



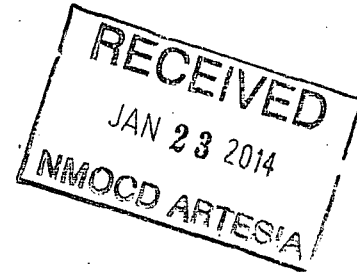
A GYRO TECHNOLOGIES INC. COMPANY

P.O. Box 261021
Corpus Christi, Texas 78426
(361) 767-0602 • (800) 606-GYRO • Fax (361) 767-0612

October 7, 2013

30-015-41106

Devon Energy Production Co., L. P.
333 West Sheridan Ave
Oklahoma City, Oklahoma 73102-5010



Attn: Patti Riechers

Re: **Antares 23 Federal No. 002H**

Please find enclosed a copy of the survey from 0.00' to 4258' ran on the above referenced well.

If I can be of any further service please do not hesitate to call me at 800-606-4976.

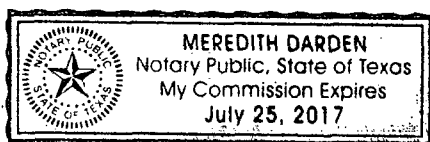
Sincerely,


Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 7th day of October, A.D., 2013, by Keith Havelka.


Meredith Darden
Notary Public, State of Texas





Company: Devon Energy Production Co.
Lease/Well: Antares 23 Federal /No. 002H
Location: 14 Miles South of Maljama
Rig Name: H&P 300
State/County: New Mexico/Eddy
Latitude: 32.65, Longitude: -103.85
GRID North is 0.26 Degrees East of True North
VS-Azi: 0.00 Degrees



Depth Reference : RKB = 26.2 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: ...federal.com 2h_gyro survey.ut

