

Results of Directional Survey

API number:	30-025-40753		
OGRID:		Operator:	OCCIDENTAL PERMIAN LTD
		Property:	AMOCO 21 FEDERREAL # 1H

surface	ULSTR:	A	21	T 19S	R 32E
				470 FNL	660 FEL

BH Loc	ULSTR:	P	21	T 19S	R 32E
13566	MD	9383.9	TVD	325 FSL	592 FEL
				4955 FNL	

Top Perf/OH	ULSTR:	A	21	T 19S	R 32E
9954	MD	9413.4	TVD	1345 FNL	609 FEL

Bot Perf/OH	ULSTR:	P	21	T 19S	R 32E
13452	MD	9391.2	TVD	439 FSL	591 FEL
				4841 FNL	

	MD	N/S	E/W	VD
	9889	-809.82	50.90	9415.68
TOP PERFS/OH	9954	-874.78	50.61	9413.42
	9984	-904.76	50.48	9412.37
	13391	-4310.11	70.13	9391.19
BOT PERFS/OH	13452	-4370.94	69.39	9391.19
	13486	-4404.85	68.97	9391.19

NEXT TO LAST	13521	-4439.71	68.42	9388.08
LAST READING	13566	-4484.51	67.72	9383.92
TD	13566	-4484.51	67.72	9383.92

Surface Location	470	FN	660	FE
Projected BHL	4955	FN	592	FE
Location of				
Top Perfs/OH	1345	FN	609	FE
Bottom Perfs/OH	4841	FN	591	FE

SUMMARY of Subsurface Locations

Surface Location	A-21-19S-32E	470	FN	660	FE	Vert. Depth
Top Perfs/OH	A-21-19S-32E	1345	FN	609	FE	9413.42
Bottom Perfs/OH	P-21-19S-32E	4841	FN	591	FE	9391.19
Projected TD	P-21-19S-32E	4955	FN	592	FE	9383.92

APR 03 2013

HOBBS OCD

MAR 08 2013

RECEIVED

OCCIDENTAL PERMIAN LTD.

Lusk Bone Spring

Lea County, NM

Amoco Federal "21" Federal #1H

VH - Job #32K10121262

SUR: A-21-19S-32E, 470/N & 660/E
BHL: P-21-19S-32E, 4955/N & 592/E
API # 30-025-40753

Survey: Gyro

SDI Standard Survey Report

This survey is correct to the best of my knowledge and is supported by actual field data.

Sheath

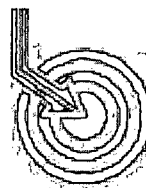
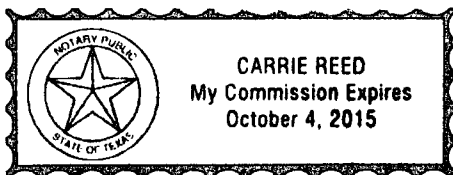
Notarized this date 5th of November, 2012.

Carrie Reed

Notary Signature

County of Midland

State of Texas



Scientific Drilling

Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	OCCIDENTAL PERMIAN LTD.	Local Co-ordinate Reference:	Well Amoco Federal "21" Federal #1H
Project:	Lusk Bone Spring	TVD Reference:	WELL @ 0.00usft (Original Well Elev)
Site:	Lea County, NM	MD Reference:	WELL @ 0.00usft (Original Well Elev)
Well:	Amoco Federal "21" Federal #1H	North Reference:	Grid
Wellbore:	VH - Job #32K10121262	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K10121262	Database:	EDM-Regulatory

Project	Lusk Bone Spring		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site		Lea County, NM			
Site Position:		Northing:	590,853.87 usft	Latitude:	32° 37' 23.247 N
From:	Lat/Long	Easting:	671,588.95 usft	Longitude:	103° 46' 33.646 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.30 °

Well	Amoco Federal "21" Federal #1H, Directional (Baker Hughes)					
Well Position	+N/-S	0.00 usft	Northing:	604,385.71 usft	Latitude:	32° 39' 6.295 N
	+E/-W	0.00 usft	Easting:	982,952.20 usft	Longitude:	102° 45' 51.403 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	0.00 usft

Wellbore	VH - Job #32K10121262				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/11/12	7.07	60.68	48,853

Design		VH - Job #32K10121262		
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	179.60

Survey Program		Date	10/28/12		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
120.06	939.01	Gyro (VH - Job #32K10121262)	Keeper	Keeper Surface Readout	

Survey								
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120.06	0.31	190.19	120.06	-0.32	-0.06	190.19		0.32
214.61	0.58	187.20	214.61	-1.05	-0.16	188.84		1.06
308.16	0.65	187.09	308.15	-2.04	-0.29	188.01		2.06
401.71	0.29	162.11	401.70	-2.79	-0.28	185.73		2.81
499.26	0.12	146.32	499.25	-3.11	-0.15	182.72		3.12
591.81	0.14	277.73	591.80	-3.18	-0.21	183.71		3.19
684.36	0.02	276.90	684.35	-3.16	-0.33	186.03		3.18
776.91	0.11	205.22	776.90	-3.24	-0.39	186.83		3.26
869.46	0.05	237.05	869.45	-3.34	-0.46	187.83		3.37
939.01	0.15	270.04	939.00	-3.36	-0.58	189.73		3.41

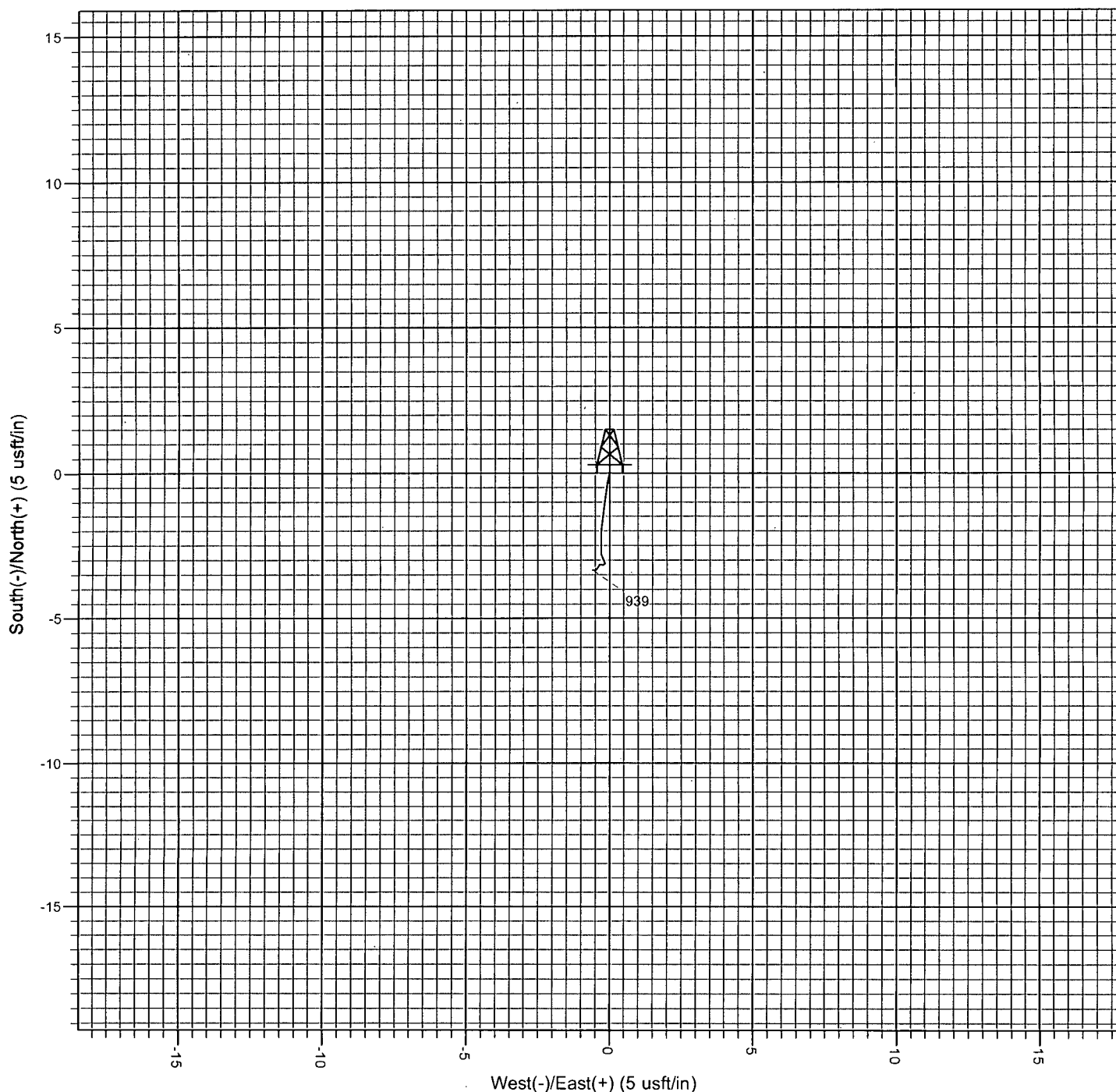


Scientific Drilling

Project: Lusk Bone Spring
Lea County, NM
Well: Amoco Federal "21" Federal #1H
Wellbore: VH - Job #32K10121262
Design: VH - Job #32K10121262

WELL DETAILS: Amoco Federal "21" Federal #1H
WELL @ 0.00usft (Original Well Elev)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	604385.71	982952.20	32° 39' 6.295 N	102° 45' 51.403 W	



PROJECT DETAILS: Lusk Bone Spring	SITE DETAILS: Lea County, NM
Geodetic System: US State Plane 1927 (Exact solution)	Site Centre Latitude: 32° 37' 23.247 N
Datum: NAD 1927 (NADCON CONUS)	Longitude: 103° 46' 33.646 W
Ellipsoid: Clarke 1866	Positional Uncertainty: 0.00
Zone: New Mexico East 3001	Convergence: 0.30
System Datum: Mean Sea Level	Local North: Grid



Reservoir Development
Drilling & Measurements (Extreme Engineering)
6724 Corporation Pkwy Suite 100
Fort Worth, TX 76126
Phone: (817) 717-1820
Fax: (817) 546-7551

March 8, 2013

Occidental Permian Ltd
5 Greenway Plaza Suite 110
Houston, Texas 77046

SUR: A-21-19S-32E, 470/N & 660/E
BHL: P-21-19S-32E, 4955/N & 592/E
API # 30-025-40753

Attention: Jennifer Duarte

Re:

CLIENT: OXY Permian
WELL: Amoco 21 Federal 1H
FIELD: Permian Basin
RIG: H&P 474
COUNTY: Lee
API NO: 30-015-40535
JOB NO: NM-OXY-0017

Enclosed, please find the original copy of the survey performed on the referenced well by Drilling & Measurements (formerly Extreme), a division of Schlumberger Technology Corporation (P-5 No. 754900). Other information required by your office is as follows.

<u>Name & Title of Surveyor</u>	<u>Drainhole Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Tracy Murphy Jr FST-3	Amoco 21 Federal 1H Original Hole	966.00 Ft to 4433.00 Ft	October 14, 2012 to October 26, 2012	SlimPulse

A plat of the bottom hole location is oriented both to the surface location and to the lease lines (or until line in case of pooling), is attached to the survey report.

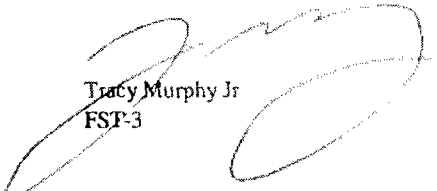
If any other information is required, please contact the undersigned at the above letterhead and phone number.
Sincerely,

Chris Rust
Field Service Manager

CC: OXY Permian
Enclosures: [2]
County of Lee
State of New Mexico

Reservoir Development
Drilling & Measurements (Extreme Engineering)
6724 Corporation Pkwy Suite 100
Fort Worth, TX 76126
Phone: (817) 717-1820
Fax: (817) 546-7551

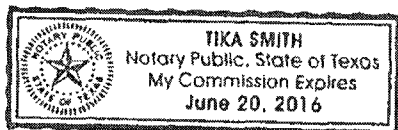
I, Tracy Murphy Jr certify that; I am employed by Drilling & Measurements (formerly Extreme), a division of Schlumberger Technology Corporation; that I did on the day(s) of October 14, 2012 through October 26, 2012, conduct or supervise the taking of the SlimPulse surveys from a depth of 966.00 feet to a depth of 4433.00 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I am authorized and qualified to make this report; that this survey was conducted at the request of OXY Permian for the Amoco 21 Federal 1H Well (Original Hole) API No. 30-015-40535 in New Mexico; and that I have reviewed this report and find that it conforms to the principals and procedures as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation.


Tracy Murphy Jr
FST-3

Before me, a notary public, on this day personally appeared Tracy Murphy Jr, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this 8th day of March, 2013 (year).


Notary Public



Amoco 21 Federal 1H MWD 0' to 4433' Survey Report

(Def Survey)

Report Date: October 30, 2012 - 10:05 AM
 Client: OXY Permian
 Field: NM, Lee (NAD27) 2011
 Structure / Slot: OXY Permian (Amoco 21 Federal 1H) H&P 474 / Amoco 21 Federal 1H
 Well: Amoco 21 Federal 1H
 Borehole: Original Hole
 UWI / API#: Unknown / 30-015-40535
 Survey Name: Amoco 21 Federal 1H MWD 0' to 4433'
 Survey Date: October 26, 2012
 Tort / AHD / DDI (ERD Ratio): 15.879° / 63.382 ft / 3.003 / 0.014
 Coordinate Reference System: NAD27 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 38' 8.16000", W 103° 45' 8.00000"
 Location Grid N/E Y/X: N 595431.373 NUS, E 678803.438 NUS
 CRS Grid Convergence Angle: 0.31324773°
 Grid Scale Factor: 0.9989457
 Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 0.000° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB
 TVD Reference Elevation: 3632.000 ft above MSL
 Seabed / Ground Elevation: 3606.000 ft above MSL
 Magnetic Declination: 7.633°
 Total Field Strength: 48694.634 nT
 Magnetic Dip Angle: 60.468°
 Declination Date: October 26, 2012
 Magnetic Declination Model: IGRM 2012
 North Reference: Grid North
 Grid Convergence Used: 0.313°
 Total Corr Mag North→Grid North: 7.320°
 Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft)	Northing (ft)	Easting (ft)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Surface	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	595431.37	678803.44	N 32° 38' 8.16 W 103° 45' 8.00	
Marker MudLine	26.00	0.00	0.00	26.00	0.00	0.00	0.00	0.00	595431.37	678803.44	N 32° 38' 8.16 W 103° 45' 9.00	
Assumed Vertical	950.00	0.00	0.00	950.00	0.00	0.00	0.00	0.00	595431.37	678803.44	N 32° 38' 8.16 W 103° 45' 9.00	
Begin MWD	966.00	0.09	161.90	966.00	-0.01	-0.01	0.00	0.58	595431.36	678803.44	N 32° 38' 8.16 W 103° 45' 9.00	
Surveys	1058.00	0.22	60.70	1058.00	0.01	0.01	0.18	0.28	595431.38	678803.62	N 32° 38' 8.16 W 103° 45' 9.00	
	1151.00	0.48	69.70	1151.00	0.23	0.23	0.70	0.29	595431.60	678804.14	N 32° 38' 8.16 W 103° 45' 9.99	
	1245.00	0.62	42.50	1244.99	0.74	0.74	1.41	0.31	595432.12	678804.05	N 32° 38' 8.17 W 103° 45' 9.98	
	1340.00	0.48	69.70	1339.98	1.26	1.26	2.13	0.31	595432.63	678805.57	N 32° 38' 8.17 W 103° 45' 9.97	
	1435.00	0.62	58.10	1434.99	1.68	1.68	2.93	0.20	595433.06	678806.37	N 32° 38' 8.18 W 103° 45' 9.97	
	1528.00	0.70	67.00	1528.98	2.19	2.19	3.88	0.18	595433.57	678807.32	N 32° 38' 8.18 W 103° 45' 9.85	
	1624.00	0.40	68.10	1623.97	2.54	2.54	4.73	0.32	595433.91	678808.17	N 32° 38' 8.18 W 103° 45' 9.84	
	1719.00	0.48	45.10	1718.97	2.94	2.94	5.32	0.21	595434.31	678808.76	N 32° 38' 8.19 W 103° 45' 9.84	
	1814.00	1.10	57.10	1813.96	3.71	3.71	6.37	0.87	595435.09	678809.80	N 32° 38' 8.20 W 103° 45' 9.93	
	1908.00	1.40	80.20	1907.94	4.77	4.77	8.12	0.33	595436.15	678811.56	N 32° 38' 8.21 W 103° 45' 9.90	
	2003.00	2.20	61.30	2002.99	6.23	6.23	10.73	0.84	595437.60	678814.17	N 32° 38' 8.22 W 103° 45' 9.87	
	2112.00	2.40	58.60	2111.80	8.39	8.39	14.53	0.19	595439.78	678817.87	N 32° 38' 8.24 W 103° 45' 9.83	
	2176.00	2.20	42.90	2175.75	9.96	9.96	16.52	1.09	595441.34	678819.90	N 32° 38' 8.26 W 103° 45' 9.81	
	2271.00	2.60	35.10	2270.67	13.06	13.06	19.00	0.54	595444.43	678822.44	N 32° 38' 8.29 W 103° 45' 9.78	
	2367.00	1.30	33.60	2366.60	16.59	16.58	21.44	1.03	595447.96	678824.87	N 32° 38' 8.32 W 103° 45' 9.75	
	2460.00	0.70	37.10	2459.58	17.49	17.49	22.07	0.98	595448.87	678825.50	N 32° 38' 8.33 W 103° 45' 9.74	
	2555.00	0.70	51.40	2554.58	18.32	18.32	22.87	0.18	595449.69	678826.31	N 32° 38' 8.34 W 103° 45' 9.73	
	2652.00	0.48	34.92	2651.57	19.09	19.09	23.64	0.26	595450.47	678827.07	N 32° 38' 8.35 W 103° 45' 9.72	
	2756.00	0.40	24.81	2755.57	19.71	19.71	24.00	0.12	595451.09	678827.44	N 32° 38' 8.35 W 103° 45' 9.72	
	2851.00	0.30	28.48	2850.57	20.23	20.23	24.28	0.11	595451.80	678827.70	N 32° 38' 8.36 W 103° 45' 9.72	
	2946.00	0.10	51.10	2945.57	20.50	20.50	24.45	0.22	595451.87	678827.88	N 32° 38' 8.36 W 103° 45' 9.71	
	3040.00	0.10	67.80	3039.57	20.58	20.58	24.59	0.03	595451.96	678828.02	N 32° 38' 8.36 W 103° 45' 9.71	
	3134.00	0.70	81.53	3133.56	20.70	20.70	25.23	0.64	595452.07	678828.67	N 32° 38' 8.36 W 103° 45' 9.70	
	3224.00	1.71	1.71	3223.53	23.70	23.70	26.46	0.91	595455.08	678829.00	N 32° 38' 8.39 W 103° 45' 9.69	
	3319.00	2.10	2.10	3318.48	26.86	26.86	28.57	0.41	595458.23	678830.01	N 32° 38' 8.42 W 103° 45' 9.69	
	3513.00	1.80	63.93	3512.43	29.23	29.23	27.96	2.15	595460.60	678831.39	N 32° 38' 8.45 W 103° 45' 9.67	
	3605.00	1.41	70.73	3604.40	30.24	30.24	30.32	0.47	595461.61	678833.78	N 32° 38' 8.48 W 103° 45' 9.64	
	3703.00	1.32	70.91	3702.37	31.01	31.01	32.53	0.08	595462.38	678835.96	N 32° 38' 8.47 W 103° 45' 9.62	
	3798.00	1.10	67.90	3797.35	31.71	31.71	34.41	0.24	595463.08	678837.84	N 32° 38' 8.47 W 103° 45' 9.60	
	3892.00	1.10	68.90	3891.33	32.40	32.40	36.07	0.02	595463.78	678839.51	N 32° 38' 8.48 W 103° 45' 9.58	
	3987.00	1.40	51.10	3986.31	33.49	33.49	37.82	0.48	595464.86	678841.25	N 32° 38' 8.49 W 103° 45' 9.56	
	4081.00	1.19	74.20	4080.28	34.48	34.48	39.65	0.59	595465.85	678843.08	N 32° 38' 8.50 W 103° 45' 9.53	
	4176.00	0.88	88.01	4175.27	35.02	35.02	41.27	0.35	595466.39	678844.71	N 32° 38' 8.50 W 103° 45' 9.52	
	4271.00	1.49	84.02	4270.25	35.42	35.42	43.18	0.72	595466.78	678846.81	N 32° 38' 8.51 W 103° 45' 9.49	
	4366.00	1.32	84.82	4365.22	35.65	35.65	45.50	0.18	595467.02	678848.93	N 32° 38' 8.51 W 103° 45' 9.47	
End MWD Surveys	4433.00	1.20	80.10	4432.20	35.85	35.85	48.98	0.23	595467.22	678850.39	N 32° 38' 8.51 W 103° 45' 9.45	

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 0.1.1 3-D 95.000% Confidence 2.7955 sigma

Survey Program:

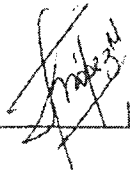
Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Survey Tool Type	Borehole / Survey
0.000	26.000	1756.000		SLB_BLIND+TREND-Depth Only	Original Hole / Amoco 21 Federal 1H MWD 0' to 4433'
26.000	950.000	1796.425		SLB_BLIND+TREND	Original Hole / Amoco 21 Federal 1H MWD 0' to 4433'
950.000	950.000	Act Sns		SLB_BLIND+TREND	Original Hole / Amoco 21 Federal 1H MWD 0' to 4433'
950.000	4433.000	173483.000		SLB_MWD-STD	Original Hole / Amoco 21 Federal 1H MWD 0' to 4433'

2105 MARKET STREET
MIDLAND, TX 79703
24 HR (432) 694-9517

STATE OF NEW MEXICO

COUNTY OF Lea

I, Corbin Elliott, Directional Driller certify that I am employed by Baker Hughes INTEQ; did conduct or supervise on the day(s) of 10/18/2012 through 11/17/2012 the taking of MWD surveys from a depth of 4,433 to a depth of 13,521 that the data is true, correct, complete and within the limitations of the tool as set forth by Baker Hughes INTEQ; that I am authorized and qualified to make this report; that this survey was conducted at the request of Occidental Petroleum for the Amoco 21 Fed #1H in Lea County, NM; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by INTEQ.


