

NOBLE ENERGY, INC

noble energy

BAKER
HUGHES

Location: COLORADO

Slot: Karakakes H13-32

Field: WELD COUNTY (NOBLE NAD 83)

Well: Karakakes H13-32

Facility: SEC.13-T3N-R65W

Wellbore: Karakakes H13-32 PWB

ENSIGN

United States Drilling

INTEQ

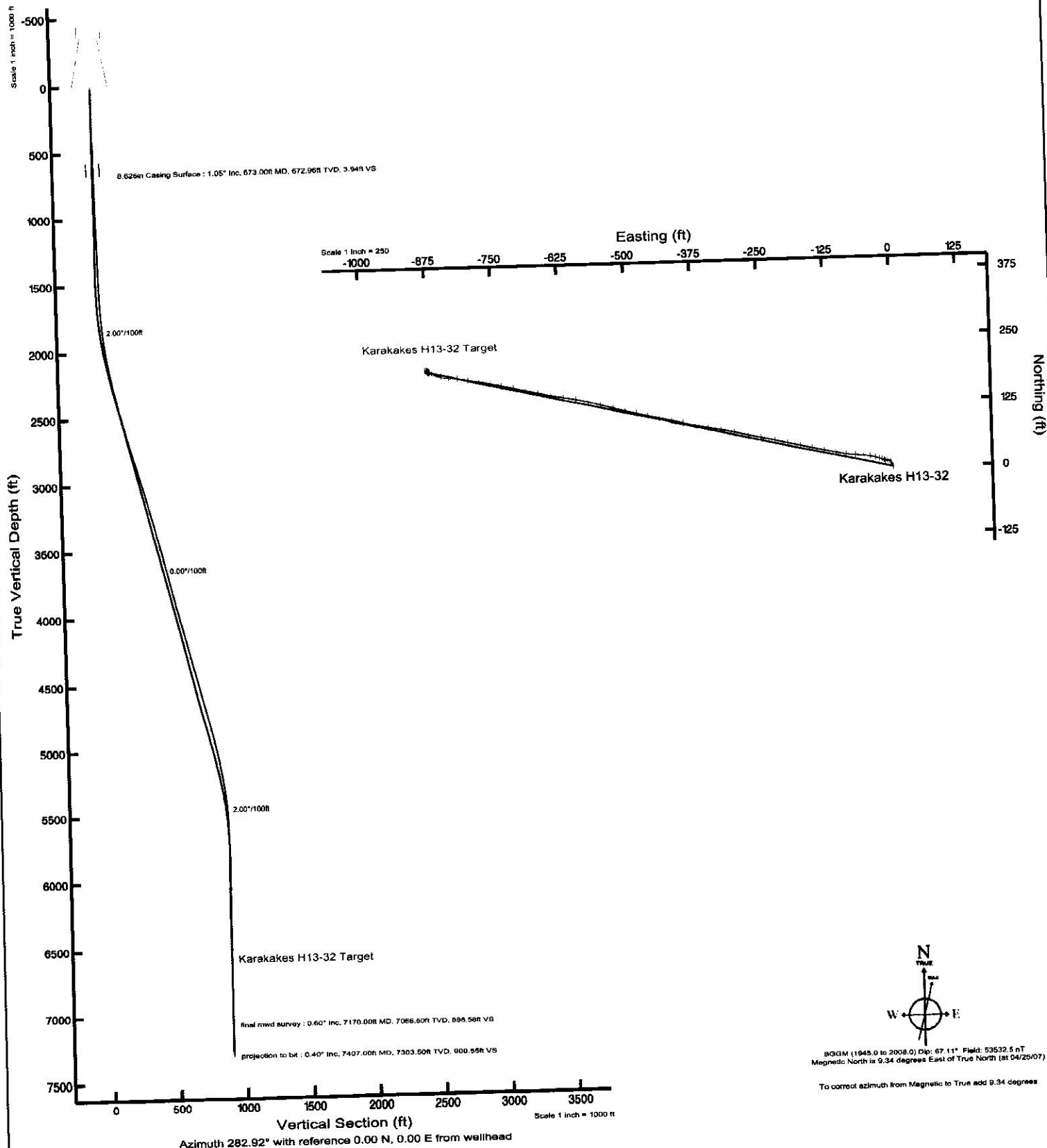
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01838707

