	-0.19
3,807.0       2.51       76.24       3,801.0       64.2       138.2       -63.1       0.38       -0.37       -1.60         3,902.0       2.42       80.02       3,895.9       65.0       142.2       -63.9       0.20       -0.09       3.98         3,997.0       1.93       84.06       3,990.8       65.6       145.8       -64.4       0.54       -0.52       4.25         4,091.0       1.63       81.43       4,084.8       65.9       148.7       -64.7       0.33       -0.32       -2.80         4,186.0       1.45       55.41       4,179.7       66.8       151.0       -65.6       0.75       -0.19       -27.39         4,281.0       2.11       58.84       4,274.7       68.4       153.5       -67.2       0.70       0.69       3.61         4,375.0       3.38       73.43       4,368.6       70.1       157.6       -68.8       1.53       1.35       15.52         4,470.0       3.52       77.82       4,463.4       71.5       163.1       -70.2       0.31       0.15       4.62         4,565.0       3.21       83.27       4,558.2       72.4       168.6       -71.1       0.47       -0.33										
3,902.0       2,42       80.02       3,895.9       65.0       142.2       -63.9       0.20       -0.09       3,98         3,997.0       1.93       84.06       3,990.8       65.6       145.8       -64.4       0.54       -0.52       4.25         4,091.0       1.63       81.43       4,084.8       65.9       148.7       -64.7       0.33       -0.32       -2.80         4,186.0       1.45       55.41       4,179.7       66.8       151.0       -65.6       0.75       -0.19       -27.39         4,281.0       2.11       58.84       4,274.7       68.4       153.5       -67.2       0.70       0.69       3.61         4,375.0       3.38       73.43       4,368.6       70.1       157.6       -68.8       1.53       1.35       15.52         4,470.0       3.52       77.82       4,463.4       71.5       163.1       -70.2       0.31       0.15       4.62         4,659.0       3.74       87.23       4,652.1       72.9       174.3       -71.5       0.62       0.56       4.21         4,754.0       4.22       100.15       4,746.8       72.4       180.8       -71.0       1.07       0.51										
3,997.0       1.93       84.06       3,990.8       65.6       145.8       -64.4       0.54       -0.52       4.25         4,091.0       1.63       81.43       4,084.8       65.9       148.7       -64.7       0.33       -0.32       -2.80         4,186.0       1.45       55.41       4,179.7       66.8       151.0       -65.6       0.75       -0.19       -27.39         4,281.0       2.11       58.84       4,274.7       68.4       153.5       -67.2       0.70       0.69       3.61         4,375.0       3.38       73.43       4,368.6       70.1       157.6       -68.8       1.53       1.35       15.52         4,470.0       3.52       77.82       4,463.4       71.5       163.1       -70.2       0.31       0.15       4.62         4,565.0       3.21       83.27       4,558.2       72.4       168.6       -71.1       0.47       -0.33       5.74         4,659.0       3.74       87.23       4,652.1       72.9       174.3       -71.5       0.62       0.56       4.21         4,754.0       4.22       100.15       4,746.8       72.4       180.8       -71.0       1.07       0.51										