H. Lopez 03/08/2013
Field Service Engineer: Corbin Elliott



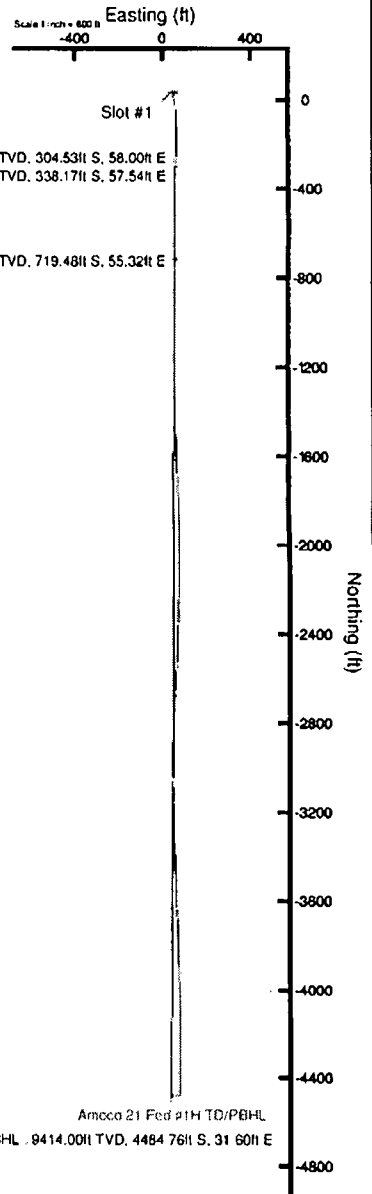
OXY Permian

Location: Lea County, New Mexico
Field: (Amoco)
Facility: Amoco 21 Fed #1H

Slot: Slot #1
Well: Amoco 21 Fed #1H
Wellbore: #1H (PWB)



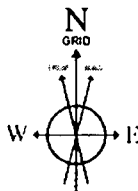
SUR: A-21-19S-32E, 470/N & 660/E
BHL: P-21-19S-32E, 4955/N & 592/E
API # 30-025-40753



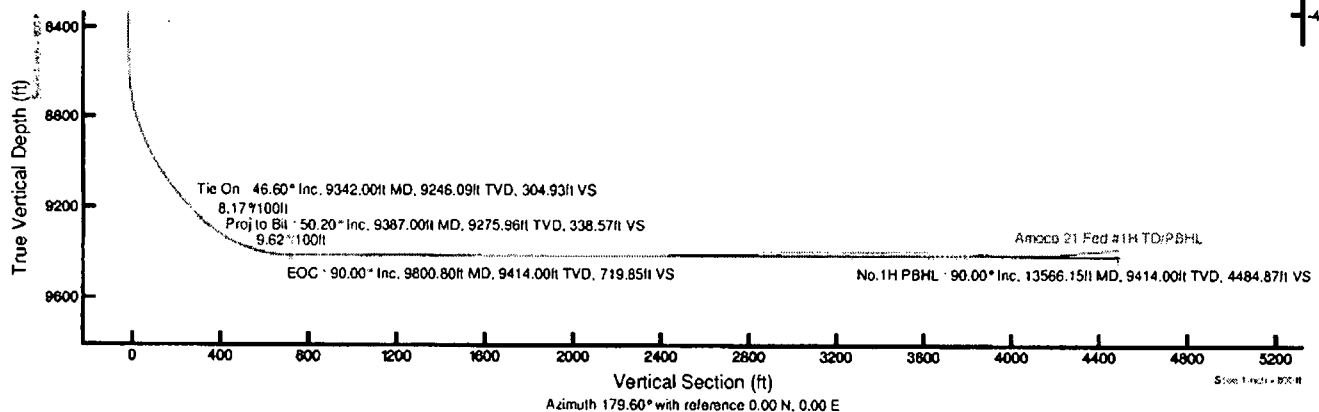
Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	9342.00	46.60	181.300	9246.09	304.53	58.00	0.00	304.93
Proj to Bit	9387.00	50.20	180.300	9275.96	338.17	57.54	8.17	338.57
EOC	9800.80	90.00	180.361	9414.00	719.48	55.32	9.62	719.85
No.1H PBHL	13568.15	90.00	180.361	9414.00	-4484.76	31.60	0.00	4484.87

Plot reference wellbore: Rev C.0	Grid System: NAD27 - TM New Mexico SP, Eastern Zone (3001), US feet
True vertical depths are referenced to Rig on Amoco 21 Fed #1H (KB)	North Reference: Grid north
Measured depths are referenced to Rig on Amoco 21 Fed #1H (KB)	Scale: True distance
Rig on Amoco 21 Fed #1H (KB) to Mean Sea Level: 3628.7 feet	Depths are in feet
Mean Sea Level to Mud line (At Slot #1): -3603.7 feet	Created by: gasberry on 11-07-2012
Coordinates are in feet referenced to Slot	



BGGM (1945.0 to 2014.0) Dip: 60.48° Field: 48701.1 nT
Magnetic North is 7.64 degrees East of True North (at 11/01/2012)
Grid North is 0.31 degrees East of True North
To correct azimuth from True to Grid subtract 0.31 degrees
To correct azimuth from Magnetic to Grid add 7.34 degrees
For example: if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.34 = 97.34



Rev-C.0



Actual Wellpath Report

No.1H AWP

Page 1 of 7



REFERENCE WELLPATH IDENTIFICATION

Operator	OXY Permian	Slot	Slot #1
Area	Lea County, New Mexico	Well	Amoco 21 Fed #1H
Field	(Amoco)	Wellbore	#1H (AWB)
Facility	Amoco 21 Fed #1H		

REPORT SETUP INFORMATION

Projection System	NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 3.0.0
North Reference	Grid	User	Harrkol
Scale	0.999944	Report Generated	11/20/2012 at 9:51:13 AM
Convergence at slot	0.31° East	Database/Source file	WA Midland/#1H_AWB_.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	0.00	675146.00	601286.60	32°39'06.295"N	103°45'51.403"W
Facility Reference Pt			675146.00	601286.60	32°39'06.295"N	103°45'51.403"W
Field Reference Pt			0.00	0.00	30°59'24.512"N	105°55'44.137"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on Amoco 21 Fed #1H (KB) to GL	25.00ft
Horizontal Reference Pt	Slot	Rig on Amoco 21 Fed #1H (KB) to Mean Sea Level	3628.70ft
Vertical Reference Pt	Rig on Amoco 21 Fed #1H (KB)	Rig on Amoco 21 Fed #1H (KB) to Mud Line at Slot (Slot #1)	25.00ft
MD Reference Pt	Rig on Amoco 21 Fed #1H (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	179.60°



Actual Wellpath Report

No.1H AWP

Page 2 of 7



REFERENCE WELLPATH IDENTIFICATION			
Operator	OXY Permian	Slot	Slot #1
Area	Lea County, New Mexico	Well	Amoco 21 Fed #1H
Field	(Amoco)	Wellbore	#1H (AWB)
Facility	Amoco 21 Fed #1H		

WELLPATH DATA (164 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	161.900	0.00	0.00	0.00	0.00	675146.00	601286.60	32°39'06.295"N	103°45'51.403"W	0.00	
966.00	0.090	161.900	966.00	0.72	-0.72	0.24	675146.24	601285.88	32°39'06.287"N	103°45'51.400"W	0.01	
1058.00	0.220	60.200	1058.00	0.70	-0.70	0.41	675146.41	601285.90	32°39'06.288"N	103°45'51.398"W	0.28	
1151.00	0.480	69.700	1151.00	0.48	-0.48	0.93	675146.93	601286.12	32°39'06.290"N	103°45'51.392"W	0.29	
1245.00	0.620	42.500	1244.99	-0.02	0.03	1.64	675147.64	601286.63	32°39'06.295"N	103°45'51.384"W	0.31	
1340.00	0.480	69.700	1339.99	-0.53	0.55	2.37	675148.36	601287.15	32°39'06.300"N	103°45'51.375"W	0.31	
1435.00	0.620	56.100	1434.98	-0.95	0.98	3.16	675149.16	601287.58	32°39'06.304"N	103°45'51.366"W	0.20	
1529.00	0.700	67.000	1528.98	-1.45	1.48	4.12	675150.12	601288.08	32°39'06.309"N	103°45'51.355"W	0.16	
1624.00	0.400	69.100	1623.97	-1.79	1.83	4.96	675150.96	601288.43	32°39'06.312"N	103°45'51.345"W	0.32	
1719.00	0.480	45.100	1718.97	-2.19	2.23	5.55	675151.55	601288.83	32°39'06.316"N	103°45'51.338"W	0.21	
1814.00	1.100	57.100	1813.96	-2.96	3.00	6.60	675152.60	601289.60	32°39'06.324"N	103°45'51.326"W	0.67	
1908.00	1.400	60.200	1907.94	-4.01	4.06	8.35	675154.35	601290.66	32°39'06.334"N	103°45'51.305"W	0.33	
2003.00	2.200	61.300	2002.89	-5.44	5.52	10.96	675156.96	601292.12	32°39'06.349"N	103°45'51.274"W	0.84	
2112.00	2.400	59.600	2111.80	-7.57	7.68	14.76	675160.76	601294.28	32°39'06.370"N	103°45'51.230"W	0.19	
2176.00	2.200	42.900	2175.75	9.14	9.25	16.75	675162.75	601295.85	32°39'06.385"N	103°45'51.206"W	1.09	
2271.00	2.600	35.100	2270.67	-12.22	12.35	19.24	675165.23	601298.95	32°39'06.416"N	103°45'51.177"W	0.54	
2397.00	1.300	33.600	2396.59	-15.73	15.88	21.67	675167.67	601302.48	32°39'06.451"N	103°45'51.148"W	1.03	
2460.00	0.700	37.100	2459.58	-16.63	16.78	22.30	675168.30	601303.38	32°39'06.460"N	103°45'51.141"W	0.96	
2555.00	0.700	51.400	2554.58	-17.45	17.61	23.10	675169.10	601304.21	32°39'06.468"N	103°45'51.132"W	0.18	
2662.00	0.480	34.920	2661.57	-18.22	18.38	23.87	675169.87	601304.98	32°39'06.475"N	103°45'51.123"W	0.26	
2756.00	0.400	24.810	2755.57	-18.83	19.00	24.23	675170.23	601305.60	32°39'06.481"N	103°45'51.118"W	0.12	
2851.00	0.300	29.460	2850.57	-19.35	19.52	24.49	675170.49	601306.12	32°39'06.487"N	103°45'51.115"W	0.11	
2946.00	0.100	51.100	2945.57	-19.62	19.79	24.68	675170.68	601306.39	32°39'06.489"N	103°45'51.113"W	0.22	
3040.00	0.100	67.800	3039.57	-19.70	19.87	24.82	675170.82	601306.47	32°39'06.490"N	103°45'51.111"W	0.03	
3134.00	0.700	81.530	3133.56	-19.81	19.99	25.46	675171.46	601306.59	32°39'06.491"N	103°45'51.104"W	0.64	
3324.00	1.710	1.710	3323.53	-22.81	22.99	26.70	675172.69	601309.59	32°39'06.521"N	103°45'51.089"W	0.91	
3419.00	2.100	2.100	3418.48	-25.96	26.15	26.80	675172.80	601312.75	32°39'06.552"N	103°45'51.088"W	0.41	
3513.00	1.800	63.830	3512.43	-28.32	28.52	28.19	675174.19	601315.12	32°39'06.575"N	103°45'51.071"W	2.15	
3605.00	1.410	70.730	3604.39	-29.32	29.53	30.56	675176.55	601316.13	32°39'06.585"N	103°45'51.044"W	0.47	
3703.00	1.320	70.910	3702.37	-30.07	30.30	32.76	675178.76	601316.90	32°39'06.593"N	103°45'51.018"W	0.09	



Actual Wellpath Report

No.1H AWP

Page 3 of 7



REFERENCE WELLPATH IDENTIFICATION			
Operator	OXY Permian	Slot	Slot #1
Area	Lea County, New Mexico	Well	Amoco 21 Fed #1H
Field	(Amoco)	Wellbore	#1H (AWB)
Facility	Amoco 21 Fed #1H		

WELLPATH DATA (164 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
3798.00	1.100	67.900	3797.35	-30.76	31.00	34.64	675180.64	601317.60	32°39'06.600"N	103°45'50.996"W	0.24	
3892.00	1.100	66.900	3891.33	-31.44	31.69	36.31	675182.30	601318.29	32°39'06.606"N	103°45'50.976"W	0.02	
3987.00	1.400	51.100	3986.31	-32.51	32.78	38.05	675184.04	601319.38	32°39'06.617"N	103°45'50.956"W	0.48	
4081.00	1.190	74.200	4080.28	-33.49	33.77	39.88	675185.88	601320.37	32°39'06.627"N	103°45'50.934"W	0.59	
4176.00	0.880	68.010	4175.27	-34.02	34.31	41.51	675187.50	601320.91	32°39'06.632"N	103°45'50.915"W	0.35	
4271.00	1.490	84.020	4270.25	-34.41	34.71	43.41	675189.41	601321.31	32°39'06.636"N	103°45'50.893"W	0.72	
4366.00	1.320	84.620	4365.22	-34.62	34.94	45.73	675191.73	601321.54	32°39'06.638"N	103°45'50.866"W	0.18	
4433.00	1.200	80.100	4432.20	-34.80	35.14	47.19	675193.18	601321.73	32°39'06.640"N	103°45'50.849"W	0.23	
4583.00	1.600	95.100	4582.16	-34.86	35.22	50.82	675196.82	601321.82	32°39'06.640"N	103°45'50.806"W	0.36	
4677.00	1.700	95.400	4676.12	-34.59	34.97	53.52	675199.51	601321.57	32°39'06.638"N	103°45'50.775"W	0.11	
4771.00	1.100	92.500	4770.09	-34.41	34.80	55.81	675201.80	601321.40	32°39'06.636"N	103°45'50.748"W	0.64	
4866.00	1.100	103.700	4865.07	-34.14	34.55	57.60	675203.60	601321.14	32°39'06.633"N	103°45'50.727"W	0.23	
4960.00	1.200	101.900	4959.05	-33.71	34.13	59.44	675205.44	601320.73	32°39'06.629"N	103°45'50.706"W	0.11	
5055.00	1.300	104.900	5054.03	-33.21	33.65	61.46	675207.45	601320.24	32°39'06.624"N	103°45'50.682"W	0.13	
5150.00	1.200	104.700	5149.01	-32.67	33.12	63.46	675209.46	601319.72	32°39'06.619"N	103°45'50.659"W	0.11	
5244.00	1.200	101.800	5242.99	-32.20	32.67	65.38	675211.37	601319.26	32°39'06.614"N	103°45'50.636"W	0.06	
5339.00	1.100	104.200	5337.97	-31.76	32.24	67.23	675213.23	601318.84	32°39'06.610"N	103°45'50.615"W	0.12	
5433.00	1.200	105.700	5431.95	-31.26	31.75	69.06	675215.05	601318.35	32°39'06.605"N	103°45'50.593"W	0.11	
5529.00	0.400	84.700	5527.94	-31.01	31.51	70.36	675216.35	601318.11	32°39'06.603"N	103°45'50.578"W	0.87	
5624.00	0.200	91.100	5622.94	-31.04	31.54	70.85	675216.85	601318.14	32°39'06.603"N	103°45'50.572"W	0.21	
5718.00	0.200	100.400	5716.94	-31.00	31.51	71.18	675217.18	601318.10	32°39'06.603"N	103°45'50.568"W	0.03	
5812.00	0.100	140.900	5810.94	-30.91	31.41	71.39	675217.39	601318.01	32°39'06.602"N	103°45'50.566"W	0.15	
5907.00	0.100	283.200	5905.94	-30.86	31.37	71.36	675217.36	601317.96	32°39'06.601"N	103°45'50.566"W	0.20	
6001.00	0.200	299.600	5999.94	-30.96	31.47	71.14	675217.14	601318.06	32°39'06.602"N	103°45'50.569"W	0.11	
6096.00	0.300	274.500	6094.94	-31.07	31.57	70.75	675216.75	601318.17	32°39'06.603"N	103°45'50.573"W	0.15	
6190.00	0.300	275.900	6188.93	31.12	31.61	70.26	675216.26	601318.21	32°39'06.604"N	103°45'50.579"W	0.01	
6285.00	0.300	284.400	6283.93	-31.21	31.70	69.77	675215.77	601318.30	32°39'06.605"N	103°45'50.585"W	0.05	
6380.00	0.300	263.600	6378.93	-31.24	31.73	69.28	675215.28	601318.33	32°39'06.605"N	103°45'50.591"W	0.11	
6474.00	0.300	273.100	6472.93	-31.23	31.72	68.79	675214.79	601318.32	32°39'06.605"N	103°45'50.596"W	0.05	
6569.00	0.400	268.400	6567.93	-31.24	31.72	68.21	675214.21	601318.32	32°39'06.605"N	103°45'50.603"W	0.11	



Actual Wellpath Report

No.1H AWP

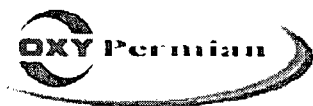
Page 4 of 7



REFERENCE WELLPATH IDENTIFICATION			
Operator	OXY Permian	Slot	Slot #1
Area	Lea County, New Mexico	Well	Amoco 21 Fed #1H
Field	(Amoco)	Wellbore	#1H (AWB)
Facility	Amoco 21 Fed #1H		

WELLPATH DATA (164 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
6664.00	0.400	265.000	6662.93	-31.21	31.69	67.55	675213.55	601318.28	32°39'06.605"N	103°45'50.611"W	0.02	
6758.00	0.400	263.000	6756.92	-31.14	31.62	66.90	675212.89	601318.22	32°39'06.604"N	103°45'50.619"W	0.01	
6853.00	0.500	257.400	6851.92	-31.02	31.49	66.16	675212.16	601318.08	32°39'06.603"N	103°45'50.627"W	0.11	
6947.00	0.600	263.300	6945.92	-30.88	31.34	65.28	675211.27	601317.94	32°39'06.601"N	103°45'50.638"W	0.12	
7042.00	0.600	276.400	7040.91	-30.88	31.34	64.29	675210.28	601317.93	32°39'06.601"N	103°45'50.649"W	0.14	
7137.00	0.700	276.500	7135.91	-31.01	31.46	63.22	675209.21	601318.06	32°39'06.603"N	103°45'50.662"W	0.11	
7232.00	0.800	282.400	7230.90	-31.23	31.67	61.99	675207.99	601318.26	32°39'06.605"N	103°45'50.676"W	0.13	
7326.00	0.800	277.500	7324.89	-31.46	31.89	60.70	675206.70	601318.49	32°39'06.607"N	103°45'50.691"W	0.07	
7422.00	0.800	275.200	7420.88	-31.62	32.04	59.37	675205.37	601318.64	32°39'06.609"N	103°45'50.707"W	0.03	
7517.00	0.900	262.100	7515.87	-31.59	32.00	57.97	675203.97	601318.60	32°39'06.608"N	103°45'50.723"W	0.23	
7611.00	1.000	266.200	7609.86	-31.44	31.84	56.42	675202.42	601318.44	32°39'06.607"N	103°45'50.741"W	0.13	
7706.00	0.900	247.900	7704.84	-31.12	31.51	54.90	675200.90	601318.11	32°39'06.603"N	103°45'50.759"W	0.33	
7800.00	1.000	241.100	7798.83	-30.46	30.83	53.50	675199.50	601317.43	32°39'06.597"N	103°45'50.775"W	0.16	
7895.00	0.800	226.500	7893.82	-29.61	29.98	52.29	675198.29	601316.57	32°39'06.588"N	103°45'50.789"W	0.32	
7989.00	0.900	183.700	7987.81	-28.42	28.79	51.77	675197.77	601315.39	32°39'06.577"N	103°45'50.796"W	0.67	
8084.00	1.500	184.200	8082.79	-26.44	26.80	51.63	675197.63	601313.40	32°39'06.557"N	103°45'50.797"W	0.63	
8179.00	1.400	189.300	8177.76	-24.05	24.42	51.35	675197.35	601311.02	32°39'06.534"N	103°45'50.801"W	0.17	
8273.00	1.200	191.500	8271.73	-21.96	22.32	50.97	675196.97	601308.92	32°39'06.513"N	103°45'50.805"W	0.22	
8368.00	1.300	195.800	8366.71	-19.95	20.31	50.48	675196.47	601306.91	32°39'06.493"N	103°45'50.811"W	0.14	
8463.00	1.100	194.700	8461.69	-18.04	18.39	49.95	675195.95	601304.99	32°39'06.474"N	103°45'50.818"W	0.21	
8532.00	1.000	204.900	8530.68	-16.85	17.20	49.53	675195.53	601303.80	32°39'06.462"N	103°45'50.823"W	0.31	
8566.00	1.300	217.500	8564.67	-16.28	16.63	49.17	675195.17	601303.23	32°39'06.457"N	103°45'50.827"W	1.15	
8598.00	1.000	191.500	8596.66	-15.72	16.07	48.89	675194.89	601302.66	32°39'06.451"N	103°45'50.830"W	1.86	
8629.00	4.400	178.200	8627.63	-14.27	14.61	48.88	675194.87	601301.21	32°39'06.437"N	103°45'50.830"W	11.08	
8661.00	6.800	161.100	8659.47	-11.24	11.59	49.53	675195.53	601298.19	32°39'06.407"N	103°45'50.823"W	9.06	
8693.00	8.800	163.100	8691.18	-7.10	7.46	50.86	675196.85	601294.06	32°39'06.366"N	103°45'50.808"W	6.31	
8725.00	9.500	161.500	8722.77	-2.24	2.61	52.40	675198.40	601289.21	32°39'06.318"N	103°45'50.790"W	2.33	
8755.00	11.900	166.300	8752.25	3.12	-2.74	53.92	675199.92	601283.86	32°39'06.265"N	103°45'50.772"W	8.53	
8787.00	16.200	169.000	8783.28	10.73	-10.33	55.56	675201.55	601276.27	32°39'06.189"N	103°45'50.754"W	13.59	
8818.00	19.500	170.200	8812.78	20.08	-19.68	57.26	675203.26	601266.92	32°39'06.097"N	103°45'50.734"W	10.71	



Actual Wellpath Report

No.1H AWP

Page 5 of 7

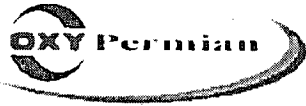


REFERENCE WELLPATH IDENTIFICATION

Operator	OXY Permian	Slot	Slot #1
Area	Lea County, New Mexico	Well	Amoco 21 Fed #1H
Field	(Amoco)	Wellbore	#1H (AWB)
Facility	Amoco 21 Fed #1H		

WELLPATH DATA (164 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
8850.00	19.700	177.900	8842.94	30.75	-30.34	58.37	675204.37	601256.27	32°39'05.991"N	103°45'50.722"W	8.09	
8881.00	22.000	174.300	8871.90	41.75	-41.34	59.14	675205.14	601245.27	32°39'05.882"N	103°45'50.714"W	8.49	
8912.00	24.100	175.000	8900.43	53.84	-53.42	60.27	675206.26	601233.18	32°39'05.763"N	103°45'50.701"W	6.83	
8944.00	26.000	175.300	8929.42	67.35	-66.92	61.41	675207.41	601219.68	32°39'05.629"N	103°45'50.689"W	5.95	
8975.00	28.000	177.300	8957.04	81.40	-80.96	62.31	675208.31	601205.64	32°39'05.490"N	103°45'50.679"W	7.08	
9007.00	29.900	179.900	8985.04	96.88	-96.44	62.68	675208.68	601190.16	32°39'05.337"N	103°45'50.676"W	7.12	
9038.00	31.500	179.600	9011.69	112.71	-112.27	62.75	675208.75	601174.34	32°39'05.180"N	103°45'50.676"W	5.18	
9071.00	33.600	179.600	9039.51	130.46	-130.02	62.87	675208.87	601156.58	32°39'05.005"N	103°45'50.676"W	6.36	
9102.00	35.200	181.600	9065.09	147.97	-147.53	62.68	675208.68	601139.07	32°39'04.832"N	103°45'50.679"W	6.32	
9134.00	36.700	182.800	9090.99	166.74	-166.31	61.96	675207.95	601120.30	32°39'04.646"N	103°45'50.689"W	5.18	
9165.00	38.200	182.300	9115.60	185.56	-185.14	61.12	675207.12	601101.47	32°39'04.460"N	103°45'50.700"W	4.94	
9196.00	40.500	181.700	9139.57	205.20	-204.78	60.44	675206.43	601081.83	32°39'04.265"N	103°45'50.709"W	7.52	
9227.00	42.100	181.400	9162.86	225.65	-225.23	59.89	675205.88	601061.38	32°39'04.063"N	103°45'50.717"W	5.20	
9260.00	42.800	181.300	9187.21	247.91	-247.50	59.36	675205.36	601039.12	32°39'03.843"N	103°45'50.724"W	2.13	
9291.00	43.400	181.300	9209.84	269.08	-268.67	58.88	675204.88	601017.94	32°39'03.633"N	103°45'50.731"W	1.94	
9323.00	44.800	181.500	9232.82	291.34	-290.94	58.34	675204.33	600995.68	32°39'03.413"N	103°45'50.739"W	4.40	
9353.00	48.000	180.800	9253.51	313.05	-312.65	57.90	675203.90	600973.97	32°39'03.198"N	103°45'50.745"W	10.80	
9385.00	50.400	180.600	9274.42	337.27	-336.87	57.61	675203.60	600949.75	32°39'02.958"N	103°45'50.750"W	7.51	
9417.00	53.600	180.700	9294.12	362.48	-362.08	57.32	675203.32	600924.54	32°39'02.709"N	103°45'50.755"W	10.00	
9448.00	57.500	180.900	9311.65	388.03	-387.64	56.96	675202.96	600898.98	32°39'02.456"N	103°45'50.761"W	12.59	
9479.00	60.500	181.000	9327.61	414.59	-414.21	56.52	675202.52	600872.42	32°39'02.193"N	103°45'50.768"W	9.68	
9510.00	64.100	180.800	9342.02	442.03	-441.65	56.09	675202.09	600844.98	32°39'01.922"N	103°45'50.775"W	11.63	
9542.00	67.200	181.300	9355.21	471.17	-470.79	55.56	675201.55	600815.84	32°39'01.633"N	103°45'50.783"W	9.79	
9574.00	69.600	180.800	9366.99	500.91	-500.54	55.01	675201.01	600786.09	32°39'01.339"N	103°45'50.791"W	7.64	
9605.00	71.700	180.700	9377.26	530.15	-529.78	54.63	675200.63	600756.85	32°39'01.050"N	103°45'50.797"W	6.78	
9637.00	74.200	180.700	9386.65	560.74	-560.37	54.26	675200.25	600726.26	32°39'00.747"N	103°45'50.803"W	7.81	
9668.00	76.700	180.600	9394.43	590.74	-590.37	53.92	675199.91	600696.26	32°39'00.450"N	103°45'50.809"W	8.07	
9700.00	79.500	180.400	9401.03	622.04	-621.68	53.64	675199.64	600664.96	32°39'00.141"N	103°45'50.814"W	8.77	
9731.00	82.400	180.900	9405.91	652.65	-652.29	53.30	675199.29	600634.35	32°38'59.838"N	103°45'50.820"W	9.49	
9761.00	83.800	181.100	9409.51	682.42	-682.06	52.78	675198.77	600604.57	32°38'59.543"N	103°45'50.828"W	4.71	



Actual Wellpath Report

No.1H AWP

Page 6 of 7

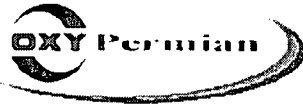


REFERENCE WELLPATH IDENTIFICATION

Operator	OXY Permian	Slot	Slot #1
Area	Lea County, New Mexico	Well	Amoco 21 Fed #1H
Field	(Amoco)	Wellbore	#1H (AWB)
Facility	Amoco 21 Fed #1H		

WELLPATH DATA (164 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
9791.00	85.600	181.200	9412.28	712.28	-711.93	52.18	675198.17	600574.71	32°38'59.248"N	103°45'50.837"W	6.01	
9826.00	87.000	181.000	9414.54	747.19	-746.85	51.51	675197.50	600539.79	32°38'58.902"N	103°45'50.847"W	4.04	
9858.00	89.000	180.400	9415.66	779.17	-778.83	51.11	675197.11	600507.82	32°38'58.586"N	103°45'50.854"W	6.52	
9889.00	90.900	180.400	9415.68	810.16	-809.82	50.90	675196.90	600476.82	32°38'58.279"N	103°45'50.858"W	6.13	
9984.00	93.100	180.100	9412.37	905.09	-904.76	50.48	675196.48	600381.89	32°38'57.340"N	103°45'50.869"W	2.34	
10079.00	90.700	179.800	9409.22	1000.03	-999.70	50.57	675196.56	600286.96	32°38'56.400"N	103°45'50.874"W	2.55	
10173.00	92.000	179.500	9407.00	1094.00	-1093.67	51.14	675197.14	600192.99	32°38'55.470"N	103°45'50.873"W	1.42	
10268.00	91.200	178.400	9404.35	1188.96	-1188.61	52.88	675198.88	600098.05	32°38'54.531"N	103°45'50.859"W	1.43	
10363.00	88.300	178.800	9404.77	1283.93	-1283.57	55.20	675201.20	600003.10	32°38'53.591"N	103°45'50.838"W	3.08	
10457.00	88.400	178.900	9407.47	1377.88	-1377.52	57.09	675203.08	599909.16	32°38'52.662"N	103°45'50.822"W	0.15	
10552.00	89.800	178.400	9408.96	1472.86	-1472.48	59.33	675205.32	599814.21	32°38'51.722"N	103°45'50.801"W	1.56	
10646.00	88.000	178.700	9410.77	1566.82	-1566.42	61.70	675207.70	599720.27	32°38'50.792"N	103°45'50.779"W	1.94	
10741.00	89.300	178.200	9413.01	1661.77	-1661.36	64.27	675210.27	599625.34	32°38'49.853"N	103°45'50.755"W	1.47	
10836.00	90.400	178.500	9413.26	1756.75	-1756.32	67.01	675213.00	599530.38	32°38'48.913"N	103°45'50.729"W	1.20	
10930.00	90.400	179.100	9412.60	1850.74	-1850.30	68.98	675214.97	599436.41	32°38'47.983"N	103°45'50.712"W	0.64	
11025.00	89.100	180.200	9413.01	1945.73	-1945.29	69.56	675215.55	599341.42	32°38'47.043"N	103°45'50.711"W	1.79	
11120.00	90.300	180.200	9413.51	2040.72	-2040.29	69.23	675215.22	599246.43	32°38'46.103"N	103°45'50.721"W	1.26	
11214.00	91.900	180.200	9411.71	2134.70	-2134.27	68.90	675214.89	599152.46	32°38'45.173"N	103°45'50.731"W	1.70	
11309.00	89.900	181.500	9410.22	2229.66	-2229.24	67.49	675213.48	599057.49	32°38'44.234"N	103°45'50.753"W	2.51	
11404.00	90.700	181.000	9409.72	2324.61	-2324.21	65.42	675211.41	598962.52	32°38'43.294"N	103°45'50.784"W	0.99	
11498.00	91.500	181.900	9407.91	2418.55	-2418.16	63.04	675209.03	598868.58	32°38'42.364"N	103°45'50.817"W	1.28	
11593.00	90.400	182.600	9406.34	2513.43	-2513.07	59.31	675205.31	598773.67	32°38'41.426"N	103°45'50.867"W	1.37	
11687.00	91.600	182.800	9404.70	2607.28	-2606.95	54.88	675200.88	598679.80	32°38'40.497"N	103°45'50.924"W	1.29	
11782.00	90.600	182.400	9402.87	2702.13	-2701.84	50.57	675196.57	598584.92	32°38'39.558"N	103°45'50.981"W	1.13	
11877.00	90.100	181.500	9402.29	2797.04	-2796.78	47.34	675193.34	598489.98	32°38'38.619"N	103°45'51.025"W	1.08	
11971.00	90.900	181.400	9401.47	2890.99	-2890.74	44.96	675190.96	598396.02	32°38'37.689"N	103°45'51.058"W	0.86	
12066.00	90.400	180.400	9400.40	2985.96	-2985.72	43.47	675189.47	598301.05	32°38'36.750"N	103°45'51.082"W	1.18	
12161.00	90.100	180.000	9399.98	3080.95	-3080.72	43.14	675189.14	598206.05	32°38'35.810"N	103°45'51.091"W	0.53	
12255.00	90.200	179.000	9399.74	3174.95	-3174.72	43.96	675189.96	598112.07	32°38'34.880"N	103°45'51.088"W	1.07	
12351.00	90.200	178.300	9399.40	3270.93	-3270.69	46.22	675192.22	598016.10	32°38'33.930"N	103°45'51.067"W	0.73	



Actual Wellpath Report

No.1H AWP

Page 7 of 7



REFERENCE WELLPATH IDENTIFICATION

Operator	OXY Permian	Slot	Slot #1
Area	Lea County, New Mexico	Well	Amoco 21 Fed #1H
Field	(Amoco)	Wellbore	#1H (AWB)
Facility	Amoco 21 Fed #1H		

WELLPATH DATA (164 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12444.00	90.300	178.200	9398.99	3363.91	-3363.65	49.06	675195.06	597923.15	32°38'33.010"N	103°45'51.040"W	0.15	
12539.00	89.800	178.300	9398.91	3458.88	-3458.60	51.96	675197.96	597828.20	32°38'32.070"N	103°45'51.012"W	0.54	
12634.00	89.800	178.600	9399.24	3553.86	-3553.57	54.53	675200.53	597733.24	32°38'31.130"N	103°45'50.988"W	0.32	
12730.00	89.700	178.300	9399.66	3649.84	-3649.53	57.13	675203.12	597637.28	32°38'30.181"N	103°45'50.964"W	0.33	
12825.00	89.500	178.300	9400.32	3744.81	-3744.49	59.95	675205.94	597542.33	32°38'29.241"N	103°45'50.937"W	0.21	
12918.00	88.800	178.300	9401.70	3837.78	-3837.43	62.70	675208.70	597449.39	32°38'28.321"N	103°45'50.910"W	0.75	
13012.00	88.600	177.700	9403.84	3931.72	-3931.35	65.98	675211.98	597355.48	32°38'27.392"N	103°45'50.878"W	0.67	
13107.00	89.500	178.500	9405.41	4026.67	-4026.28	69.13	675215.13	597260.55	32°38'26.452"N	103°45'50.847"W	1.27	
13202.00	90.800	179.500	9405.16	4121.66	-4121.27	70.79	675216.79	597165.57	32°38'25.512"N	103°45'50.833"W	1.73	
13296.00	92.200	180.400	9402.70	4215.63	-4215.23	70.87	675216.87	597071.61	32°38'24.583"N	103°45'50.838"W	1.77	
13391.00	93.400	180.500	9398.06	4310.50	-4310.11	70.13	675216.12	596976.74	32°38'23.644"N	103°45'50.853"W	1.27	
13486.00	94.900	180.900	9391.19	4405.23	-4404.85	68.97	675214.97	596882.00	32°38'22.706"N	103°45'50.872"W	1.63	
13521.00	95.300	180.900	9388.08	4440.08	-4439.71	68.42	675214.42	596847.15	32°38'22.362"N	103°45'50.881"W	1.14	
13566.00	95.300	180.900	9383.92	4484.88	-4484.51	67.72	675213.72	596802.35	32°38'21.918"N	103°45'50.892"W	0.00	Projection to bit

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Amoco 21 Fed #1H TD/PBHL		9414.00	-4484.76	31.60	675177.60	596802.10	32°38'21.918"N	103°45'51.314"W	point

WELLPATH COMPOSITION - Ref Wellbore: #1H (AWB) Ref Wellpath: No.1H AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	4433.00	ISCWSA MWD, Rev. 2 (Standard)	Extreme Engineering MWD <966-4433>	#1H (AWB)
4433.00	13521.00	NaviTrak (Standard)	BH1 MWD NaviTrak <4583-13521>	#1H (AWB)
13521.00	13566.00	Blind Drilling (std)	Projection to bit	#1H (AWB)