123-25084

Plot reference wellbore is Karakakes H13-32 wellbore	Grid System: NAD83 / Lambert Colorado State Plane, Northern Zone (801), US feet
True vertical depths are referenced to Ensign T (RT)	North Reference: True north
Measured depths are referenced to Ensign T (RT)	Scale: True distance
Ensign T (RT) to Mean Sea Level: 4883 feet	Depths are in feet
Mean Sea Level to Mud line (Facility): SEC.13-T3N-R65W: 0 feet	Created by: Suzanne Thompson on 8/6/2007
Coordinates are in feet referenced to St	



Actual Wellpath Report

Karakakes H13-32 AWP

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REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	Karakakes H13-32
Area	COLORADO	Well	Karakakes H13-32
Field	WELD COUNTY (NOBLE NAD 83)	Wellbore	Karakakes H13-32 AWB
Facility	SEC.13-T3N-R65W		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert Colorado State Planes, Northern Zone (501), US feet	Software System	WellArchitect™ 1.2
North Reference	True	User	Suzanne Thompson
Scale	0.999957	Report Generated	06/06/07 at 09:00:14
Wellbore last revised	06/01/07	Database/Source file	WA_Denver/Karakak

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North [feet]	East [feet]	Easting [US feet]	Northing [US feet]	Latitude [°]	Longitude [°]
Slot Location	976.34	717.65	3246383.43	1325918.84	40 13 28.848N	104 37 03.432W
Facility Reference Pt			3245675.53	1324935.48	40 13 19.200N	104 37 12.684W
Field Reference Pt			3000000.00	4454105.15	48 46 34.315N	105 30 00.000W

WELLPATH DATUM

Calculation method	Minimum curvature	Ensign 7 (RT) to Facility Vertical Datum	4853.00 feet
Horizontal Reference Pt	Slot	Ensign 7 (RT) to Mean Sea Level	4853.00 feet
Vertical Reference Pt	Ensign 7 (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00 feet
MD Reference Pt	Ensign 7 (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	282.92°

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**BAKER
HUGHES**

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Facility	SEC.13-T3N-R65W		

WELLPATH DATA (62 stations) † = interpolated/extrapolated station

MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DLS [°/100ft]
0.00†	0.000	0.000	0.00	0.00	0.00	0.00	0.00
16.00	0.000	0.000	16.00	0.00	0.00	0.00	0.00
703.00	1.100	332.100	702.96	4.31	5.83	-3.09	0.16
890.00	1.200	335.200	889.92	6.68	9.19	-4.75	0.06
1078.00	1.300	297.300	1077.88	9.95	11.96	-7.47	0.43
1264.00	1.200	261.400	1263.84	13.81	12.63	-11.27	0.42
1452.00	1.000	257.500	1451.80	17.12	11.98	-14.82	0.11
1545.00	1.900	312.400	1544.78	19.20	12.85	-16.75	1.67
1639.00	3.000	290.900	1638.69	22.99	14.78	-20.20	1.51
1733.00	4.000	288.500	1732.51	28.69	16.69	-25.60	1.07
1827.00	5.900	290.900	1826.16	36.74	19.46	-33.23	2.03
1920.00	6.500	279.300	1918.62	46.72	22.01	-42.89	1.49
2014.00	8.500	273.700	2011.81	58.89	23.32	-55.07	2.26
2108.00	10.400	276.900	2104.53	74.19	24.79	-70.43	2.10
2202.00	11.500	279.000	2196.82	91.98	27.28	-88.11	1.24
2295.00	13.000	283.200	2287.70	111.69	31.11	-107.45	1.88
2389.00	14.300	281.800	2379.04	133.87	35.90	-129.11	1.43
2483.00	14.200	281.400	2470.15	157.00	40.56	-151.77	0.15
2577.00	14.800	283.300	2561.16	180.53	45.60	-174.76	0.81
2671.00	14.600	283.900	2652.08	204.38	51.20	-197.94	0.27
2765.00	15.700	282.200	2742.81	228.94	56.74	-221.88	1.26
2859.00	16.100	281.800	2833.22	254.69	62.09	-247.07	0.44
2951.00	15.900	281.800	2921.65	280.05	67.28	-271.89	0.22
3045.00	16.300	284.300	3011.97	306.11	73.17	-297.27	0.85
3138.00	15.400	279.700	3101.43	331.49	78.47	-322.09	1.66
3232.00	15.400	281.100	3192.06	356.42	82.98	-346.65	0.40
3326.00	14.800	281.100	3282.81	380.90	87.69	-370.67	0.64
3420.00	14.200	283.600	3373.82	404.43	92.72	-393.66	0.92
3513.00	13.700	282.900	3464.08	426.85	97.86	-415.48	0.57
3607.00	14.300	283.600	3555.28	449.59	103.07	-437.62	0.66
3701.00	13.700	284.600	3646.49	472.32	108.61	-459.67	0.69
3795.00	13.200	282.500	3737.91	494.18	113.74	-480.92	0.74
3889.00	14.000	284.300	3829.28	516.28	118.87	-502.42	0.96
3982.00	14.700	284.900	3919.37	539.32	124.68	-524.73	0.77
4076.00	15.000	286.400	4010.24	563.38	131.18	-547.92	0.52
4170.00	14.300	284.300	4101.18	587.13	137.48	-570.84	0.93
4264.00	14.600	281.800	4192.21	610.58	142.77	-593.69	0.74
4358.00	14.800	278.600	4283.13	634.40	146.99	-617.15	0.89
4451.00	14.900	282.500	4373.03	658.20	151.36	-640.57	1.08
4545.00	15.000	282.900	4463.85	682.45	156.69	-664.23	0.15