Minimum Curvature Method

Report Date/Time: 10/7/2013 / 13:59

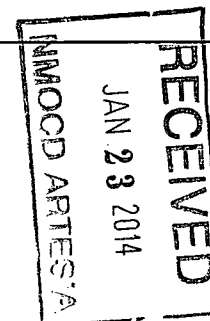
Vaughn Energy Services

Midland, Texas

432-563-5444

Surveyor: Gene Heiss

Antares 23 Federal No. 002H / API 30-015-41106

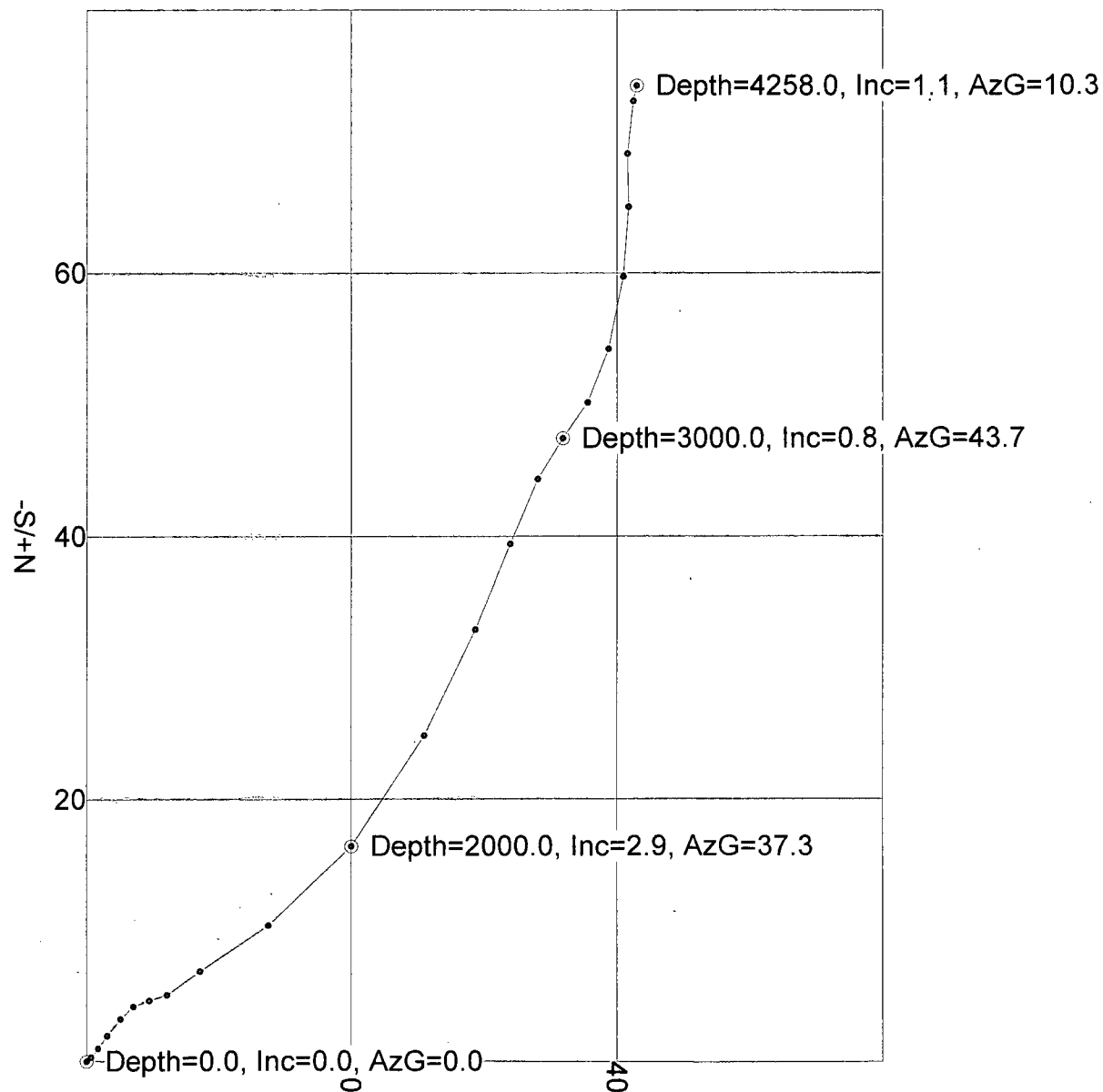


Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
200.00	0.26	47.39	200.00	0.31	0.34	0.31	0.46	47.39	0.13
400.00	0.25	30.98	400.00	0.99	0.90	0.99	1.34	42.07	0.04
600.00	0.43	39.70	599.99	1.95	1.60	1.95	2.53	39.44	0.09
800.00	0.50	36.47	799.99	3.23	2.60	3.23	4.15	38.87	0.04
1000.00	0.31	60.56	999.98	4.20	3.59	4.20	5.52	40.56	0.12
1200.00	0.47	78.01	1199.98	4.63	4.86	4.63	6.71	46.37	0.10
1400.00	0.34	63.47	1399.97	5.06	6.18	5.06	7.99	50.67	0.08
1600.00	1.42	51.57	1599.95	6.86	8.64	6.86	11.04	51.55	0.55
1800.00	2.14	58.15	1799.85	10.38	13.76	10.38	17.23	52.98	0.38
2000.00	2.91	37.32	1999.66	16.39	20.02	16.39	25.87	50.69	0.59
2200.00	2.89	28.43	2199.40	24.87	25.50	24.87	35.62	45.72	0.22
2400.00	2.23	21.92	2399.20	32.91	29.35	32.91	44.10	41.73	0.36
2600.00	1.79	22.26	2599.08	39.41	31.99	39.41	50.76	39.06	0.22
2800.00	1.28	22.92	2799.00	44.36	34.04	44.36	55.92	37.50	0.26
3000.00	0.83	43.70	2998.97	47.46	35.91	47.46	59.52	37.11	0.29
3200.00	1.07	27.57	3198.94	50.16	37.78	50.16	62.80	36.98	0.18
3400.00	1.44	16.43	3398.90	54.23	39.35	54.23	67.00	35.97	0.22
3600.00	1.79	7.36	3598.82	59.74	40.46	59.74	72.15	34.11	0.21

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
3800.00	1.26	359.97	3798.75	65.03	40.86	65.03	76.80	32.14	0.28
4000.00	1.06	357.33	3998.70	69.07	40.77	69.07	80.21	30.55	0.10
4200.00	1.26	13.67	4198.66	73.06	41.21	73.06	83.88	29.42	0.19
4258.00	1.12	10.29	4256.65	74.24	41.46	74.24	85.03	29.18	0.28



Vaughn Energy Services
Midland, Texas
432-563-5444
Surveyor: Gene Heiss
Antares 23 Federal No. 002H / API 30-015-41106



-W/+E
VES Survey Date: 10/01/2013

PathFinder

3329 W. Pinhook Rd.
Lafayette, LA 70508-3506, USA
Tel. 337-233-3982
Fax 337-234-2988

PATHFINDER
A Schlumberger Company

DIRECTIONAL SURVEY REPORT

DEVON ENERGY PRODUCTION CO., L.P.

ANTARES 23 FEDERAL 2H

EDDY COUNTY, NEW MEXICO

PREPARED BY: MARK TRAHAN

PathFinder

3329 W. Pinhook Rd.
Lafayette, LA 70508-3506, USA
Tel. 337-233-3982
Fax 337-234-2988



December 20, 2013

DEVON ENERGY PRODUCTION CO.
333 West Sheridan
Oklahoma City, OK 73102

RE: DEVON ENERGY PRODUCTION CO., L.P.
ANTARES 23 FEDERAL 2H
EDDY COUNTY, NM
RIG: H&P 300
API NO.: 30-015-41106
PES FILE NO.: 13LAF0261

Dear Sir or Madame:

We hereby certify that the enclosed Original Field Survey Data contained in this report represents to the best of our knowledge, a true and accurate survey of the well at the time the survey was run.

DIRECTIONAL SURVEY DATA
3 – Original Directional Survey Reports

We appreciate the opportunity to work with you and we look forward to your business support. If you have any questions, I can be reached at (337) 233-3982.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark Trahan".

Mark Trahan
M/LWD Service Coordinator
PathFinder, a Schlumberger company

MT:tb

PathFinder

3329 W. Pinhook Rd.
Lafayette, LA 70508-3506, USA
Tel. 337-233-3982
Fax 337-234-2988



DIRECTIONAL SURVEY COMPANY REPORT:

1. SURVEYING COMPANY: PATHFINDER, A SCHLUMBERGER COMPANY
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) AARON HARGRAVE
B) KEVIN BLANCHARD
3. POSITION OF SAID PERSON(S): (A-B) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 10/02/13 TO 10/15/13
5. STATE IN WHICH SURVEY WAS PERFORMED: NEW MEXICO
6. LOCATION OF WELL: EDDY COUNTY
7. TYPE OF SURVEY(S) PERFORMED: MWD
8. COMPLETE IDENTIFICATION OF WELL:

DEVON ENERGY PRODUCTION CO., L.P.
ANTARES 23 FEDERAL 2H
EDDY COUNTY, NM
RIG: H&P 300
API NO.: 30-015-41106
9. SURVEY CERTIFIED FROM: 4,258 TO 14,193 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE DISPLACED AT 4,872.22 FEET ON A BEARING OF 104.09 DEGREES FROM THE CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 14,193 FEET, ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

A handwritten signature in black ink, appearing to read "Mark Trahan".

MARK TRAHAN
M/LWD SERVICE COORDINATOR

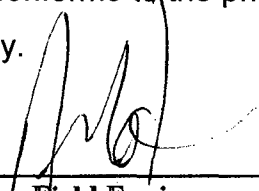
PathFinder

3329 W. Pinhook Rd.
Lafayette, LA 70508-3506, USA
Tel. 337-233-3982
Fax 337-234-2988



STATE OF LOUISIANA
PARISH OF LAFAYETTE

I, **Aaron Hargrave**, certify that; I am employed by PathFinder, a Schlumberger company; that I did on the day(s) of **10/02/13** through **10/15/13** conduct or supervise the taking of a **Measurement While Drilling** survey from a depth of **4,258 feet to a depth of 14,193 feet**; that the data is true, correct, complete and within the limitations of the tool as set forth by PathFinder, a Schlumberger company; that I am authorized and qualified to make this report; that this survey was conducted at the request of **DEVON ENERGY PRODUCTION CO., L.P.** for the **Antares 23 Federal 2H Well API No. 30-015-41106** in **Eddy County, New Mexico**; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by PathFinder, a Schlumberger company.



PathFinder Field Engineer

PathFinder – a Schlumberger company

BHL Report

Page 01/01
Tie-in Date: 10/02/2013
Date Completed: 10/15/2013

DEVON ENERGY PRODUCTION CO., LP
ANTARES 23 FEDERAL 2H
EDDY COUNTY, NM
API#: 30-015-41106 Rig: H&P 300
PathFinder Office Supervisor: MARK TRAHAN
PathFinder Field Engineers: AARON HARGRAVE
KEVIN BLANCHARD

Survey Horiz. Reference: WELLHEAD
Ref Coordinates: LAT: 32.39.0.9001 N LON: 103.50.52.1476 W
GRID Reference: NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 690770.1200 Y: 600633.5000
North Aligned To: GRID NORTH
Total Magnetic Correction: 7.20° EAST TO GRID
Vertical Section Plane: 97.23
Survey Vert. Reference: 26.00' Rotary Table To Ground
Altitude: 3541.00' Ground To MSL

Measured Depth	14193.00	(feet)
Inclination	87.41	(deg)
Azimuth	97.56	(deg)
True Vertical Depth	9241.88	(feet)
Vertical Section	4837.33	(feet)
Survey X cord	695495.74	(feet)
Survey Y cord	599447.32	(feet)
Survey Lat	32.64692937 N	(deg)
Survey Lon	103.83248366 W	(deg)
Rectangular Corr. N/S	1186.18 S	(feet)
Rectangular Corr. E/W	4725.62 E	(feet)
Closure Distance	4872.22	(feet)
Direction of Closure	104.09	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder – a Schlumberger company

Survey Report

DEVON ENERGY PRODUCTION CO., LP
ANTARES 23 FEDERAL 2H
EDDY COUNTY, NM
API#: 30-015-41106 RIG: H&P 300
PathFinder Office Supervisor: MARK TRAHAN
PathFinder Field Engineers: AARON HARGRAVE
KEVIN BLANCHARD

Survey Horiz. Reference: WELLHEAD
Ref Coordinates: LAT: 32.39.0.9001 N LON: 103.50.52.1476 W
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Ref GRID Coord: X: 690770.1200 Y: 600633.5000
North Aligned To: GRID NORTH
Total Magnetic Correction: 7.20° EAST TO GRID
Vertical Section Plane: 97.23
Survey Vert. Reference: 26.00' Rotary Table To Ground
Altitude: 3541.00' Ground To MSL

Survey Calculations by RX5 V6.05 using Minimum Curvature

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
THE FOLLOWING ARE VAUGHN ENERGY GYRO SURVEYS.												
200.00	0.26	47.39	200.00	0.00	0.29	0.31 N	0.33 E	32.65025090 N	103.84781772 W	0.45@	46.28	0.00
400.00	0.25	30.98	400.00	200.00	0.75	0.99 N	0.89 E	32.65025276 N	103.84781589 W	1.33@	41.70	0.04
600.00	0.43	39.70	599.99	200.00	1.33	1.95 N	1.59 E	32.65025537 N	103.84781359 W	2.51@	39.25	0.09
800.00	0.50	36.47	799.99	200.00	2.16	3.23 N	2.59 E	32.65025887 N	103.84781033 W	4.14@	38.75	0.04
1000.00	0.31	60.56	999.98	200.00	3.02	4.19 N	3.58 E	32.65026152 N	103.84780710 W	5.51@	40.48	0.13
1200.00	0.47	78.01	1199.98	200.00	4.23	4.63 N	4.85 E	32.65026270 N	103.84780295 W	6.71@	46.34	0.10
1400.00	0.34	63.47	1399.97	200.00	5.50	5.06 N	6.19 E	32.65026388 N	103.84779862 W	7.99@	50.69	0.08
1600.00	1.42	51.57	1599.94	200.00	7.72	6.87 N	8.66 E	32.65026881 N	103.84779056 W	11.05@	51.57	0.54
1800.00	2.14	58.15	1799.85	200.00	12.35	10.38 N	13.77 E	32.65027840 N	103.84777389 W	17.25@	52.99	0.37
2000.00	2.91	37.32	1999.66	200.00	17.80	16.39 N	20.02 E	32.65029484 N	103.84775350 W	25.87@	50.70	0.59
2200.00	2.89	28.43	2199.40	200.00	22.17	24.86 N	25.50 E	32.65031805 N	103.84773557 W	35.61@	45.73	0.23
2400.00	2.23	21.92	2399.20	200.00	24.98	32.90 N	29.35 E	32.65034011 N	103.84772293 W	44.09@	41.73	0.36
2600.00	1.79	22.26	2599.08	200.00	26.77	39.40 N	31.99 E	32.65035795 N	103.84771427 W	50.75@	39.07	0.22
2800.00	1.28	22.92	2799.00	200.00	28.19	44.35 N	34.04 E	32.65037152 N	103.84770753 W	55.91@	37.51	0.25
3000.00	0.83	43.70	2998.97	200.00	29.65	47.46 N	35.91 E	32.65038003 N	103.84770141 W	59.51@	37.12	0.29
3200.00	1.07	27.57	3198.94	200.00	31.16	50.16 N	37.78 E	32.65038744 N	103.84769531 W	62.79@	36.98	0.18
3400.00	1.44	16.43	3398.89	200.00	32.21	54.23 N	39.35 E	32.65039859 N	103.84769013 W	67.00@	35.97	0.22
3600.00	1.79	7.36	3598.82	200.00	32.62	59.73 N	40.46 E	32.65041372 N	103.84768644 W	72.15@	34.11	0.22
3800.00	1.26	359.97	3798.74	200.00	32.35	65.03 N	40.86 E	32.65042827 N	103.84768506 W	76.80@	32.14	0.28
4000.00	1.06	357.33	3998.70	200.00	31.76	69.08 N	40.77 E	32.65043940 N	103.84768529 W	80.21@	30.55	0.10
4200.00	1.26	13.67	4198.66	200.00	31.69	73.06 N	41.21 E	32.65045034 N	103.84768382 W	83.88@	29.42	0.19
** TIED INTO VAUGHN ENERGY SERVICES GYRO SURVEYS @ 4258' MD.												
4258.00	1.12	10.29	4256.65	58.00	31.79	74.24 N	41.46 E	32.65045358 N	103.84768298 W	85.03@	29.18	0.27

PathFinder – a Schlumberger company

Survey Report

DEVON ENERGY PRODUCTION CO., LP
 ANTARES 23 FEDERAL 2H
 EDDY COUNTY, NM
 API#: 30-015-41106 Rig: H&P 300

Page 02/06

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist (ft)	Dir (deg)	DLS (dg/100ft)
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.												
4352.00	1.41	2.55	4350.63	94.00	31.74	76.30 N	41.68 E	32.65045923 N	103.84768225 W	86.94@	28.64	0.36
4446.00	1.06	229.46	4444.62	94.00	31.06	76.89 N	41.07 E	32.65046086 N	103.84768422 W	87.17@	28.11	2.42
4541.00	2.46	212.29	4539.57	95.00	29.61	74.59 N	39.31 E	32.65045458 N	103.84768996 W	84.32@	27.79	1.56
4635.00	4.40	213.38	4633.40	94.00	27.16	69.88 N	36.25 E	32.65044165 N	103.84769998 W	78.72@	27.42	2.06
4730.00	6.51	215.94	4727.96	95.00	22.97	62.47 N	31.08 E	32.65042137 N	103.84771688 W	69.78@	26.45	2.24
4824.00	8.53	214.30	4821.15	94.00	17.24	52.40 N	24.02 E	32.65039376 N	103.84773996 W	57.64@	24.63	2.16
4919.00	9.67	216.26	4914.95	95.00	10.16	40.15 N	15.33 E	32.65036019 N	103.84776837 W	42.97@	20.91	1.24
5013.00	10.02	219.66	5007.57	94.00	1.94	27.48 N	5.45 E	32.65032551 N	103.84780069 W	28.02@	11.21	0.72
5107.00	9.50	222.68	5100.21	94.00	-6.94	15.49 N	5.03 W	32.65029267 N	103.84783491 W	16.28@	342.00	0.78
5202.00	9.06	221.99	5193.96	95.00	-15.75	4.16 N	15.35 W	32.65026167 N	103.84786860 W	15.91@	285.17	0.48
5296.00	9.76	222.76	5286.70	94.00	-24.60	7.19 S	25.71 W	32.65023060 N	103.84790243 W	26.70@	254.38	0.76
5391.00	9.85	224.22	5380.31	95.00	-34.17	18.92 S	36.85 W	32.65019849 N	103.84793878 W	41.42@	242.82	0.28
5485.00	9.67	226.29	5472.95	94.00	-43.98	30.14 S	48.16 W	32.65016780 N	103.84797570 W	56.81@	237.96	0.42
5580.00	9.76	222.83	5566.59	95.00	-53.70	41.56 S	59.40 W	32.65013655 N	103.84801240 W	72.50@	235.02	0.62
5674.00	9.67	222.39	5659.24	94.00	-62.88	53.23 S	70.14 W	32.65010460 N	103.84804746 W	88.05@	232.80	0.12
5769.00	9.85	222.77	5752.87	95.00	-72.20	65.09 S	81.04 W	32.65007214 N	103.84808304 W	103.94@	231.23	0.20
5863.00	9.58	223.35	5845.52	94.00	-81.49	76.68 S	91.87 W	32.65004042 N	103.84811840 W	119.66@	230.15	0.31
5958.00	9.94	219.11	5939.15	95.00	-90.48	88.79 S	102.47 W	32.65000727 N	103.84815301 W	135.59@	229.09	0.85
6052.00	10.02	218.50	6031.72	94.00	-99.01	101.49 S	112.67 W	32.64997250 N	103.84818637 W	151.64@	227.99	0.14
6146.00	10.11	218.93	6124.28	94.00	-107.59	114.31 S	122.95 W	32.64993740 N	103.84821994 W	167.88@	227.09	0.12
6241.00	9.85	219.62	6217.84	95.00	-116.32	127.05 S	133.37 W	32.64990250 N	103.84825399 W	184.20@	226.39	0.30
6335.00	9.76	220.13	6310.47	94.00	-124.95	139.34 S	143.63 W	32.64986886 N	103.84828751 W	200.11@	225.87	0.13
6430.00	9.85	222.90	6404.08	95.00	-134.07	151.45 S	154.35 W	32.64983571 N	103.84832252 W	216.24@	225.54	0.50
6524.00	9.50	216.14	6496.74	94.00	-142.51	163.60 S	164.40 W	32.64980243 N	103.84835535 W	231.93@	225.14	1.26
6619.00	10.29	216.97	6590.33	95.00	-150.50	176.71 S	174.13 W	32.64976651 N	103.84838715 W	248.09@	224.58	0.85
6714.00	9.76	216.58	6683.88	95.00	-158.66	189.96 S	184.03 W	32.64973023 N	103.84841951 W	264.48@	224.09	0.56

PathFinder – a Schlumberger company

Survey Report

DEVON ENERGY PRODUCTION CO., LP
 ANTARES 23 FEDERAL 2H
 EDDY COUNTY, NM
 API#: 30-015-41106 Rig: H&P 300

Page 03/06

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist (ft)	Dir (deg)	DLS (dg/100ft)
6808.00	10.55	218.88	6776.41	94.00	-167.08	203.05 S	194.18 W	32.64969436 N	103.84845268 W	280.96@	223.72	0.94
6902.00	10.02	220.25	6868.90	94.00	-176.05	215.99 S	204.87 W	32.64965892 N	103.84848759 W	297.70@	223.49	0.62
6997.00	9.23	221.03	6962.56	95.00	-184.80	228.05 S	215.21 W	32.64962592 N	103.84852137 W	313.56@	223.34	0.84
7091.00	9.94	217.53	7055.25	94.00	-193.08	240.17 S	225.10 W	32.64959273 N	103.84855368 W	329.17@	223.14	0.98
7186.00	10.64	216.20	7148.72	95.00	-201.47	253.75 S	235.27 W	32.64955553 N	103.84858694 W	346.04@	222.84	0.78
7280.00	9.50	218.34	7241.27	94.00	-209.68	266.84 S	245.21 W	32.64951968 N	103.84861942 W	362.40@	222.58	1.28
7374.00	9.67	218.24	7333.96	94.00	-217.75	279.12 S	254.91 W	32.64948603 N	103.84865112 W	378.01@	222.40	0.18
7469.00	11.26	218.38	7427.37	95.00	-226.66	292.66 S	265.61 W	32.64944896 N	103.84868607 W	395.22@	222.23	1.67
7563.00	10.99	217.25	7519.61	94.00	-235.89	306.99 S	276.73 W	32.64940972 N	103.84872242 W	413.30@	222.03	0.37
7657.00	9.50	219.46	7612.10	94.00	-244.51	320.11 S	287.08 W	32.64937378 N	103.84875625 W	429.99@	221.89	1.64
7752.00	10.55	217.33	7705.65	95.00	-253.06	333.08 S	297.34 W	32.64933826 N	103.84878977 W	446.49@	221.76	1.17
7846.00	9.67	214.75	7798.19	94.00	-261.02	346.41 S	307.06 W	32.64930175 N	103.84882154 W	462.91@	221.55	1.05
7941.00	9.94	216.39	7891.81	95.00	-268.70	359.56 S	316.47 W	32.64926570 N	103.84885231 W	479.00@	221.35	0.41
8036.00	9.76	215.71	7985.41	95.00	-276.54	372.70 S	326.03 W	32.64922971 N	103.84888358 W	495.18@	221.18	0.23
8131.00	10.29	213.56	8078.96	95.00	-284.14	386.31 S	335.43 W	32.64919242 N	103.84891429 W	511.61@	220.97	0.68
8226.00	9.15	210.47	8172.59	95.00	-290.88	399.89 S	343.95 W	32.64915520 N	103.84894218 W	527.46@	220.70	1.32
8321.00	9.67	218.73	8266.32	95.00	-298.03	412.63 S	352.77 W	32.64912031 N	103.84897103 W	542.87@	220.53	1.52
8415.00	10.90	220.76	8358.80	94.00	-307.07	425.52 S	363.51 W	32.64908501 N	103.84900612 W	559.65@	220.51	1.36
8510.00	10.73	222.14	8452.12	95.00	-317.09	438.88 S	375.31 W	32.64904843 N	103.84904465 W	577.47@	220.54	0.33
8546.00	10.64	222.75	8487.49	36.00	-320.94	443.81 S	379.81 W	32.64903495 N	103.84905936 W	584.14@	220.56	0.40
8571.00	10.38	221.84	8512.07	25.00	-323.56	447.18 S	382.88 W	32.64902572 N	103.84906938 W	588.70@	220.57	1.23
8602.00	10.29	223.24	8542.57	31.00	-326.77	451.28 S	386.64 W	32.64901450 N	103.84908166 W	594.26@	220.59	0.86
8634.00	10.64	213.94	8574.04	32.00	-329.78	455.81 S	390.25 W	32.64900209 N	103.84909344 W	600.05@	220.57	5.38
8665.00	11.78	198.49	8604.46	31.00	-331.69	461.19 S	392.85 W	32.64898734 N	103.84910198 W	605.83@	220.43	10.32
8697.00	13.54	186.09	8635.68	32.00	-332.25	468.01 S	394.29 W	32.64896860 N	103.84910674 W	611.96@	220.11	10.09
8728.00	15.48	174.48	8665.70	31.00	-331.26	475.74 S	394.27 W	32.64894736 N	103.84910681 W	617.88@	219.65	11.25
8760.00	16.80	163.97	8696.44	32.00	-328.50	484.44 S	392.58 W	32.64892343 N	103.84910145 W	623.54@	219.02	10.00

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 EDDY COUNTY, NM
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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist (ft)	Dir (deg)	DLS (dg/100ft)
8791.00	17.85	152.23	8726.05	31.00	-324.00	492.95 S	389.13 W	32.64889999 N	103.84909036 W	628.03@	218.29	11.75
8823.00	18.47	142.55	8756.46	32.00	-317.62	501.32 S	383.76 W	32.64887693 N	103.84907305 W	631.34@	217.43	9.61
8854.00	18.91	131.82	8785.83	31.00	-310.03	508.57 S	377.03 W	32.64885691 N	103.84905128 W	633.08@	216.55	11.17
8886.00	20.22	121.66	8815.99	32.00	-300.72	514.93 S	368.46 W	32.64883932 N	103.84902352 W	633.18@	215.59	11.38
8917.00	22.25	114.87	8844.89	31.00	-290.25	520.21 S	358.57 W	32.64882468 N	103.84899148 W	631.82@	214.58	10.28
8949.00	25.32	111.57	8874.17	32.00	-277.84	525.28 S	346.71 W	32.64881061 N	103.84895301 W	629.38@	213.43	10.45
8980.00	28.40	109.72	8901.82	31.00	-264.22	530.20 S	333.60 W	32.64879690 N	103.84891049 W	626.42@	212.18	10.29
9012.00	31.04	108.00	8929.61	32.00	-248.68	535.32 S	318.59 W	32.64878265 N	103.84886179 W	622.95@	210.76	8.67
9043.00	34.73	106.04	8955.64	31.00	-232.10	540.23 S	302.49 W	32.64876895 N	103.84880958 W	619.15@	209.25	12.39
9075.00	38.08	105.28	8981.39	32.00	-213.31	545.35 S	284.21 W	32.64875464 N	103.84875025 W	614.97@	207.53	10.56
9106.00	40.89	105.07	9005.32	31.00	-193.79	550.51 S	265.18 W	32.64874022 N	103.84868852 W	611.05@	205.72	9.07
9138.00	44.49	105.44	9028.83	32.00	-172.31	556.22 S	244.26 W	32.64872427 N	103.84862061 W	607.49@	203.71	11.28
9169.00	47.75	105.34	9050.32	31.00	-150.20	562.15 S	222.72 W	32.64870770 N	103.84855072 W	604.66@	201.61	10.52
9201.00	51.18	103.88	9071.11	32.00	-126.08	568.27 S	199.18 W	32.64869057 N	103.84847436 W	602.17@	199.32	11.27
9232.00	55.49	102.86	9089.62	31.00	-101.36	574.02 S	175.00 W	32.64867448 N	103.84839586 W	600.10@	196.95	14.15
9264.00	59.44	102.13	9106.83	32.00	-74.50	579.85 S	148.66 W	32.64865812 N	103.84831039 W	598.60@	194.38	12.49
9295.00	62.70	101.82	9121.82	31.00	-47.47	585.48 S	122.13 W	32.64864232 N	103.84822425 W	598.08@	191.78	10.55
9327.00	66.74	101.61	9135.48	32.00	-18.63	591.35 S	93.80 W	32.64862582 N	103.84813231 W	598.74@	189.01	12.64
9358.00	70.00	101.30	9146.91	31.00	10.11	597.07 S	65.56 W	32.64860974 N	103.84804065 W	600.66@	186.27	10.56
9390.00	72.98	101.55	9157.07	32.00	40.37	603.08 S	35.82 W	32.64859285 N	103.84794412 W	604.14@	183.40	9.34
9421.00	74.74	101.64	9165.68	31.00	70.06	609.07 S	6.65 W	32.64857603 N	103.84784944 W	609.10@	180.63	5.68
9453.00	76.33	101.05	9173.68	32.00	100.96	615.16 S	23.73 E	32.64855890 N	103.84775083 W	615.62@	177.79	5.28
9484.00	78.17	99.76	9180.52	31.00	131.15	620.62 S	53.47 E	32.64854352 N	103.84765430 W	622.92@	175.08	7.19
9509.00	80.46	98.48	9185.15	25.00	155.70	624.51 S	77.72 E	32.64853251 N	103.84757556 W	629.33@	172.91	10.45
9598.00	88.20	97.82	9193.94	89.00	244.18	637.06 S	165.32 E	32.64849694 N	103.84729113 W	658.16@	165.45	8.73
9693.00	89.08	97.74	9196.19	95.00	339.15	649.91 S	259.42 E	32.64846042 N	103.84698561 W	699.77@	158.24	0.93
9787.00	89.96	96.72	9196.98	94.00	433.15	661.74 S	352.67 E	32.64842673 N	103.84668283 W	749.85@	151.94	1.43

PathFinder – a Schlumberger company

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DEVON ENERGY PRODUCTION CO., LP
 ANTARES 23 FEDERAL 2H
 EDDY COUNTY, NM
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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
9881.00	89.52	96.11	9197.41	94.00	527.14	672.24 S	446.08 E	32.64839668 N	103.84637951 W	806.78@	146.43	0.80
9976.00	88.99	96.19	9198.64	95.00	622.11	682.42 S	540.52 E	32.64836752 N	103.84607282 W	870.55@	141.62	0.56
10070.00	89.78	95.95	9199.65	94.00	716.08	692.36 S	633.99 E	32.64833902 N	103.84576931 W	938.78@	137.52	0.88
10165.00	89.78	95.71	9200.02	95.00	811.06	702.01 S	728.50 E	32.64831131 N	103.84546241 W	1011.69@	133.94	0.25
10260.00	91.19	95.47	9199.21	95.00	906.01	711.26 S	823.04 E	32.64828468 N	103.84515539 W	1087.79@	130.83	1.51
10354.00	90.31	95.89	9197.98	94.00	999.97	720.56 S	916.57 E	32.64825793 N	103.84485166 W	1165.90@	128.17	1.04
10449.00	88.99	95.61	9198.56	95.00	1094.93	730.08 S	1011.09 E	32.64823057 N	103.84454473 W	1247.12@	125.83	1.42
10543.00	88.90	96.41	9200.29	94.00	1188.89	739.92 S	1104.55 E	32.64820234 N	103.84424121 W	1329.48@	123.82	0.86
10638.00	88.72	96.35	9202.27	95.00	1283.86	750.48 S	1198.95 E	32.64817214 N	103.84393470 W	1414.46@	122.04	0.20
10732.00	87.85	97.36	9205.08	94.00	1377.82	761.69 S	1292.23 E	32.64814013 N	103.84363180 W	1500.01@	120.52	1.42
10827.00	87.49	96.79	9208.94	95.00	1472.74	773.38 S	1386.43 E	32.64810680 N	103.84332594 W	1587.55@	119.15	0.71
10921.00	88.90	96.41	9211.90	94.00	1566.68	784.18 S	1479.76 E	32.64807594 N	103.84302289 W	1674.70@	117.92	1.55
11016.00	88.99	95.84	9213.65	95.00	1661.65	794.31 S	1574.20 E	32.64804688 N	103.84271622 W	1763.25@	116.77	0.61
11110.00	89.16	96.36	9215.17	94.00	1755.62	804.30 S	1667.65 E	32.64801824 N	103.84241274 W	1851.48@	115.75	0.58
11204.00	90.13	96.19	9215.75	94.00	1849.60	814.58 S	1761.09 E	32.64798882 N	103.84210934 W	1940.35@	114.82	1.05
11299.00	90.48	97.34	9215.25	95.00	1944.59	825.77 S	1855.42 E	32.64795686 N	103.84180303 W	2030.88@	113.99	1.27
11393.00	91.10	98.46	9213.95	94.00	2038.58	838.68 S	1948.52 E	32.64792017 N	103.84150076 W	2121.35@	113.29	1.36
11488.00	91.36	97.85	9211.91	95.00	2133.54	852.16 S	2042.54 E	32.64788194 N	103.84119551 W	2213.17@	112.65	0.70
11582.00	91.45	98.69	9209.61	94.00	2227.50	865.67 S	2135.53 E	32.64784360 N	103.84089359 W	2304.32@	112.07	0.90
11677.00	89.87	99.82	9208.51	95.00	2322.43	880.95 S	2229.28 E	32.64780042 N	103.84058924 W	2397.04@	111.56	2.05
11771.00	89.78	99.93	9208.80	94.00	2416.33	897.07 S	2321.89 E	32.64775493 N	103.84028861 W	2489.16@	111.12	0.15
11865.00	89.34	99.07	9209.52	94.00	2510.25	912.59 S	2414.60 E	32.64771110 N	103.83998766 W	2581.30@	110.70	1.03
11960.00	89.96	98.83	9210.10	95.00	2605.20	927.37 S	2508.44 E	32.64766928 N	103.83968300 W	2674.37@	110.29	0.70
12054.00	89.08	97.62	9210.89	94.00	2699.18	940.81 S	2601.47 E	32.64763113 N	103.83938097 W	2766.36@	109.88	1.59
12148.00	88.02	97.06	9213.27	94.00	2793.15	952.82 S	2694.66 E	32.64759694 N	103.83907837 W	2858.16@	109.47	1.27
12243.00	87.41	97.33	9217.06	95.00	2888.08	964.71 S	2788.84 E	32.64756306 N	103.83877258 W	2950.98@	109.08	0.70
12338.00	87.67	96.71	9221.13	95.00	2982.99	976.31 S	2883.04 E	32.64752997 N	103.83846671 W	3043.86@	108.71	0.71

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Survey Report

DEVON ENERGY PRODUCTION CO., LP
 ANTARES 23 FEDERAL 2H
 EDDY COUNTY, NM
 API#: 30-015-41106 Rig: H&P 300

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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist (ft)	Dir (deg)	DLS (dg/100ft)
12432.00	88.55	96.40	9224.23	94.00	3076.93	987.03 S	2976.37 E	32.64749929 N	103.83816365 W	3135.77@	108.35	0.99
12526.00	88.99	96.77	9226.25	94.00	3170.90	997.81 S	3069.73 E	32.64746848 N	103.83786051 W	3227.83@	108.01	0.61
12621.00	89.78	96.90	9227.27	95.00	3265.89	1009.11 S	3164.05 E	32.64743619 N	103.83755425 W	3321.07@	107.69	0.84
12715.00	89.69	96.88	9227.71	94.00	3359.89	1020.39 S	3257.37 E	32.64740400 N	103.83725124 W	3413.45@	107.39	0.10
12810.00	90.75	95.91	9227.34	95.00	3454.88	1030.97 S	3351.78 E	32.64737370 N	103.83694469 W	3506.75@	107.10	1.51
12904.00	90.84	95.36	9226.04	94.00	3548.83	1040.20 S	3445.31 E	32.64734714 N	103.83664095 W	3598.92@	106.80	0.59
12999.00	90.66	95.55	9224.79	95.00	3643.78	1049.23 S	3539.87 E	32.64732110 N	103.83633387 W	3692.10@	106.51	0.28
13093.00	91.01	95.42	9223.42	94.00	3737.72	1058.21 S	3633.43 E	32.64729520 N	103.83603005 W	3784.40@	106.24	0.40
13188.00	90.13	96.20	9222.48	95.00	3832.69	1067.83 S	3727.94 E	32.64726755 N	103.83572316 W	3877.86@	105.98	1.24
13282.00	89.69	96.53	9222.63	94.00	3926.68	1078.25 S	3821.36 E	32.64723771 N	103.83541981 W	3970.57@	105.76	0.59
13377.00	88.99	96.54	9223.72	95.00	4021.66	1089.06 S	3915.74 E	32.64720677 N	103.83511336 W	4064.36@	105.54	0.74
13471.00	89.69	96.30	9224.80	94.00	4115.65	1099.57 S	4009.14 E	32.64717668 N	103.83481007 W	4157.19@	105.34	0.79
13566.00	89.96	96.39	9225.09	95.00	4210.64	1110.07 S	4103.56 E	32.64714661 N	103.83450348 W	4251.05@	105.14	0.30
13660.00	89.25	96.49	9225.74	94.00	4304.62	1120.61 S	4196.96 E	32.64711642 N	103.83420019 W	4343.99@	104.95	0.76
13755.00	89.08	96.69	9227.13	95.00	4399.61	1131.52 S	4291.32 E	32.64708524 N	103.83389379 W	4437.99@	104.77	0.28
13850.00	88.72	96.82	9228.95	95.00	4494.59	1142.69 S	4385.65 E	32.64705331 N	103.83358752 W	4532.07@	104.60	0.40
13944.00	87.93	97.14	9231.70	94.00	4588.54	1154.11 S	4478.91 E	32.64702072 N	103.83328470 W	4625.21@	104.45	0.91
14038.00	87.85	97.34	9235.16	94.00	4682.48	1165.94 S	4572.10 E	32.64698697 N	103.83298213 W	4718.42@	104.31	0.23
14111.00	87.41	97.56	9238.18	73.00	4755.42	1175.40 S	4644.42 E	32.64696004 N	103.83274732 W	4790.84@	104.20	0.67
STRAIGHT LINE TO PROJECTION TO BIT DEPTH AT 14193' MD.												
14193.00	87.41	97.56	9241.88	82.00	4837.33	1186.18 S	4725.62 E	32.64692937 N	103.83248366 W	4872.22@	104.09	0.00

** The survey data at tie-in point was furnished by a recognized survey company and entered as submitted. Survey stations above the tie-in point represent recalculated data by PathFinder – a Schlumberger company and may reflect minor changes due to rounding differences between survey programs. Only survey stations taken by qualified PathFinder personnel are subject to certification.