4,091.0       1.63       81.43       4,084.8       65.9       148.7       -64.7       0.33       -0.32       -2.80         4,186.0       1.45       55.41       4,179.7       66.8       151.0       -65.6       0.75       -0.19       -27.39         4,281.0       2.11       58.84       4,274.7       68.4       153.5       -67.2       0.70       0.69       3.61         4,375.0       3.38       73.43       4,368.6       70.1       157.6       -68.8       1.53       1.35       15.52         4,470.0       3.52       77.82       4,463.4       71.5       163.1       -70.2       0.31       0.15       4.62         4,565.0       3.21       83.27       4,558.2       72.4       168.6       -71.1       0.47       -0.33       5.74         4,659.0       3.74       87.23       4,652.1       72.9       174.3       -71.5       0.62       0.56       4.21         4,754.0       4.22       100.15       4,746.8       72.4       180.8       -71.0       1.07       0.51       13.60         4,797.3       4.22       98.91       4,790.0       71.9       184.0       -70.4       0.21       0.00										
4,186.0       1.45       55.41       4,179.7       66.8       151.0       -65.6       0.75       -0.19       -27.39         4,281.0       2.11       58.84       4,274.7       68.4       153.5       -67.2       0.70       0.69       3.61         4,375.0       3.38       73.43       4,368.6       70.1       157.6       -68.8       1.53       1.35       15.52         4,470.0       3.52       77.82       4,463.4       71.5       163.1       -70.2       0.31       0.15       4.62         4,565.0       3.21       83.27       4,558.2       72.4       168.6       -71.1       0.47       -0.33       5.74         4,659.0       3.74       87.23       4,652.1       72.9       174.3       -71.5       0.62       0.56       4.21         4,754.0       4.22       100.15       4,746.8       72.4       180.8       -71.0       1.07       0.51       13.60         4,797.3       4.22       98.91       4,790.0       71.9       184.0       -70.4       0.21       0.00       -2.87         Base Salt         4,849.0       4.22       97.42       4,841.6       71.3       187.7 <td< td=""><td>3,997.0</td><td>1.93</td><td>84.06</td><td>3,990.8</td><td>65.6</td><td>145.8</td><td>-64.4</td><td>0.54</td><td>-0.52</td><td>4.25</td></td<>	3,997.0	1.93	84.06	3,990.8	65.6	145.8	-64.4	0.54	-0.52	4.25
4,281.0       2.11       58.84       4,274.7       68.4       153.5       -67.2       0.70       0.69       3.61         4,375.0       3.38       73.43       4,368.6       70.1       157.6       -68.8       1.53       1.35       15.52         4,470.0       3.52       77.82       4,463.4       71.5       163.1       -70.2       0.31       0.15       4.62         4,565.0       3.21       83.27       4,558.2       72.4       168.6       -71.1       0.47       -0.33       5.74         4,659.0       3.74       87.23       4,652.1       72.9       174.3       -71.5       0.62       0.56       4.21         4,754.0       4.22       100.15       4,746.8       72.4       180.8       -71.0       1.07       0.51       13.60         4,797.3       4.22       98.91       4,790.0       71.9       184.0       -70.4       0.21       0.00       -2.87         Base Salt         4,849.0       4.22       97.42       4,841.6       71.3       187.7       -69.9       0.21       0.00       -2.87	4,091.0	1.63	81.43	4,084.8	65.9	148.7	-64.7	0.33	-0.32	<b>-</b> 2.80
4,375.0       3.38       73.43       4,368.6       70.1       157.6       -68.8       1.53       1.35       15.52         4,470.0       3.52       77.82       4,463.4       71.5       163.1       -70.2       0.31       0.15       4.62         4,565.0       3.21       83.27       4,558.2       72.4       168.6       -71.1       0.47       -0.33       5.74         4,659.0       3.74       87.23       4,652.1       72.9       174.3       -71.5       0.62       0.56       4.21         4,754.0       4.22       100.15       4,746.8       72.4       180.8       -71.0       1.07       0.51       13.60         4,797.3       4.22       98.91       4,790.0       71.9       184.0       -70.4       0.21       0.00       -2.87         Base Salt         4,849.0       4.22       97.42       4,841.6       71.3       187.7       -69.9       0.21       0.00       -2.87	4,186.0	1.45	55.41	4,179.7	66.8	151.0	<del>-</del> 65.6	0.75	<b>-</b> 0.19	-27.39
4,470.0       3.52       77.82       4,463.4       71.5       163.1       -70.2       0.31       0.15       4.62         4,565.0       3.21       83.27       4,558.2       72.4       168.6       -71.1       0.47       -0.33       5.74         4,659.0       3.74       87.23       4,652.1       72.9       174.3       -71.5       0.62       0.56       4.21         4,754.0       4.22       100.15       4,746.8       72.4       180.8       -71.0       1.07       0.51       13.60         4,797.3       4.22       98.91       4,790.0       71.9       184.0       -70.4       0.21       0.00       -2.87         Base Salt         4,849.0       4.22       97.42       4,841.6       71.3       187.7       -69.9       0.21       0.00       -2.87	4,281.0	2.11	58.84	4,274.7	68.4	153.5	<del>-</del> 67.2	0.70	0.69	3.61
4,565.0       3.21       83.27       4,558.2       72.4       168.6       -71.1       0.47       -0.33       5.74         4,659.0       3.74       87.23       4,652.1       72.9       174.3       -71.5       0.62       0.56       4.21         4,754.0       4.22       100.15       4,746.8       72.4       180.8       -71.0       1.07       0.51       13.60         4,797.3       4.22       98.91       4,790.0       71.9       184.0       -70.4       0.21       0.00       -2.87         Base Salt         4,849.0       4.22       97.42       4,841.6       71.3       187.7       -69.9       0.21       0.00       -2.87				4,368.6					1.35	
4,659.0       3.74       87.23       4,652.1       72.9       174.3       -71.5       0.62       0.56       4.21         4,754.0       4.22       100.15       4,746.8       72.4       180.8       -71.0       1.07       0.51       13.60         4,797.3       4.22       98.91       4,790.0       71.9       184.0       -70.4       0.21       0.00       -2.87         Base Salt         4,849.0       4.22       97.42       4,841.6       71.3       187.7       -69.9       0.21       0.00       -2.87	4,470.0	3.52	77.82	4,463.4	71.5	163.1	<del>-</del> 70.2	0.31	0.15	4.62
4,659.0       3.74       87.23       4,652.1       72.9       174.3       -71.5       0.62       0.56       4.21         4,754.0       4.22       100.15       4,746.8       72.4       180.8       -71.0       1.07       0.51       13.60         4,797.3       4.22       98.91       4,790.0       71.9       184.0       -70.4       0.21       0.00       -2.87         Base Salt         4,849.0       4.22       97.42       4,841.6       71.3       187.7       -69.9       0.21       0.00       -2.87	4 565 0	3 21	83 27	4,558.2	72 4	168 6	<b>-</b> 71 1	0 47	-0.33	5 74
4,754.0       4.22       100.15       4,746.8       72.4       180.8       -71.0       1.07       0.51       13.60         4,797.3       4.22       98.91       4,790.0       71.9       184.0       -70.4       0.21       0.00       -2.87         Base Salt         4,849.0       4.22       97.42       4,841.6       71.3       187.7       -69.9       0.21       0.00       -2.87										
4,797.3       4.22       98.91       4,790.0       71.9       184.0       -70.4       0.21       0.00       -2.87         Base Salt         4,849.0       4.22       97.42       4,841.6       71.3       187.7       -69.9       0.21       0.00       -2.87										
Base Salt           4,849.0         4.22         97.42         4,841.6         71.3         187.7         -69.9         0.21         0.00         -2.87	,									
4,849.0 4.22 97.42 4,841.6 71.3 187.7 -69.9 0.21 0.00 -2.87			33,51	.,. 5515				J '	5,50	2.07
4 0 4 3 0 1 0 8 7 4 4 0 3 5 3 7 0 4 1 0 4 2 6 9 0 0 2 4 4 0 2 4 4 0 2 4 4 4 4			97.42	4,841.6	71.3	187.7	-69.9	0.21	0.00	-2.87
	4,943.0	3.91	98.74	4,935.3	70.4	194.3	-68.9	0.34	-0.33	1.40





Company: Tap Rock Resources, LLC Lea County, NM (NAD 83 NME) Project: (Hyperion) Sec-20\_T-24-S\_R-33-E Hyperion State #137H Site:

Well:

Wellbore: OWB AWB Design:

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Database:

Well Hyperion State #137H KB @ 3568.0usft (H&P 388)

KB @ 3568.0usft (H&P 388)

Grid

Minimum Curvature

⁄ey									
-,									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,020.			5,012.2	69.7	199.1	-68.2	0.87	-0.86	<b>-</b> 2.39
5,037.			5,030.0	69.6	200.1	-68.0	0.47	-0.32	5.93
	e Mountain Gp								
5,047.	9 3.16	98.57	5,040.0	69.5	200.6	-68.0	0.47	-0.32	6.10
Lamar									
5,062.		99.51	5,055.0	69.4	201.5	-67.8	0.47	-0.31	6.26
Bell Can	yon								
5,077.	9 3.07	100.48	5,070.0	69.3	202.3	-67.7	0.47	-0.31	6.45
		100.46	5,070.0	09.3	202.3	-07.7	0.47	-0.31	0.45
<b>Ramsey</b> 5,117.		103.14	5,109.0	68.8	204.3	-67.2	0.47	-0.30	6.81
5,117. 5,211.			5,109.0	68.5	204.3	-66.9	1.02	0.18	-19.07
5,211. 5,306.			5,202.9 5,297.6	71.0	209.2	-69.3	3.49	3.01	-19.07 -23.60
5,306. 5,401.			5,297.6	71.0 76.8	225.9	-69.3 -75.0	2.00	1.85	-23.60 -6.38
5,401.	0 7.74	. 50.73	۵,381.8	70.0	220.9	-/3.0	2.00	1.00	-0.36
5,495.	0 8.88	53.13	5,484.9	84.6	237.0	-82.7	1.33	1.21	-3.83
5,590.			5,578.8	93.4	248.5	-91.5	0.24	-0.14	-1.29
5,685.			5,672.5	103.1	260.8	-101.1	1.47	1.47	-0.38
5,780.			5,765.8	114.3	274.9	-112.1	1.62	1.62	0.19
5,874.			5,857.8	126.4	289.8	-124.1	0.39	0.23	-1.50
-,-			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
5,969.	0 11.03	48.73	5,950.9	138.6	304.2	-136.2	0.98	-0.93	-1.66
5,983.	3 11.01	48.69	5,965.0	140.4	306.3	-138.0	0.15	-0.14	<b>-</b> 0.27
Cherry C	•								
6,064.			6,044.2	150.6	317.8	-148.1	0.15	-0.14	-0.27
6,253 <b>.</b>			6,229.0	177.4	346.5	-174.7	1.20	1.16	-1.44
6,348.	0 13.54	44.78	6,321.5	192.8	362.0	-189.9	0.52	0.46	-1.01
6,443.	0 13.54	54.62	6,413.9	207.1	378.9	-204.1	2.42	0.00	10.36
6,537.			6,505.0	220.4	397.6	217.3	1,22	1,21	-0.37
6,632.			6,597.0	233.9	417.0	-230.6	0.83	-0.56	2.49
6,727.			6,689.2	246.4	436.4	-242.9	0.34	-0.23	1.02
6,821.			6,780.5	257.3	455.8	-253.7	1.61	-0.41	6.54
-,			.,						
6,916.	0 13.58	68.68	6,872.9	266.3	476.2	-262.5	1.21	0.04	5.18
7,011.	0 13.27	68.95	6,965.3	274.2	496.8	-270.3	0.33	-0.33	0.28
7,106.	0 13.58	71.06	7,057.7	281.8	517.5	-277.7	0.61	0.33	2.22
7,200.			7,148.9	288.8	539.0	-284.6	0.88	0.76	1.86
7,295.	0 13.23	69.82	7,241.2	296.0	560.4	-291.6	1.34	-1.12	-3.15
7,390.	0 12.00	65.96	7,333.9	303.8	579.6	-299.2	1.57	-1.29	-4.06
7,390. 7,478.			7,333.9 7,420.0	303.6	579.6 596.6	-299.2 -306.8	0.45	0.43	-4.06 -0.76
Brushy (		03.29	1,420.0	311,3	J30.0	-500.0	0.43	0.43	-0.70
7,484.		65.25	7,425.8	312.0	597.7	-307.3	0.45	0.43	-0.73
7,404. 7,579.			7,423.6 7,518.7	320.3	615.7	-307.3 -315.4	0.45	-0.75	-0.73 0.19
7,579. 7,674.			7,516.7 7,611.7	327.9	633.3	-322.9	0.75	-0.73 -0.14	2.13
7,074.	11.50	. 01.40	7,011.7	021.0	333.3	322.3	0.40	-0.14	2.10
7,768.			7,704.0	334.7	650.1	-329.6	0.96	-0.94	1.03
7,863.			7,797.4	340.9	665.9	-335.6	0.84	-0.83	0.74
7,958.			7,891.0	347.0	681.0	-341.6	0.45	-0.04	-2.59
8,052.			7,983.5	353.7	696.5	-348.2	1.12	1.12	0.37
8,147.	0 9.98	67.72	8,076.9	360.3	712.4	-354.7	0.98	-0.97	0.75





Company: Tap Rock Resources, LLC
Project: Lea County, NM (NAD 83 NME)
Site: (Hyperion) Sec-20\_T-24-S\_R-33-E

Well: Hyperion State #137H

Wellbore: OWB
Design: AWB

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Database:

Well Hyperion State #137H KB @ 3568.0usft (H&P 388)

KB @ 3568.0usft (H&P 388)

Grid

Minimum Curvature

ey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
	40.00								
8,242.0	10.20	68.51	8,170 <b>.</b> 4	366.5	727.9	-360.8	0.27	0.23	0.83
8,336.0	9.98	68.95	8,263.0	372.5	743.2	-366.6	0.25	<b>-</b> 0.23	0.47
8,431.0	10.07	66.40	8,356.5	378.7	758.5	-372.8	0.48	0.09	-2.68
8,525.0	11.12	63.67	8,448.9	386.1	774.2	-380.0	1.24	1.12	<b>-</b> 2.90
8,620.0	11.08	58.66	8,542.2	394.9	790.2	-388.7	1.02	<b>-</b> 0.04	-5.27
8,715.0	11.47	57.61	8,635.3	404.7	805.9	-398.3	0.46	0.41	-1,11
8,809.0	11.16	55.41	8,727.5	414.8	821.3	408.4	0.57	-0.33	-2.34
8,904.0	11.74	57.61	8,820.6	425.2	837.1	418.7	0.76	0.61	2.32
			8,912.7			418.7			
8,998.0	11.25	59.10		435.1	853.0		0.61	<b>-</b> 0.52	1.59
9,093.0	10.29	59.19	9,006.1	444.2	868.2	-437.3	1.01	-1.01	0.09
9,122.4	10.40	59.80	9,035.0	446.9	872.8	-440.0	0.52	0.36	2.08
Bone Sprir	ng Lime								
9,188.0	10.64	61.12	9,099.5	452.8	883.2	-445.8	0.52	0.37	2.01
9,282.0	11.43	62.09	9,191.7	461.3	899.0	-454.2	0.86	0.84	1.03
9,285.3	11.35	62.01	9,195.0	461.6	899.6	-454.5	2.41	<b>-</b> 2.37	-2.25
Upper Ava	lon								
9,377.0	9.19	59.45	9,285.2	469.6	913.9	-462.4	2.41	-2.36	-2.80
9,523.6	8.53	62.45	9,430.0	480.6	933.6	-473.2	0.55	-0.45	2.05
Middle Ava	alon								
9,566.0	8.35	63.41	9,472.0	483.4	939.2	-476.0	0.55	-0.44	2.25
9,661.0	7.87	58.57	9,566.0	489.9	950.9	-482.4	0.88	-0.51	-5.09
9,756.0	10.73	57.78	9,659.8	498.0	963.9	-490.4	3.01	3.01	-0.83
9,850.0	13.36	57.87	9,751.7	508.4	980.5	-500.7	2.80	2.80	0.10
9,899.6	12.70	57.96	9,800.0	514.4	990.0	-506.6	1.34	-1.34	0.18
Lower Ava									
9,945.0	12.09	58.05	9,8 <b>44.</b> 4	519.5	998.3	-511.7	1.34	-1.34	0.20
10,040.0	10.77	57.43	9,937.5	529.6	1,014.2	-521.6	1.40	-1.39	-0.65
10,134.0	10.77	55.06	10,029.8	539.3	1,028.8	-531.2	0.47	0.00	<b>-</b> 2.52
10,159.6	10.66	55.18	10,055.0	542.1	1,032.7	-533.9	0.43	<b>-</b> 0.42	0.45
1st Bone S	Spring Sand								
10,229.0	10.37	55.50	10,123.2	549.3	1.043.1	-541.0	0.43	-0.42	0.47
					.,				
10,324.0	8.84	54.88	10,216.9	558.3	1,056.1	-550.0	1.61	-1.61	-0.65
10,418.0	7.82	55.06	10,309.9	566.1	1,067.3	-557.7	1.09	-1.09	0.19
10,493.8	7.69	64.01	10,385.0	571.3	1,076.1	-562.8	1.60	<b>-</b> 0.17	11.81
	Spring Carb								
10,513.0	7.69	66.31	10,404.0	572.4	1,078.4	-563.9	1.60	<b>-</b> 0.01	11.96
10,608.0	6.20	70.97	10,498.3	576.6	1,089.1	-568.0	1.68	<b>-</b> 1.57	4.91
10,702.0	5.14	62.97	10,591.9	580.2	1,097.6	-571.5	1.40	-1.13	<b>-</b> 8.51
10,797.0	4.09	58.93	10,686.6	583.8	1,104.3	-575.2	1.16	-1.11	-4.25
10,825.5	4.05	58.30	10,715.0	584.9	1,106.0	-576.2	0.21	-0.14	-2.19
	Spring Sand								
10,891.0	3.96	56.82	10,780.3	587.4	1,109.9	-578.6	0.21	-0.14	-2.27
10,986.0	2.90	69.21	10,875.1	590.0	1,114 <b>.</b> 9	-581.2	1.36	-1.12	13.04





Company: Tap Rock Resources, LLC Lea County, NM (NAD 83 NME) Project: (Hyperion) Sec-20\_T-24-S\_R-33-E Site:

Well: Hyperion State #137H

Wellbore: OWB AWB Design:

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Database:

Well Hyperion State #137H KB @ 3568.0usft (H&P 388)

KB @ 3568.0usft (H&P 388)

Grid Minimum Curvature

urvey									
Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth (usft)	Inclination (°)	Azimuth (°)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Section (usft)	Rate (°/100usft)	Rate (°/100usft)	Rate (°/100usft)
11,175.0	2.59	82.92	11,063.9	591.9	1,123.6	-583.0	0.17	-0.10	2.99
11,270.0	2.24	76.42	11,158.9	592.6	1,127.5	-583.7	0.47	-0.37	-6.84
11,364.0	1.49	77.21	11,252.8	593.3	1,130.5	-584.4	0.80	-0.80	0.84
11,416.2	0.77	88.58	11,305.0	593.4	1,131.5	-584.5	1.45	-1.39	21.78
	Spring Carb	400.50	110170	500.4	4 404 0	504.4		4.00	440.04
11,459.0	0.31	139.52	11,347.8	593.4	1,131.9	-584.4	1.45	-1.06	119.04
11,553.0	1.14	264.06	11,441.8	593.1	1,131.1	-584.2	1.43 0.77	0.88	132.49
11,647.0 11,742.0	1.85 2.07	269.95 256.42	11,535.8 11,630.7	593.0 592.6	1,128.7 1,125.5	-584.1 -583.7	0.77	0.76 0.23	6.27 <b>-</b> 14.24
r			,						
11,836.0	1.89	240.77	11,724.6	591.4	1,122.5	-582.6	0.60	<b>-</b> 0.19	-16.65
11,931.0 12,026.0	0.97 1.23	233.13 253.96	11,819.6 11,914.6	590.2 589.4	1,120.4 1,118.8	-581.3 -580.6	0.99 0.50	-0.97 0.27	-8.04 21.93
12,020.0	1.18	255.96	11,914.0	589.4 589.4	1,118.7	-580.6	0.99	-0.84	24.41
	Spring Sand	255.20	11,320.0	303.4	1,110.7	-500.0	0.55	-0.04	۷٦,٠٠١
12,102.0	0.70	287.18	11,990.6	589.3	1,117.6	-580.5	0.99	-0.69	45.19
12,186.0	0.70	202.01	12,074.6	589.0	1,116.9	-580.2	1.13	0.00	-101.39
12,280.0	1.67	203.59	12,168.6	587.2	1,116.1	-578.4	1.03	1.03	1.68
12,341.9	10.88	167.29	12,230.0	580.7	1,117.1	-571.9	15.50	14.89	-58.68
3rd BS W	Sand								
12,375.0	16.00	165.36	12,262.2	573.2	1,118.9	-564.4	15.50	15.44	<b>-</b> 5.82
12,437.2	26.94	160.37	12,320.0	551.6	1,125.8	-542.7	17.82	17.59	<b>-</b> 8.02
Wolfcamp	A X Sand								
12,469.9	32.73	159.03	12,348.4	536.3	1,131.5	-527.4	17.82	17.70	<del>-</del> 4.10
	469.9'MD, 100'l								
12,470.0	32.75	159.03	12,348.5	536.3	1,131.5	-527.3	17.82	17.72	-3.44
12,565.0	42.73	162.02	12,423.5	481.5	1,150.7	<b>-472.4</b>	10.68	10.51	3.15
12,580.8	43.72	163.21	12,435.0	471.1	1,153.9	<b>-</b> 462.1	8.13	6.27	7.56
12,612.0	<b>A Y Sand</b> 45.71	165.45	12,457.2	450.0	1,159.9	<b>-</b> 440.9	8.13	6.38	7.17
12,660.0	48.62	170.72	12,489.8	415.6	1,167.1	-406.4	10.07	6.06	10.98
12,722.4	51.33	178.22	12,530.0	368.0	1,171.6	-358.8	10.16	4.34	12.01
Wolfcamp			,		,				
12,755.0		181.89	12,550.0	342.4	1,171.6	-333.1	10.16	4.89	11.28
12,851.0	55.56	183.03	12,606.1	264.5	1,168.2	-255.3	2.91	2.75	1.19
12,946.0	60.13	180.74	12,656.6	184.2	1,165.6	-175.0	5.23	4.81	-2.41
13,041.0	73.67	178.99	12,693.8	97.0	1,165.9	<del>-</del> 87.8	14.35	14.25	-1.84
13,137.0	77.05	179.25	12,718.1	4.1	1,167.3	5.0	3.53	3.52	0.27
13,232.0	84.44	180.66	12,733.4	-89.6	1,167.4	98.7	7.92	7.78	1.48
13,290.0	88.13	182.06	12,737.1	-147.4	1,166.0	156.6	6.80	6.36	2.41
13,385.0	87.16	182.15	12,741.0	-242.3	1,162.5	251.4	1.03	-1.02	0.09
13,476.0	86.46	181.45	12,746.1	-333.1	1,159.7	342.2	1.09	-0.77	<b>-</b> 0.77
13,571.0	90.02	180.83	12,749.0	<del>-</del> 428.0	1,157.8	437.1	3.80	3.75	<b>-</b> 0.65
13,664.0	94.29	180.57	12,745.5	-520.9	1,156.7	530.0	4.60	4.59	<b>-</b> 0.28
13,760.0	92.62	180.57	12,739.7	<b>-</b> 616.7	1,155.7	625.8	1.74	-1.74	0.00
13,853.0	90.99	181.18	12,736.8	-709.7	1,154.3	718.7	1.87	-1.75	0.66





Company: Tap Rock Resources, LLC Lea County, NM (NAD 83 NME) Project: (Hyperion) Sec-20\_T-24-S\_R-33-E Hyperion State #137H Site:

Well:

Wellbore: OWB AWB Design:

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Database:

Well Hyperion State #137H KB @ 3568.0usft (H&P 388)

KB @ 3568.0usft (H&P 388) Grid

Minimum Curvature

Burvey									
Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth (usft)	Inclination (°)	Azimuth (°)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Section (usft)	Rate (°/100usft)	Rate (°/100usft)	Rate (°/100usft)
13,944.0	89.63	180.92	12,736.3	-800.6	1,152.6	809.7	1.52	-1.49	<b>-</b> 0.29
14,039.0	88.88	181.62	12,737.5	-895.6	1,150.5	904.6	1.08	-0.79	0.74
14,135.0	87.74	179.51	12,740.4	-991.6	1,149.6	1,000.5	2.50	-1.19	<b>-</b> 2.20
14,226.0	89.41	177.75	12,742.6	-1,082.5	1,151.7	1,091.5	2.67	1.84	-1.93
14,321.0	88.88	178.63	12,744.1	-1,177.4	1,154.7	1,186.5	1.08	-0.56	0.93
14,415.0	88.92	179.69	12,745.9	-1,271.4	1,156.1	1,280.4	1.13	0.04	1.13
14,510.0	88.84	179.69	12,747.7	-1,366.4	1,156.6	1,375.4	0.08	-0.08	0.00
14,602.0	95.12	181.18	12,744.5	-1,458.3	1,155.9	1,467.3	7.02	6.83	1.62
14,698.0	92.70	180.92	12,738.0	-1,554.0	1,154.2	1,563.0	2.54	-2.52	<b>-</b> 0.27
14,793.0	91.08	180.66	12,734.9	-1,649.0	1,152.9	1,658.0	1.73	-1.71	-0.27
14,888.0	90.15	182.06	12,733.8	-1,743.9	1,150.6	1,752.9	1,77	-0.98	1.47
14,981.0	89.36	181.53	12,734.2	-1,836.9	1,147.7	1,845.8	1.02	-0.85	<b>-</b> 0.57
15,077.0	89.23	180.66	12,735.4	-1,932.9	1,145.9	1,941.8	0.92	-0.14	<b>-</b> 0.91
15,172.0	91.96	179.78	12,734.4	-2,027.8	1,145.5	2,036.8	3.02	2.87	-0.93
15,267.0	91.47	179.69	12,731.6	-2,027.8 -2,122.8	1,145.9	2,030.0	0.52	-0.52	-0.09
15,207.0	31,47	179,09	12,731.0	-2,122.0	1,145.5	2,131.7	0.52	-0.52	-0.09
15,363.0	89.71	179.07	12,730.6	-2,218.8	1,147.0	2,227.7	1.94	-1.83	-0.65
15,458.0	90.11	178.55	12,730.7	-2,313.8	1,149.0	2,322.7	0.69	0.42	<b>-</b> 0.55
15,553.0	92.04	178.81	12,729.0	-2,408.7	1,151.1	2,417.7	2.05	2.03	0.27
15,648.0	91.25	178.63	12,726.2	-2,503.7	1,153.3	2,512.6	0.85	-0.83	-0.19
15,744.0	89.71	177.58	12,725.4	-2,599.6	1,156.4	2,608.6	1.94	-1.60	-1.09
15,838.0	93.85	178.11	12,722.5	-2,693.5	1,160.0	2,702.5	4.44	4.40	0.56
15,934.0	90.37	172.31	12,719.0	-2,789.0	1,168.0	2,798.1	7.04	-3.63	<b>-</b> 6.04
16,029.0	91.96	174.33	12,717.0	-2,883.3	1,179.0	2,892.5	2.71	1.67	2.13
16,124.0	92.35	175.65	12,713.5	-2,977.9	1,187.3	2,987.1	1.45	0.41	1.39
16,220.0	90.24	173.71	12,711.3	-3,073.4	1,196.2	3,082.7	2.99	-2.20	-2.02
16,315.0	90.99	178.11	12,710.3	-3,168.2	1,203.0	3,177.5	4.70	0.79	4.63
16,410.0	91.03	181.18	12,708.6	-3,263.1	1,203.6	3,272.5	3.23	0.04	3.23
16,505.0	90.99	182.68	12,706.9	-3,358.1	1,200.4	3,367.4	1.58	-0.04	1.58
16,600.0	89.76	182.94	12,706.3	-3,453.0	1,195.7	3,462.2	1.32	-1.29	0.27
16,696.0	88.66	183.03	12,707.6	-3,548.8	1,190.7	3,558.1	1.15	-1.15	0.09
16,791.0	86.64	182.15	12,711.5	-3,643.6	1,186.4	3,652.8	2.32	-2.13	-0.93
16,886.0	90.29	182.24	12,714.1	-3,738.5	1,182.8	3,747.7	3.84	3.84	0.09
16,982.0	90.73	182.41	12,713.2	-3,834.4	1,178.9	3,843.6	0.49	0.46	0.18
17,075.0	86.95	182.59	12,715.1	-3,927.3	1,174.8	3,936.4	4.07	-4.06	0.19
17,170.0	91.69	181.09	12,716.2	-4,022.2	1,171.8	4,031.3	5.23	4.99	-1.58
17,266.0	89.27	180.13	12,715.4	<b>-</b> 4,118.2	1,170.8	4,127.3	2.71	-2.52	-1.00
17,362.0	92.04	180.66	12,713.4	-4,110.2 -4,214.2	1,170.1	4,223.2	2.94	2.89	0.55
17,457.0	93.32	180.39	12,714.3	-4,214.2 -4,309.1	1,169.2	4,318.1	1.38	1.35	<b>-</b> 0.28
17,457.0	89.41	178.19	12,709.9	-4,309.1 -4,405.0	1,170.4	4,414.1	4.67	-4.07	<b>-</b> 2.29
17,648.0	88.44	178.81	12,707.0	-4,403.0 -4,500.0	1,170.4	4,509.0	1.21	-1.02	0.65
17,687.0	87.87	178.81	12,710.6	-4,538.9	1,173.7	4,548.0	1.46	-1.46	0.00
LAST SVY		178.81	12,710.6	-4,539.2				0.00	



### Intrepid

Survey Report



Company: Tap Rock Resources, LLC Project: Lea County, NM (NAD 83 NME) (Hyperion) Sec-20\_T-24-S\_R-33-E Site:

Hyperion State #137H Well:

Wellbore: OWB AWB Design:

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Database:

Well Hyperion State #137H

KB @ 3568.0usft (H&P 388) KB @ 3568.0usft (H&P 388)

Grid

Minimum Curvature

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
LTP @ 17	687.3'MD, 100'	FSL & 334.9'F	-WL						
17,760.0	87.87	178.81	12,713.4	<b>-</b> 4,611.9	1,175.2	4,621.0	0.00	0.00	0.00
Projection	1 to TD @ 1776	0'MD, 27.3'FS	SL & 335.8'FW	L					

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL (Hyperion Stat - actual wellpath - Rectangle (side	misses target	center by 2		-4,634.0 17760.0usft <b>i</b>	1,172.0 MD (12713.4	435,797.00 TVD, -4611.9 N	770,270.00 , 1175.2 E)	32° 11' 45.303 N	103° 35' 35.678 W
LTP (Hyperion State - actual wellpath - Point			12,709.0 3.2usft at 1	-4,539.0 7687.0usft M	1,171.0 D (12710.6	435,892.00 TVD, -4538.9 <b>N</b> ,	770,269.00 1173.7 E)	32° 11' 46.243 N	103° 35' 35.682 W
FTP (Hyperion State - actual wellpath - Point			12,741.3 272.5usft a	536.0 t 12722.4usft	1,134.0 : MD (12530	440,967.00 .0 TVD, 368.0 N,	770,232.00 1171.6 E)	32° 12′ 36.464 N	103° 35' 35.706 W

rmations						
	Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
	1,180.2	1,180.0	Rustler Anhydrite			
	1,525.3	1,525.0	Top Salt			
	4,797.3	4,790.0	Base Salt			
	5,037.8	5,030.0	Delaware Mountain Gp			
	5,047.9	5,040.0	Lamar			
	5,062.9	5,055.0	Bell Canyon			
	5,077.9	5,070.0	Ramsey Sand			
	5,983.3	5,965.0	Cherry Canyon			
	7,478.1	7,420.0	Brushy Canyon			
	9,122.4	9,035.0	Bone Spring Lime			
	9,285.3	9,195.0	Upper Avalon			
	9,523.6	9,430.0	Middle Avalon			
	9,899.6	9,800.0	Lower Avalon			
	10,159.6	10,055.0	1st Bone Spring Sand			
	10,493.8	10,385.0	2nd Bone Spring Carb			
	10,825.5	10,715.0	2nd Bone Spring Sand			
	11,416.2	11,305.0	3rd Bone Spring Carb			
	12,031.4	11,920.0	3rd Bone Spring Sand			
	12,341.9	12,230.0	3rd BS W Sand			
	12,437.2	12,320.0	Wolfcamp A X Sand			
	12,580.8	12,435.0	Wolfcamp A Y Sand			
	12,722.4	12,530.0	Wolfcamp A Lower			





Company: Tap Rock Resources, LLC Project: Lea County, NM (NAD 83 NME) (Hyperion) Sec-20\_T-24-S\_R-33-E Hyperion State #137H Site:

Well:

Wellbore: OWB AWB Design:

Local Co-ordinate Reference: TVD Reference:

MD Reference: North Reference:

**Survey Calculation Method:** 

Database:

Well Hyperion State #137H

KB @ 3568.0usft (H&P 388) KB @ 3568.0usft (H&P 388)

Grid

Minimum Curvature

Design Ann	otations				
	Measured	Vertical	Local Coo	rdinates	
	Depth (usft)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
	12,469.9	12,348.4	536.3	1,131.5	FTP @ 12469.9'MD, 100'FNL & 331.5'FWL
	17,687.0	12,710.6	<b>-</b> 4,538.9	1,173.7	LAST SVY
	17,687.3	12,710.6	<b>-</b> 4,539.2	1,173.7	LTP @ 17687.3'MD, 100'FSL & 334.9'FWL
	17,760.0	12,713.4	<b>-</b> 4,611.9	1,175.2	Projection to TD @ 17760'MD, 27.3'FSL & 335.8'FWL

Checked By: Approved By: Date:	
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