Actual Wellpath Report

Karakakes H13-32 AWP

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NOBLE ENERGY, INC	Slot	Karakakes H13-32
Area	COLORADO	Well	Karakakes H13-32
Field	WELD COUNTY (NOBLE NAD 83)	Wellbore	Karakakes H13-32 AWB
Facility	SEC.13-T3N-R65W		

WELLPATH DATA (62 stations) † = interpolated/extrapolated station							
MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DLS [°/100ft]
4639.00	15.000	282.900	4554.64	706.78	162.12	-687.94	0.00
4733.00	14.200	283.200	4645.61	730.47	167.47	-711.03	0.85
4827.00	13.500	284.600	4736.87	752.97	172.87	-732.87	0.83
4920.00	13.300	280.700	4827.34	774.51	177.59	-753.89	1.00
5014.00	13.300	278.600	4918.82	796.09	181.21	-775.20	0.51
5108.00	12.700	276.900	5010.41	817.15	184.07	-796.15	0.76
5202.00	11.300	278.300	5102.36	836.61	186.64	-815.52	1.52
5296.00	9.400	281.100	5194.82	853.46	189.45	-832.17	2.09
5389.00	7.800	281.100	5286.78	867.36	192.13	-845.82	1.72
5483.00	5.900	285.000	5380.10	878.57	194.61	-856.74	2.08
5577.00	4.100	291.300	5473.74	886.72	197.08	-864.54	2.00
5671.00	2.300	295.200	5567.59	891.89	199.10	-869.38	1.93
5764.00	0.800	301.100	5660.55	894.33	200.23	-871.62	1.62
5858.00	0.200	113.100	5754.55	894.79	200.51	-872.03	1.06
6046.00	0.900	96.200	5942.54	893.00	200.22	-870.26	0.38
6233.00	0.300	332.100	6129.53	891.86	200.49	-869.03	0.59
6608.00	0.500	310.300	6504.52	893.96	202.42	-870.74	0.07
6796.00	0.400	294.100	6692.52	895.33	203.22	-871.97	0.09
6982.00	0.500	283.200	6878.51	896.78	203.67	-873.35	0.07
7170.00	0.600	284.300	7066.50	898.58	204.10	-875.10	0.05
7357.00	0.400	273.400	7253.50	900.20	204.38	-876.70	0.12
7407.00†	0.400	273.400	7303.50	900.55	204.40	-877.05	0.00

HOLE & CASING SECTIONS Ref Wellbore: Karakakes H13-32 AWB Ref Wellpath: Karakakes H13-32 AWP									
String/Diameter	Start MD [feet]	End MD [feet]	Interval [feet]	Start TVD [feet]	End TVD [feet]	Start N/S [feet]	Start E/W [feet]	End N/S [feet]	End E/W [feet]
8.625in Casing Surface	16.00	673.00	657.00	16.00	672.96	0.00	0.00	5.33	-2.82

TARGETS									
Name	MD [feet]	TVD [feet]	North [feet]	East [feet]	Grid East [us survey feet]	Grid North [us survey feet]	Latitude [°]	Longitude [°]	Shape
Karakakes H13-32 Target		6500.00	200.50	-874.30	3245507.21	1326110.63	40 13 30.829N	104 37 14.704W	point

WELLPATH COMPOSITION Ref Wellbore: Karakakes H13-32 AWB Ref Wellpath: Karakakes H13-32 AWP				
Start MD [feet]	End MD [feet]	Positional Uncertainty Model	Log Name/Comment	Wellbore
16.00	7357.00	NaviTrak (Standard)	BHI MWD <703-7407>	Karakakes H13-32 AWB
7357.00	7407.00	Blind Drilling (std)	Projection to bit	Karakakes H13-32 AWB



Actual Wellpath Report

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INTEQ



REFERENCE WELLPATH IDENTIFICATION

Operator	NOBLE ENERGY, INC	Slot	Karakakes H13-32
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Field	WELD COUNTY (NOBLE NAD 83)	Wellbore	Karakakes H13-32 AWB
Facility	SEC.13-T3N-R65W		

WELLPATH COMMENTS

MD [feet]	Inclination [degrees]	Azimuth [degrees]	TVD [feet]	Comment
7170.00	0.600	284.300	7066.50	final mwd survey
7407.00	0.400	273.400	7303.50	projection to bit

END OF WELL SUMMARY

INTEQ

Job Number:		Dir. Coordinator		MWD Coordinator:	
Well Name:	Karakakes	Drilling Engineer:	Kevin Hoshall	MWD Operator 1	Robert Walker
Company:	Noble Energy	Dir. Driller 1:	Kevin Hoshall	MWD Operator 2	Mike Johnston
Field:	DJ Basin	Dir. Driller 2:	Jesus Gallego	MWD Trainee:	
County/Parish/Blk:	Weld county	Dir. Driller Trainee:		Other:	
Job Start Date:	5/16/2007	# Motor Failures:	0	# MWD Failures:	0
Job End Date:	5/21/2007	Comments:		Comments:	

[illegible]

Operational Synopsis:



BOTTOM HOLE ASSEMBLY

BHA #: 1

Date Run: 5/17/2007

Depth in: 673

Depth Out: 7407

INTEQ

Company: Noble Energy

Well Name & No.: Karakakes H13-32

Field: DJ Basin

Rig Contractor & No.: Ensign 7

County/Block/Par.: Weld county

BIT DATA

No.	Bit Size	Mfr	Type	Serial No.	Noz. or TFA	Gauge Length	Cum. Footage	Cum. Hours	Depth Out	DULL CONDITION								Comp. Length
										IR	OR	DC	LOC	B/S	G/16	OC	RPLD	
2	7.875	HTC	HCM405Z	7108574	5x14, 2x12	2.5	6765	59.75	7407	2	3	CT	G	2	I	NO	TD	1.00

BHA DESCRIPTION

[illegible]

STABILIZER DATA

[illegible]

DRILL PIPE DATA

Drillpipe	Grade	OD	ID	Wt./ft	Conn.	Lgth
Upper				0.0		*****
Lower				0.0		0.00

BHA WEIGHT DATA

BHA Weight	In Air	In Mud
Total	22600	19582
Lower	9873	8550

RUN SUMMARY

Mode	Footage:	Drig Hrs	Circ Hrs	ROP	WOB (Klbs)	Rot RPM	Rot Tq	Flow Rate	Avg Diff	SPP
Sliding	316	15.17	*****	20.8	14			359	263	1211
Rotating	6449	44.58	*****	144.7	17	55		383	315	1263
Total	6765	59.75	4.75	113.2	15	55	0	373	290	1238

Survey Sensor to Bit:	48.93	Gamma Sensor to Bit:	N/A	Motor Bit to Bend:	5.92	Motor Bit to Stabilizer:	N/A
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Center of Clamp-on to Center of UBHS: N/A Mud Type: Water Mud Weight 8.5 Hrs in Hole: 83.91666

Objective For Running BHA:

Build, Hold, Drop Assembly

BHA Results:

Strong to Moderate drop in rotetry. Good P-rate

Reason for POOH:

TD

BHI Directional Drillers: Kevin Hoshall Jesus Gallego

BHI Job #: