

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.*5. Lease Serial No.
NMNM132070

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

8. Well Name and No.
SD EA 18 19 FED COM P15 19H9. API Well No.
30-025-44167-00-X110. Field and Pool or Exploratory Area
WC025G09S263327G-UP WOLFCAMP11. County or Parish, State
LEA COUNTY, NM

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

CHEVRON USA INCORPORATED

Contact: LAURA BECERRA

E-Mail: BECERRA@CHEVRON.COM

3a. Address

6301 DEAUVILLE BLVD
MIDLAND, TX 79706

3b. Phone No. (include area code)

Ph: 432-687-7665

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 18 T26S R33E NENE 455FNL 905FEL
32.049538 N Lat, 103.605759 W Lon

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original A
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	PD

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

Chevron U.S.A. Inc. respectfully requests a variance to drill a pilot hole to 13,000' TVD to the Wolfcamp B formation.

The intent of this pilot hole is for a logging acquisition program to include Quad Combos, NEXT litho-scanner, CMR magnetic resonance and NGI oil based imaging logs in our intermediate, liner and pilot hole sections. Drilling program and directional plans have been adjusted to add this pilot hole, formations, cement and mud program.

Attached you will find revised updated documents.

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

14. I hereby certify that the foregoing is true and correct.	
Electronic Submission #410474 verified by the BLM Well Information System For CHEVRON USA INCORPORATED, sent to the Hobbs Committed to AFMSS for processing by ZOTA STEVENS on 04/05/2018 (18ZS0058SE)	
Name (Printed/Typed) LAURA BECERRA	Title PERMITTING SPECIALIST
Signature (Electronic Submission)	Date 04/05/2018

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By ZOTA STEVENS	Title PETROLEUM ENGINEER	Date 04/10/2018
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		Office Hobbs

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

1. FORMATION TOPS

The estimated tops of important geologic markers are as follows:

FORMATION	SUB-SEA TVD	KBTVD	MD
Rustler		800	
Castile		3480	
Lamar		4900	
Bell Canyon		4930	
Cherry Canyon		5970	
Brushy Canyon		7620	
Bone Spring Limestone		9090	
Upr. Avalon		9120	
Top Bone Spring 1		10040	
Top Bone Spring 2		10700	
Top Bone Spring 3		11740	
Wolfcamp		12140	
Wolfcamp A1		12193	
Wolfcamp A2		12,523	
Pilot Hole TD (Wolfcamp B)		13,000	
Lateral TD (Wolfcamp A2)		12,523	23000

2. ESTIMATED DEPTH OF WATER, OIL, GAS & OTHER MINERAL BEARING FORMATIONS

The estimated depths at which the top and bottom of the anticipated water, oil, gas, or other mineral bearing formations are expected to be encountered are as follows:

Substance	Formation	Depth
Deepest Expected Base of Fresh Water		700
Water	Rustler	800
Water	Bell Canyon	4930
Water	Cherry Canyon	5970
Oil/Gas	Brushy Canyon	7620
Oil/Gas	Bone Spring Limestone	9090
Oil/Gas	Upr. Avalon	9120
Oil/Gas	Top Bone Spring 1	10040
Oil/Gas	Top Bone Spring 2	10700
Oil/Gas	Top Bone Spring 3	11740
Oil/Gas	Wolfcamp	12140
Oil/Gas	Wolfcamp A1	12193
Oil/Gas	Wolfcamp A2	12,523
Oil/Gas	Wolfcamp B	12,734

All shows of fresh water and minerals will be reported and protected.

3. BOP EQUIPMENT

Will have a minimum of a 10000 psi rig stack (see proposed schematic) for drill out below surface (Wolfcamp is not exposed until drillout of the intermediate casing). Stack will be tested as specified in the attached testing requirements. Batch drilling of the surface, intermediate, and production will take place. A full BOP test will be performed unless approval from BLM is received otherwise. Flex choke hose will be used for all wells on the pad (see attached specs) BOP test will be conducted by a third party.

Chevron requests a variance to use a FMC UHS Multibowl wellhead, which will be run through the rig floor on surface casing. BOPE will be nipped up and tested after cementing surface casing. Subsequent tests will be performed as needed, not to exceed 30 days. The field report from FMC and BOP test information will be provided in a subsequent report at the end of the well. Please see the attached wellhead schematic. An installation manual has been placed on file with the BLM office and remains unchanged from previous submittal.

4. CASING PROGRAM

a. The proposed casing program will be as follows:

Purpose	From	To	Hole Size	Csg Size	Weight	Grade	Thread	Condition
Surface	0'	800'	17-1/2"	13-3/8"	55 #	J55	STC	New
Intermediate	0'	11,500'	12-1/4"	9-5/8"	43.5#	HCK-L80	LTC	New
Liner	10,850'	12,300'	8-1/2"	7-5/8"	29.7 #	HCP-110	H513	New
Production (Taper String)	0'	12,500'	6-3/4"	5.5"	20#	P-110-ICY	TXP BTC	New
	12,500'	23,000'	6-3/4"	5"	18#	P-110 IC	TSH521	New

b. Casing design subject to revision based on geologic conditions encountered.

c. ***A "Worst Case" casing design for wells in a particular area is used below to calculate the Casing Safety Factors. If for any reason the casing design for a particular well requires setting casing deeper than the following "worst case" design, then the Casing Safety Factors will be recalculated & sent to the BLM prior to drilling.

d. Chevron will fill casing at a minimum of every 20 jts (840') while running for intermediate and production casing in order to maintain collapse SF.

SF Calculations based on the following "Worst Case" casing design:

Surface Casing: 850'
Intermediate Casing: 11,200' TVD
Production Casing: 23,000' MD/12,750' TVD (10,300' VS @ 90 deg inc)

Casing String	Min SF Burst	Min SF Collapse	Min SF Tension	Min SF Tri-Axial
Surface	1.36	3.12	3.17	1.70
Intermediate	1.12	1.44	1.93	1.37
Liner	1.69	5.36	2.50	2.09
Production	1.11	1.23	1.97	1.37

Min SF is the smallest of a group of safety factors that include the following considerations:

	Surf	Int	Liner	Prod
Burst Design				
Pressure Test- Surface, Int, Prod Csg P external: Water P internal: Test psi + next section heaviest mud in csg	X	X	X	X
Displace to Gas- Surf Csg P external: Water P internal: Dry Gas from Next Csg Point	X			
Frac at Shoe, Gas to Surf- Int Csg P external: Water P internal: Dry Gas, 16 ppg Frac Gradient		X	X	
Stimulation (Frac) Pressures- Prod Csg P external: Water P internal: Max inj pressure w/ heaviest injected fluid				X
Tubing leak- Prod Csg (packer at KOP) P external: Water P internal: Leak just below surf, 8.7 ppg packer fluid				X
Collapse Design				
Full Evacuation P external: Water gradient in cement, mud above TOC P internal: none	X	X	X	X
Cementing- Surf, Int, Prod Csg P external: Wet cement P internal: water	X	X	X	X
Tension Design				
100k lb overpull	X	X	X	X

5. CEMENTING PROGRAM

Slurry	Type	Top	Bottom	Weight	Yield	%Excess	Sacks	Water
Surface				(ppg)	(sx/cu ft)	Open Hole		gal/sk
Tail	Class C	0'	800'	14.8	1.33	50	650	6.57
Intermediate								
Stage 2 Lead	Class C	0'	4570	11.9	2.39	100	1070	13.46
Stage 2 Tail	Class C	4570	4870	14.8	1.33	25	89	6.35
Stage 1 Lead	50:50 Poz Class C	4,870'	10,650'	11.9	2.21	25	1024	12.18
Stage 1 Tail	Class H	10,650'	11,150'	15.6	1.22	25	184	5.37
Liner								
Tail	Class H	10,850'	12,300'	15.6	1.22	17	123	5.34
Production								
Lead	Class H	10,350'	18,955'	15.6	1.2	10	1200	5.29
Tail	Acid Soluble	18,955'	23,000'	16	1.9	10	100	7.4
Pilot Hole								
Plug	Class H	12,500'	13,000'	15.6	1.2	10	100	5.29

1. Final cement volumes will be determined by caliper.
2. Surface casing shall have at least one centralizer installed on each of the bottom three joints starting with the shoe joint.
3. Production casing will have one horizontal type centralizer on every joint for the first 1000' from TD, then every other joint to EOB, and then every third joint to KOP. Bowspring type centralizers will be run from KOP to intermediate casing.

6. MUD PROGRAM

From	To	Type	Weight	F. Vis	Filtrate	
0'	800'	Spud Mud	8.3 - 8.7	32 - 34	NC - NC	
800'	11,150'	Oil Based Mud	8.7-9.2	28 - 30	25-30	
11,150'	12,300'	Oil Based Mud	9.5-13.5	70 - 75	25 - 30	
12,300'	13,000'	Oil Based Mud	12.0-15.0	70 - 75	25 - 30	Pilot Hole
12,300'	23,000'	Oil Based Mud	12.0-15.0	70 - 75	25 - 30	Lateral

A closed system will be utilized consisting of above ground steel tanks. All wastes accumulated during drilling operations will be contained in a portable trash cage and removed from location and deposited in an approved sanitary landfill. Sanitary wastes will be contained in a chemical porta-toilet and then hauled to an approved sanitary landfill.

All fluids and cuttings will be disposed of in accordance with New Mexico Oil Conservation Division rules and regulations.

A mud test shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

Visual mud monitoring equipment shall be in place to detect volume changes indicating loss or gain of circulating fluid volume. When abnormal pressures are anticipated -- a pit volume totalizer (PVT), stroke counter, and flow sensor will be used to detect volume changes indicating loss or gain of circulating fluid volume.

A weighting agent and lost circulating material (LCM) will be onsite to mitigate pressure or lost circulation as hole conditions dictate.

7. TESTING, LOGGING, AND CORING

The anticipated type and amount of testing, logging, and coring are as follows:

- Drill stem tests are not planned.
- The logging program will be as follows:

TYPE	Logs	Interval	Timing	Vendor
Mudlogs	2 man mudlog	Int Csg to TD	Drillout of Int Csg	TBD
LWD	MWD Gamma	Int. and Prod. Hole	While Drilling	TBD
Wireline Logs	Quad Combo	Intermediate	After Surface Csg	SLB
Wireline Logs	Quad Combo w/ NEXT, CMR, NGI	Liner	After Intermediate Csg	SLB
Wireline Logs	Quad Combo w/ NEXT, CMR	Pilot Hole	After Production Liner	SLB

- Conventional whole core samples are not planned.
- A Directional Survey will be run.

8. ABNORMAL PRESSURES AND HYDROGEN SULFIDE

- No abnormal pressures or temperatures are expected. Estimated BHP at intermediate TD is: 5750 psi
No abnormal pressures or temperatures are expected. Estimated BHP at production TD is: 9830 psi
- Hydrogen sulfide gas is not anticipated. An H2S Contingency plan is attached with this APD in the event that H2S is encountered



Clearance Report

SD EA 18 19 FED P15 19H Rev A.0
Closest Approach
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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H
Facility	SD EA 18-19 Fed P15		

REPORT SETUP INFORMATION

Projection System	NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Tranlam
Scale	0.999967	Report Generated	4/4/2018 at 8:59:35 AM
Convergence at slot	0.39° East	Database/Source file	WA_Midland/SD_EA_18_19_FED_P15_19H_Rev_A.0_CR.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	1.00	75.00	725572.00	382462.00	32°02'57.884"N	103°36'19.034"W
Facility Reference Pt			725497.00	382461.00	32°02'57.879"N	103°36'19.905"W
Field Reference Pt			152400.30	0.00	30°59'42.846"N	105°26'33.659"W

WELLPATH DATUM

Calculation method	Minimum Curvature	Rig: Nabors X30 (KB) to Facility Vertical Datum	3263.60ft
Horizontal Reference Pt	Slot	Rig: Nabors X30 (KB) to Mean Sea Level	3263.60ft
Vertical Reference Pt	Rig: Nabors X30 (KB)	Rig: Nabors X30 (KB) to Ground Level at Slot (SD EA 18 19 FED P15 19H)	32.60ft
MD Reference Pt	Rig: Nabors X30 (KB)		
Field Vertical Reference	Mean Sea Level		

POSITIONAL UNCERTAINTY CALCULATION SETTINGS

Ellipse Confidence Limit	3.00 Std Dev	Ellipse Start MD	32.60ft	Surface Position Uncertainty	included
Declination	6.97° East of TN	Dip Angle	59.85°	Mag Field Strength	47793 nT
Slot Surface Uncertainty @1SD		Horizontal	0.100ft	Vertical	1.000ft
Facility Surface Uncertainty @1SD		Horizontal	3.300ft	Vertical	3.000ft

Positional Uncertainty values in the WELLPATH DATA table are the projection of the ellipsoid of uncertainty onto the vertical and horizontal planes



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Facility	SD EA 18-19 Fed P15		

ANTI-COLLISION RULE

Rule Name	Baker Hughes Stop Drilling (offset is HSE risk)	Rule Based On	Ratio
Plane of Rule	Closest Approach	Threshold Value	1.00
Include Casing & Hole Size	yes	Apply Cone of Safety	no

HOLE & CASING SECTIONS - Ref Wellbore: SD EA 18 19 FED P15 19H Ref Wellpath: SD EA 18 19 FED P15 19H Rev A.0

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
13.375in Casing	32.60	800.00	767.40	32.60	800.00	0.00	0.00	0.00	0.00
9.625in Casing	32.60	11112.66	11080.06	32.60	11044.00	0.00	0.00	405.88	571.62

SURVEY PROGRAM - Ref Wellbore: SD EA 18 19 FED P15 19H Ref Wellpath: SD EA 18 19 FED P15 19H Rev A.0

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
32.60	11112.00	BHI NaviTrak (Standard)		SD EA 18 19 FED P15 19H
11112.00	13068.66	BHI AutoTrak Curve (Short)		SD EA 18 19 FED P15 19H



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SD EA 18 19 FED P15 19H Rev A.0
Closest Approach
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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H
Facility	SD EA 18-19 Fed P15		

CALCULATION RANGE & CUTOFF

From: 32.60ft MD	To: 13068.66ft MD	C-C Cutoff: 750.00 ft
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OFFSET WELL CLEARANCE SUMMARY (9 Offset Wellpaths selected) Ratios are calculated in Closest Approach plane

Offset Facility	Offset Slot	Offset Well	Offset Wellbore	Offset Wellpath	C-C Clearance Distance			ACR Separation Ratio			
					Ref MD [ft]	Min C-C Clear Dist [ft]	Diverging from MD [ft]	Ref MD of Min Ratio [ft]	Min Ratio	Min Ratio Dvrg from [ft]	ACR Status
SD EA 18-19 Fed P15	SD EA 18 19 FED P15 19H	SD EA 18 19 FED P15 19H ST01	SD EA 18 19 FED P15 19H ST01	SD EA 18 19 FED P15 19H ST01 Rev C.0	12032.60	0.00	12032.60	12093.73	-0.40	12093.73	FAIL
SD EA 18-19 Fed P15	SD EA 18 19 FED P15 20H	SD EA 18 19 FED P15 20H	SD EA 18 19 FED P15 20H PWB	SD EA 18 19 FED P15 20H Rev B.0	32.60	25.00	8632.60	8644.61	1.51	8644.61	PASS
SD EA 18-19 Fed P15	SD EA 18 19 FED P15 17H	SD EA 18 19 FED P15 17H	SD EA 18 19 FED P15 17H PWB	SD EA 18 19 FED P15 17H Rev B.0	32.60	50.01	12132.60	1210.87	5.21	12332.60	PASS
SD EA 19 & 18 Fed P6	SD EA 18 Fed P6 No. 6H	SD EA 18 Fed P6 No. 6H	SD EA 18 Fed P6 No. 6H (AWB)	SD EA 18 Fed P6 No. 6H (AWP) 188'-14160' Proj: 14185'	9247.60	1340.24	9247.60	9261.18	6.32	9261.18	PASS
SD EA 18-19 Fed P15	SD EA 18 19 FED P15 16H	SD EA 18 19 FED P15 16H	SD EA 18 19 FED P15 16H PWB	SD EA 18 19 FED P15 16H Rev B.0	32.60	75.01	11732.60	1132.60	6.99	12032.60	PASS
SD EA 18-19 Fed P15 [offset]	SD EA 18 FEDERAL P6 6H	SD EA 18 FEDERAL P6 6H	SD EA 18 FEDERAL P6 6H	SD EA 18 FEDERAL P6 6H_awp 188' - 14185'	9250.10	1365.87	9250.10	9263.65	7.12	9263.65	PASS
SD EA 18-19 Fed P15 [offset]	SD EA 18 FEDERAL P6 5H	SD EA 18 FEDERAL P6 5H	SD EA 18 FEDERAL P6 5H	SD EA 18 FEDERAL P6 5H_awp 183' - 14156' Proj: 14214'	9247.60	1949.26	9247.60	9306.35	10.06	9306.35	PASS
SD EA 18-19 Fed P15 [offset]	SD 18 26 33 FEDERAL 4H	SD 18 26 33 FEDERAL 4H	SD 18 26 33 FEDERAL 4H	SD 18 26 33 FEDERAL 4H_awp 132' - 13842' Proj: 13900'	9277.60	2698.07	9277.60	9352.25	14.35	9352.25	PASS
SD EA 18-19 Fed P15 [offset]	SD 18 26 33 FEDERAL 3H no survey to 778'	SD 18 26 33 FEDERAL 3H ST1	SD 18 26 33 FEDERAL 3H ST1	SD 18 26 33 FEDERAL 3H ST1_awp 8700' - 13890'	9275.10	3228.87	9275.10	9414.55	17.20	9414.55	PASS



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Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H
Facility	SD EA 18-19 Fed P15		

CLEARANCE DATA - Offset Wellbore: SD EA 18 19 FED P15 19H ST01 Offset Wellpath: SD EA 18 19 FED P15 19H ST01 Rev C.0

Facility: SD EA 18-19 Fed P15 Slot: SD EA 18 19 FED P15 19H Well: SD EA 18 19 FED P15 19H ST01 Threshold Value=1.00 † = interpolated/extrapolated station												
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Horiz Bearing [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
12032.60†	11963.94	405.88	571.62	12032.60	11963.94	405.88	571.62	0.00	0.00	45.91	N/A	N/A
12093.73†	12025.07	405.88	571.62	12093.73	12025.07	405.87	571.62	0.00	0.01	25.43	-0.40	FAIL
12132.60†	12063.94	405.88	571.62	12132.50	12063.78	404.09	571.63	179.57	1.80	7.61	0.20	FAIL
12232.60†	12163.94	405.88	571.62	12228.66	12158.10	386.19	571.77	179.57	20.54	25.05	0.82	FAIL
12332.60†	12263.94	405.88	571.62	12314.68	12237.93	354.47	572.01	179.57	57.62	40.19	1.44	PASS
12432.60†	12363.94	405.88	571.62	12387.54	12300.19	316.76	572.29	179.57	109.58	51.63	2.13	PASS
12532.60†	12463.94	405.88	571.62	12447.41	12346.57	278.97	572.58	179.57	172.86	60.22	2.88	PASS
12632.60†	12563.94	405.88	571.62	12496.05	12380.54	244.19	572.85	179.57	244.50	66.70	3.68	PASS
12732.60†	12663.94	405.88	571.62	12535.58	12405.43	213.49	573.08	179.57	322.25	71.60	4.51	PASS
12832.60†	12763.94	405.88	571.62	12567.93	12423.85	186.90	573.28	179.57	404.49	75.40	5.38	PASS
12932.60†	12863.94	405.88	571.62	12594.66	12437.68	164.04	573.45	179.57	490.08	78.43	6.26	PASS
13032.60†	12963.94	405.88	571.62	12616.99	12448.24	144.37	573.60	179.57	578.21	80.89	7.17	PASS
13068.66	13000.00	405.88	571.62	12624.14	12451.43	137.96	573.65	179.57	610.50	81.68	7.49	PASS

C-C Clearance Distance Cutoff: 750.00 ft

POSITIONAL UNCERTAINTY - Offset Wellbore: SD EA 18 19 FED P15 19H ST01 Offset Wellpath: SD EA 18 19 FED P15 19H ST01 Rev C.0

Slot Surface Uncertainty @1SD	Horizontal	0.100ft	Vertical	1.000ft
Facility Surface Uncertainty @1SD	Horizontal	3.300ft	Vertical	3.000ft

HOLE & CASING SECTIONS - Offset Wellbore: SD EA 18 19 FED P15 19H ST01 Offset Wellpath: SD EA 18 19 FED P15 19H ST01 Rev C.0

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
13.375in Casing	32.60	800.00	767.40	32.60	800.00	0.00	0.00	0.00	0.00
9.625in Casing	32.60	11112.66	11080.06	32.60	11044.00	0.00	0.00	123.71	174.23
7.625in Casing	12000.00	12266.59	266.59	11931.34	12194.00	123.71	174.23	113.99	174.30
5.5in Casing	12000.00	22692.00	10692.00	11931.34	12603.93	123.71	174.23	-3023.64	198.13



Clearance Report

SD EA 18 19 FED P15 19H Rev A.0
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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H
Facility	SD EA 18-19 Fed P15		

SURVEY PROGRAM - Offset Wellbore: Offset Wellpath: SD EA 18 19 FED P15 19H ST01 Rev C.0

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
32.60	11112.00	BHI NaviTrak (Standard)		SD EA 18 19 FED P15 19H
11112.00	12000.00	BHI AutoTrak Curve (Short)		SD EA 18 19 FED P15 19H
12000.00	22692.27	BHI AutoTrak Curve (Short)		SD EA 18 19 FED P15 19H ST01

OFFSET WELLPATH REFERENCE - Offset Wellbore: SD EA 18 19 FED P15 19H ST01 Offset Wellpath: SD EA 18 19 FED P15 19H ST01 Rev C.0

MD Reference: Rig: Nabors X30 (KB)	Offset TVD & local coordinates use Reference Wellpath settings (See WELLPATH DATUM on page 1 of this report)
Ellipse Start MD	12000.00ft



Clearance Report

SD EA 18 19 FED P15 19H Rev A.0
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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H
Facility	SD EA 18-19 Fed P15		

CLEARANCE DATA - Offset Wellbore: SD EA 18 19 FED P15 20H PWB Offset Wellpath: SD EA 18 19 FED P15 20H Rev B.0

Facility: SD EA 18-19 Fed P15 Slot: SD EA 18 19 FED P15 20H Well: SD EA 18 19 FED P15 20H Threshold Value=1.00 † = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Horiz Bearing [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
32.60	32.60	0.00	0.00	32.60	32.60	0.00	25.00	90.00	25.00	1.71	39.81	PASS
132.60†	132.60	0.00	0.00	132.60	132.60	0.00	25.00	90.00	25.00	2.35	19.40	PASS
232.60†	232.60	0.00	0.00	232.60	232.60	0.00	25.00	90.00	25.00	3.35	10.70	PASS
332.60†	332.60	0.00	0.00	332.60	332.60	0.00	25.00	90.00	25.00	4.40	7.28	PASS
432.60†	432.60	0.00	0.00	432.60	432.60	0.00	25.00	90.00	25.00	5.46	5.50	PASS
532.60†	532.60	0.00	0.00	532.60	532.60	0.00	25.00	90.00	25.00	6.53	4.41	PASS
632.60†	632.60	0.00	0.00	632.60	632.60	0.00	25.00	90.00	25.00	7.59	3.69	PASS
732.60†	732.60	0.00	0.00	732.60	732.60	0.00	25.00	90.00	25.00	8.67	3.16	PASS
832.60†	832.60	0.00	0.00	832.60	832.60	0.00	25.00	90.00	25.00	9.43	2.81	PASS
900.00	900.00	0.00	0.00	899.80	899.80	0.09	25.20	89.79	25.20	9.46	2.82	PASS
932.60†	932.60	0.05	0.08	932.27	932.27	0.25	25.54	89.56	25.46	10.50	2.54	PASS
1032.60†	1032.59	0.89	1.25	1031.86	1031.83	1.23	27.61	89.27	26.38	11.63	2.36	PASS
1132.60†	1132.54	2.73	3.85	1131.43	1131.31	2.94	31.26	89.58	27.44	12.79	2.22	PASS
1232.60†	1232.41	5.59	7.87	1230.98	1230.70	5.38	36.46	90.42	28.65	13.92	2.12	PASS
1332.60†	1332.19	9.45	13.31	1330.51	1329.94	8.56	43.23	91.71	30.02	15.05	2.05	PASS
1432.60†	1431.83	14.32	20.17	1430.02	1429.03	12.46	51.55	93.39	31.56	16.16	2.00	PASS
1532.60†	1531.32	20.20	28.45	1529.51	1527.91	17.10	61.43	95.36	33.31	17.27	1.97	PASS
1632.60†	1630.61	27.08	38.14	1628.97	1626.57	22.47	72.86	97.57	35.26	18.38	1.96	PASS
1732.60†	1729.67	34.96	49.24	1728.41	1724.97	28.56	85.84	99.93	37.45	19.51	1.96	PASS
1832.60†	1828.49	43.85	61.75	1827.83	1823.09	35.37	100.35	102.38	39.89	20.66	1.97	PASS
1932.60†	1927.02	53.73	75.66	1927.21	1920.88	42.90	116.40	104.88	42.59	21.84	1.95	PASS
2032.60†	2025.24	64.60	90.98	2026.57	2018.32	51.15	133.97	107.37	45.58	23.07	2.01	PASS
2132.60†	2123.11	76.46	107.69	2126.37	2115.94	59.95	152.71	110.14	48.49	24.37	2.02	PASS
2200.00	2188.87	85.02	119.73	2193.71	2181.82	65.90	165.39	112.72	49.99	25.30	2.01	PASS
2232.60†	2220.64	89.26	125.71	2226.28	2213.68	68.78	171.52	114.10	50.66	25.76	2.00	PASS
2332.60†	2318.08	102.29	144.06	2326.19	2311.40	77.61	190.32	118.08	52.86	27.22	1.97	PASS
2432.60†	2415.51	115.31	162.40	2426.10	2409.13	86.43	209.12	121.72	55.30	28.74	1.95	PASS
2532.60†	2512.95	128.34	180.74	2526.01	2506.86	95.26	227.93	125.03	57.95	30.30	1.94	PASS
2632.60†	2610.39	141.36	199.08	2625.92	2604.58	104.09	246.73	128.03	60.77	31.90	1.93	PASS
2732.60†	2707.82	154.38	217.42	2725.83	2702.31	112.91	265.54	130.76	63.76	33.52	1.92	PASS

C-C Clearance Distance Cutoff: 750.00 ft



Clearance Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H
Facility	SD EA 18-19 Fed P15		

CLEARANCE DATA - Offset Wellbore: SD EA 18 19 FED P15 20H PWB Offset Wellpath: SD EA 18 19 FED P15 20H Rev B.0

Facility: SD EA 18-19 Fed P15 Slot: SD EA 18 19 FED P15 20H Well: SD EA 18 19 FED P15 20H Threshold Value=1.00 † = interpolated/extrapolated station												
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Horiz Bearing [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
2832.60†	2805.26	167.41	235.76	2825.74	2800.04	121.74	284.34	133.23	66.87	35.17	1.92	PASS
2932.60†	2902.70	180.43	254.11	2925.66	2897.77	130.57	303.14	135.48	70.11	36.82	1.92	PASS
3032.60†	3000.14	193.45	272.45	3025.57	2995.49	139.39	321.95	137.52	73.44	38.49	1.93	PASS
3132.60†	3097.57	206.48	290.79	3125.48	3093.22	148.22	340.75	139.38	76.87	40.16	1.93	PASS
3232.60†	3195.01	219.50	309.13	3225.39	3190.95	157.05	359.55	141.08	80.37	41.83	1.94	PASS
3332.60†	3292.45	232.52	327.47	3325.30	3288.67	165.88	378.36	142.64	83.94	43.51	1.95	PASS
3432.60†	3389.88	245.55	345.81	3425.21	3386.40	174.70	397.16	144.07	87.57	45.18	1.95	PASS
3532.60†	3487.32	258.57	364.15	3525.12	3484.13	183.53	415.97	145.38	91.25	46.86	1.96	PASS
3632.60†	3584.76	271.60	382.50	3625.03	3581.86	192.36	434.77	146.59	94.97	48.54	1.97	PASS
3732.60†	3682.19	284.62	400.84	3724.94	3679.58	201.18	453.57	147.71	98.74	50.21	1.98	PASS
3832.60†	3779.63	297.64	419.18	3824.98	3777.52	209.85	472.04	148.95	102.50	51.88	1.99	PASS
3932.60†	3877.07	310.67	437.52	3925.00	3875.76	217.83	489.02	150.98	106.18	53.52	2.00	PASS
4010.90	3953.36	320.86	451.88	4003.21	3952.80	223.55	501.22	153.11	109.11	54.75	2.01	PASS
4032.60†	3974.51	323.67	455.83	4024.87	3974.17	225.06	504.43	153.76	109.94	55.09	2.01	PASS
4132.60†	4072.22	335.98	473.18	4124.62	4072.74	231.56	518.27	156.64	113.75	56.55	2.03	PASS
4232.60†	4170.29	347.31	489.13	4224.28	4171.48	237.32	530.55	159.37	117.54	57.90	2.04	PASS
4332.60†	4268.68	357.65	503.68	4323.86	4270.34	242.34	541.25	161.95	121.28	59.15	2.06	PASS
4432.60†	4367.37	366.98	516.84	4423.34	4369.31	246.64	550.40	164.42	124.96	60.29	2.09	PASS
4532.60†	4466.33	375.32	528.58	4522.72	4468.34	250.19	557.98	166.78	128.55	61.34	2.11	PASS
4632.60†	4565.52	382.66	538.92	4622.02	4567.41	253.02	564.00	169.05	132.06	62.29	2.13	PASS
4732.60†	4664.92	389.00	547.84	4721.22	4666.49	255.11	568.46	171.25	135.47	63.16	2.16	PASS
4832.60†	4764.49	394.33	555.35	4820.32	4765.54	256.48	571.36	173.37	138.78	63.95	2.19	PASS
4932.60†	4864.21	398.65	561.44	4919.33	4864.53	257.11	572.72	175.45	141.99	64.66	2.21	PASS
5032.60†	4964.05	401.97	566.11	5018.84	4964.05	257.16	572.82	177.35	144.96	65.32	2.23	PASS
5132.60†	5063.96	404.28	569.36	5118.76	5063.96	257.16	572.82	178.65	147.15	66.03	2.24	PASS
5232.60†	5163.94	405.57	571.18	5218.73	5163.94	257.16	572.82	179.37	148.42	66.81	2.24	PASS
5310.90	5242.24	405.88	571.62	5297.03	5242.24	257.16	572.82	179.54	148.72	67.47	2.22	PASS
5332.60†	5263.94	405.88	571.62	5318.73	5263.94	257.16	572.82	179.54	148.72	67.66	2.21	PASS
5432.60†	5363.94	405.88	571.62	5418.73	5363.94	257.16	572.82	179.54	148.72	68.53	2.18	PASS
5532.60†	5463.94	405.88	571.62	5518.73	5463.94	257.16	572.82	179.54	148.72	69.40	2.16	PASS

C-C Clearance Distance Cutoff: 750.00 ft



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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H
Facility	SD EA 18-19 Fed P15		

CLEARANCE DATA - Offset Wellbore: SD EA 18 19 FED P15 20H PWB Offset Wellpath: SD EA 18 19 FED P15 20H Rev B.0

Facility: SD EA 18-19 Fed P15 Slot: SD EA 18 19 FED P15 20H Well: SD EA 18 19 FED P15 20H Threshold Value=1.00 † = interpolated/extrapolated station												
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Horiz Bearing [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
5632.60†	5563.94	405.88	571.62	5618.73	5563.94	257.16	572.82	179.54	148.72	70.29	2.13	PASS
5732.60†	5663.94	405.88	571.62	5718.73	5663.94	257.16	572.82	179.54	148.72	71.17	2.10	PASS
5832.60†	5763.94	405.88	571.62	5818.73	5763.94	257.16	572.82	179.54	148.72	72.06	2.08	PASS
5932.60†	5863.94	405.88	571.62	5918.73	5863.94	257.16	572.82	179.54	148.72	72.96	2.05	PASS
6032.60†	5963.94	405.88	571.62	6018.73	5963.94	257.16	572.82	179.54	148.72	73.86	2.02	PASS
6132.60†	6063.94	405.88	571.62	6118.73	6063.94	257.16	572.82	179.54	148.72	74.77	2.00	PASS
6232.60†	6163.94	405.88	571.62	6218.73	6163.94	257.16	572.82	179.54	148.72	75.68	1.98	PASS
6332.60†	6263.94	405.88	571.62	6318.73	6263.94	257.16	572.82	179.54	148.72	76.60	1.95	PASS
6432.60†	6363.94	405.88	571.62	6418.73	6363.94	257.16	572.82	179.54	148.72	77.52	1.93	PASS
6532.60†	6463.94	405.88	571.62	6518.73	6463.94	257.16	572.82	179.54	148.72	78.44	1.91	PASS
6632.60†	6563.94	405.88	571.62	6618.73	6563.94	257.16	572.82	179.54	148.72	79.37	1.88	PASS
6732.60†	6663.94	405.88	571.62	6718.73	6663.94	257.16	572.82	179.54	148.72	80.30	1.86	PASS
6832.60†	6763.94	405.88	571.62	6818.73	6763.94	257.16	572.82	179.54	148.72	81.23	1.84	PASS
6932.60†	6863.94	405.88	571.62	6918.73	6863.94	257.16	572.82	179.54	148.72	82.17	1.82	PASS
7032.60†	6963.94	405.88	571.62	7018.73	6963.94	257.16	572.82	179.54	148.72	83.11	1.80	PASS
7132.60†	7063.94	405.88	571.62	7118.73	7063.94	257.16	572.82	179.54	148.72	84.06	1.78	PASS
7232.60†	7163.94	405.88	571.62	7218.73	7163.94	257.16	572.82	179.54	148.72	85.01	1.76	PASS
7332.60†	7263.94	405.88	571.62	7318.73	7263.94	257.16	572.82	179.54	148.72	85.96	1.74	PASS
7432.60†	7363.94	405.88	571.62	7418.73	7363.94	257.16	572.82	179.54	148.72	86.91	1.72	PASS
7532.60†	7463.94	405.88	571.62	7518.73	7463.94	257.16	572.82	179.54	148.72	87.87	1.70	PASS
7632.60†	7563.94	405.88	571.62	7618.73	7563.94	257.16	572.82	179.54	148.72	88.83	1.68	PASS
7732.60†	7663.94	405.88	571.62	7718.73	7663.94	257.16	572.82	179.54	148.72	89.79	1.66	PASS
7832.60†	7763.94	405.88	571.62	7818.73	7763.94	257.16	572.82	179.54	148.72	90.75	1.64	PASS
7932.60†	7863.94	405.88	571.62	7918.73	7863.94	257.16	572.82	179.54	148.72	91.72	1.63	PASS
8032.60†	7963.94	405.88	571.62	8018.73	7963.94	257.16	572.82	179.54	148.72	92.69	1.61	PASS
8132.60†	8063.94	405.88	571.62	8118.73	8063.94	257.16	572.82	179.54	148.72	93.66	1.59	PASS
8232.60†	8163.94	405.88	571.62	8218.73	8163.94	257.16	572.82	179.54	148.72	94.64	1.58	PASS
8332.60†	8263.94	405.88	571.62	8318.73	8263.94	257.16	572.82	179.54	148.72	95.61	1.56	PASS
8432.60†	8363.94	405.88	571.62	8418.73	8363.94	257.16	572.82	179.54	148.72	96.59	1.54	PASS
8532.60†	8463.94	405.88	571.62	8518.73	8463.94	257.16	572.82	179.54	148.72	97.57	1.53	PASS

C-C Clearance Distance Cutoff: 750.00 ft



Clearance Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H
Facility	SD EA 18-19 Fed P15		

CLEARANCE DATA - Offset Wellbore: SD EA 18 19 FED P15 20H PWB Offset Wellpath: SD EA 18 19 FED P15 20H Rev B.0

Facility: SD EA 18-19 Fed P15 Slot: SD EA 18 19 FED P15 20H Well: SD EA 18 19 FED P15 20H Threshold Value=1.00 † = interpolated/extrapolated station												
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Horiz Bearing [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
8632.60†	8563.94	405.88	571.62	8618.73	8563.94	257.16	572.82	179.54	148.72	98.55	1.51	PASS
8644.61†	8575.94	405.88	571.62	8629.93	8575.13	257.16	572.82	179.54	148.73	98.65	1.51	PASS
8732.60†	8663.94	405.88	571.62	8696.53	8641.50	252.16	572.86	179.54	155.36	98.40	1.58	PASS
8832.60†	8763.94	405.88	571.62	8768.97	8712.10	236.31	572.98	179.54	177.32	96.80	1.84	PASS
8932.60†	8863.94	405.88	571.62	8835.29	8773.98	212.59	573.16	179.54	213.21	94.23	2.27	PASS
9032.60†	8963.94	405.88	571.62	8894.06	8825.61	184.58	573.37	179.55	260.98	90.95	2.89	PASS
9132.60†	9063.94	405.88	571.62	8945.02	8867.30	155.32	573.60	179.55	318.52	87.50	3.66	PASS
9232.60†	9163.94	405.88	571.62	8988.69	8900.37	126.83	573.81	179.55	383.85	84.19	4.59	PASS
9332.60†	9263.94	405.88	571.62	9025.94	8926.43	100.22	574.02	179.55	455.35	81.22	5.65	PASS
9432.60†	9363.94	405.88	571.62	9057.73	8946.97	75.97	574.20	179.55	531.71	78.65	6.82	PASS
9532.60†	9463.94	405.88	571.62	9084.94	8963.23	54.16	574.37	179.55	611.90	76.48	8.08	PASS
9632.60†	9563.94	405.88	571.62	9108.35	8976.22	34.68	574.51	179.55	695.13	74.68	9.40	PASS

C-C Clearance Distance Cutoff: 750.00 ft

POSITIONAL UNCERTAINTY - Offset Wellbore: SD EA 18 19 FED P15 20H PWB Offset Wellpath: SD EA 18 19 FED P15 20H Rev B.0

Slot Surface Uncertainty @1SD	Horizontal	0.100ft	Vertical	1.000ft
Facility Surface Uncertainty @1SD	Horizontal	3.300ft	Vertical	3.000ft

SURVEY PROGRAM - Offset Wellbore: Offset Wellpath: SD EA 18 19 FED P15 20H Rev B.0

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
32.60	22964.99	BHI NaviTrak (Standard)		SD EA 18 19 FED P15 20H PWB



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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H
Facility	SD EA 18-19 Fed P15		

OFFSET WELLPATH REFERENCE - Offset Wellbore: SD EA 18 19 FED P15 20H PWB Offset Wellpath: SD EA 18 19 FED P15 20H Rev B.0

MD Reference: Rig: Nabors X30 (KB)	Offset TVD & local coordinates use Reference Wellpath settings (See WELLPATH DATUM on page 1 of this report)
Ellipse Start MD	32.60ft



Clearance Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H
Facility	SD EA 18-19 Fed P15		

CLEARANCE DATA - Offset Wellbore: SD EA 18 19 FED P15 17H PWB Offset Wellpath: SD EA 18 19 FED P15 17H Rev B.0

Facility: SD EA 18-19 Fed P15 Slot: SD EA 18 19 FED P15 17H Well: SD EA 18 19 FED P15 17H Threshold Value=1.00 † = interpolated/extrapolated station

Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Horiz Bearing [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
32.60	32.60	0.00	0.00	32.60	32.60	-1.00	-50.00	268.85	50.01	1.71	81.50	PASS
132.60†	132.60	0.00	0.00	132.60	132.60	-1.00	-50.00	268.85	50.01	2.35	39.71	PASS
232.60†	232.60	0.00	0.00	232.60	232.60	-1.00	-50.00	268.85	50.01	3.35	21.90	PASS
332.60†	332.60	0.00	0.00	332.60	332.60	-1.00	-50.00	268.85	50.01	4.40	14.90	PASS
432.60†	432.60	0.00	0.00	432.60	432.60	-1.00	-50.00	268.85	50.01	5.46	11.26	PASS
532.60†	532.60	0.00	0.00	532.60	532.60	-1.00	-50.00	268.85	50.01	6.26	9.50	PASS
632.60†	632.60	0.00	0.00	632.60	632.60	-1.00	-50.00	268.85	50.01	6.87	8.49	PASS
732.60†	732.60	0.00	0.00	732.60	732.60	-1.00	-50.00	268.85	50.01	7.59	7.55	PASS
832.60†	832.60	0.00	0.00	832.60	832.60	-1.00	-50.00	268.85	50.01	8.09	6.75	PASS
900.00	900.00	0.00	0.00	900.00	900.00	-1.00	-50.00	268.85	50.01	8.68	6.25	PASS
932.60†	932.60	0.05	0.08	932.60	932.60	-1.00	-50.00	268.80	50.09	8.96	6.04	PASS
1032.60†	1032.59	0.89	1.25	1032.59	1032.59	-1.00	-50.00	267.89	51.29	9.90	5.55	PASS
1132.60†	1132.54	2.73	3.85	1132.43	1132.43	-0.92	-50.04	266.13	54.01	10.90	5.27	PASS
1210.87†	1210.71	4.88	6.87	1210.35	1210.34	-0.03	-50.44	265.10	57.53	11.70	5.21	PASS
1232.60†	1232.41	5.59	7.87	1231.97	1231.96	0.38	-50.63	264.92	58.73	11.92	5.21	PASS
1332.60†	1332.19	9.45	13.31	1331.39	1331.32	3.25	-51.94	264.57	65.55	12.96	5.32	PASS
1432.60†	1431.83	14.32	20.17	1430.59	1430.40	7.67	-53.96	264.88	74.44	14.01	5.58	PASS
1532.60†	1531.32	20.20	28.45	1529.51	1529.11	13.64	-56.68	265.59	85.41	15.07	5.93	PASS
1632.60†	1630.61	27.08	38.14	1628.08	1627.34	21.12	-60.10	266.53	98.47	16.14	6.37	PASS
1732.60†	1729.67	34.96	49.24	1726.24	1724.99	30.10	-64.20	267.55	113.64	17.23	6.87	PASS
1832.60†	1828.49	43.85	61.75	1823.90	1821.97	40.55	-68.96	268.55	130.92	18.34	7.42	PASS
1932.60†	1927.02	53.73	75.66	1921.01	1918.20	52.42	-74.38	269.50	150.31	19.47	8.01	PASS
2032.60†	2025.24	64.60	90.98	2017.50	2013.58	65.69	-80.44	270.36	171.82	20.62	8.63	PASS
2132.60†	2123.11	76.46	107.69	2113.31	2108.03	80.30	-87.11	271.13	195.42	21.80	9.27	PASS
2200.00	2188.87	85.02	119.73	2177.47	2171.13	90.89	-91.94	271.59	212.50	22.59	9.71	PASS
2232.60†	2220.64	89.26	125.71	2208.40	2201.50	96.23	-94.38	271.81	221.03	22.99	9.92	PASS
2332.60†	2318.08	102.29	144.06	2302.94	2294.12	113.46	-102.24	272.60	247.71	24.22	10.54	PASS
2432.60†	2415.51	115.31	162.40	2396.96	2385.91	131.97	-110.69	273.49	275.19	25.47	11.13	PASS
2532.60†	2512.95	128.34	180.74	2492.78	2479.27	151.58	-119.64	274.43	303.15	26.76	11.65	PASS
2632.60†	2610.39	141.36	199.08	2588.67	2572.71	171.20	-128.60	275.20	331.13	28.08	12.11	PASS

C-C Clearance Distance Cutoff: 750.00 ft



Clearance Report

SD EA 18 19 FED P15 19H Rev A.0
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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H
Facility	SD EA 18-19 Fed P15		

CLEARANCE DATA - Offset Wellbore: SD EA 18 19 FED P15 17H PWB Offset Wellpath: SD EA 18 19 FED P15 17H Rev B.0

Facility: SD EA 18-19 Fed P15 Slot: SD EA 18 19 FED P15 17H Well: SD EA 18 19 FED P15 17H Threshold Value=1.00 † = interpolated/extrapolated station												
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Horiz Bearing [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
2732.60†	2707.82	154.38	217.42	2684.56	2666.14	190.83	-137.55	275.86	359.27	29.42	12.53	PASS
2832.60†	2805.26	167.41	235.76	2780.45	2759.58	210.45	-146.51	276.42	387.39	30.77	12.90	PASS
2932.60†	2902.70	180.43	254.11	2876.34	2853.01	230.07	-155.47	276.91	415.55	32.13	13.24	PASS
3032.60†	3000.14	193.45	272.45	2972.24	2946.44	249.70	-164.42	277.34	443.74	33.50	13.54	PASS
3132.60†	3097.57	206.48	290.79	3070.13	3041.87	269.57	-173.50	277.74	471.85	34.92	13.81	PASS
3232.60†	3195.01	219.50	309.13	3170.96	3140.48	288.72	-182.24	278.02	499.20	36.37	14.01	PASS
3332.60†	3292.45	232.52	327.47	3272.36	3240.00	306.38	-190.29	278.12	525.63	37.81	14.18	PASS
3432.60†	3389.88	245.55	345.81	3374.27	3340.35	322.51	-197.66	278.06	551.12	39.23	14.32	PASS
3532.60†	3487.32	258.57	364.15	3476.62	3441.45	337.07	-204.30	277.86	575.68	40.63	14.43	PASS
3632.60†	3584.76	271.60	382.50	3579.36	3543.19	350.03	-210.22	277.54	599.33	42.01	14.52	PASS
3732.60†	3682.19	284.62	400.84	3682.43	3645.50	361.37	-215.39	277.10	622.08	43.36	14.60	PASS
3832.60†	3779.63	297.64	419.18	3785.74	3748.27	371.05	-219.81	276.55	643.96	44.68	14.66	PASS
3932.60†	3877.07	310.67	437.52	3889.25	3851.40	379.06	-223.47	275.91	665.01	45.96	14.71	PASS
4010.90	3953.36	320.86	451.88	3970.39	3932.34	384.15	-225.79	275.34	680.95	46.94	14.74	PASS
4032.60†	3974.51	323.67	455.83	3992.89	3954.80	385.38	-226.35	275.17	685.25	47.21	14.75	PASS
4132.60†	4072.22	335.98	473.18	4096.86	4058.64	390.00	-228.46	274.40	703.85	48.41	14.77	PASS
4232.60†	4170.29	347.31	489.13	4201.19	4162.92	392.92	-229.80	273.63	720.41	49.58	14.75	PASS
4332.60†	4268.68	357.65	503.68	4305.81	4267.53	394.11	-230.34	272.84	734.93	50.67	14.72	PASS
4432.60†	4367.37	366.98	516.84	4405.65	4367.37	394.14	-230.35	272.08	747.68	51.68	14.68	PASS

C-C Clearance Distance Cutoff: 750.00 ft

POSITIONAL UNCERTAINTY - Offset Wellbore: SD EA 18 19 FED P15 17H PWB Offset Wellpath: SD EA 18 19 FED P15 17H Rev B.0

Slot Surface Uncertainty @1SD	Horizontal	0.100ft	Vertical	1.000ft
Facility Surface Uncertainty @1SD	Horizontal	3.300ft	Vertical	3.000ft



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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H
Facility	SD EA 18-19 Fed P15		

HOLE & CASING SECTIONS - Offset Wellbore: SD EA 18 19 FED P15 17H PWB Offset Wellpath: SD EA 18 19 FED P15 17H Rev B.0

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
13.375in Casing	32.60	800.00	767.40	32.60	800.00	-0.61	-30.48	-0.61	-30.48
9.625in Casing	32.60	11082.28	11049.68	32.60	11044.00	-0.61	-30.48	119.83	-85.45
7.625in Casing	32.60	12233.33	12200.73	32.60	12194.00	-0.61	-30.48	115.77	-85.43
5.5in Casing	32.60	22714.89	22682.29	32.60	12628.23	-0.61	-30.48	-3026.16	-67.06

SURVEY PROGRAM - Offset Wellbore: Offset Wellpath: SD EA 18 19 FED P15 17H Rev B.0

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
32.60	500.00	BHI NaviTrak (Standard)		SD EA 18 19 FED P15 17H PWB
500.00	22714.89	BHI NaviTrak (Standard)		SD EA 18 19 FED P15 17H PWB

OFFSET WELLPATH REFERENCE - Offset Wellbore: SD EA 18 19 FED P15 17H PWB Offset Wellpath: SD EA 18 19 FED P15 17H Rev B.0

MD Reference: Rig: Nabors X30 (KB)	Offset TVD & local coordinates use Reference Wellpath settings (See WELLPATH DATUM on page 1 of this report)
Ellipse Start MD	32.60ft



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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H
Facility	SD EA 18-19 Fed P15		

CLEARANCE DATA - Offset Wellbore: SD EA 18 Fed P6 No. 6H (AWB) Offset Wellpath: SD EA 18 Fed P6 No. 6H (AWP) 188'-14160' Proj: 14185'

Facility: SD EA 19 & 18 Fed P6 Slot: SD EA 18 Fed P6 No. 6H Well: SD EA 18 Fed P6 No. 6H Threshold Value=1.00 † = interpolated/extrapolated station												
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Horiz Bearing [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
32.60	32.60	0.00	0.00	5.60	32.60	-5079.18	-820.03	189.17	5144.95	11.02	519.34	PASS

C-C Clearance Distance Cutoff: 750.00 ft

POSITIONAL UNCERTAINTY - Offset Wellbore: SD EA 18 Fed P6 No. 6H (AWB) Offset Wellpath: SD EA 18 Fed P6 No. 6H (AWP) 188'-14160' Proj: 14185'

Slot Surface Uncertainty @1SD	Horizontal	0.100ft	Vertical	1.000ft
Facility Surface Uncertainty @1SD	Horizontal	3.300ft	Vertical	3.000ft

WELLPATH COMPOSITION - Offset Wellbore: SD EA 18 Fed P6 No. 6H (AWB) Offset Wellpath: SD EA 18 Fed P6 No. 6H (AWP) 188'-14160' Proj: 14185'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
32.60	9417.00	ISCWSA MWD, Rev. 4 (Standard)	Phoenix Surveys 188'-9417'	SD EA 18 Fed P6 No. 6H (AWB)
9417.00	14160.00	AT Curve (Short Spaced)	BHI NTK MWD 9476'-14160'	SD EA 18 Fed P6 No. 6H (AWB)
14160.00	14185.00	Blind Drilling (std)	Projection to bit	SD EA 18 Fed P6 No. 6H (AWB)

OFFSET WELLPATH REFERENCE - Offset Wellbore: SD EA 18 Fed P6 No. 6H (AWB) Offset Wellpath: SD EA 18 Fed P6 No. 6H (AWP) 188'-14160' Proj: 14185'

MD Reference: X30 (KB)	Offset TVD & local coordinates use Reference Wellpath settings (See WELLPATH DATUM on page 1 of this report)
Ellipse Start MD	32.60ft



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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H
Facility	SD EA 18-19 Fed P15		

CLEARANCE DATA - Offset Wellbore: SD EA 18 19 FED P15 16H PWB Offset Wellpath: SD EA 18 19 FED P15 16H Rev B.0

Facility: SD EA 18-19 Fed P15 Slot: SD EA 18 19 FED P15 16H Well: SD EA 18 19 FED P15 16H Threshold Value=1.00 † = interpolated/extrapolated station												
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Horiz Bearing [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
32.60	32.60	0.00	0.00	32.60	32.60	-1.00	-75.00	269.24	75.01	1.41	246.32	PASS
132.60†	132.60	0.00	0.00	132.60	132.60	-1.00	-75.00	269.24	75.01	2.27	64.06	PASS
232.60†	232.60	0.00	0.00	232.60	232.60	-1.00	-75.00	269.24	75.01	3.31	33.71	PASS
332.60†	332.60	0.00	0.00	332.60	332.60	-1.00	-75.00	269.24	75.01	4.37	22.71	PASS
432.60†	432.60	0.00	0.00	432.60	432.60	-1.00	-75.00	269.24	75.01	5.44	17.10	PASS
532.60†	532.60	0.00	0.00	532.60	532.60	-1.00	-75.00	269.24	75.01	6.51	13.70	PASS
632.60†	632.60	0.00	0.00	632.60	632.60	-1.00	-75.00	269.24	75.01	7.58	11.43	PASS
732.60†	732.60	0.00	0.00	732.60	732.60	-1.00	-75.00	269.24	75.01	8.65	9.80	PASS
832.60†	832.60	0.00	0.00	832.60	832.60	-1.00	-75.00	269.24	75.01	9.42	8.61	PASS
900.00	900.00	0.00	0.00	900.00	900.00	-1.00	-75.00	269.24	75.01	10.14	7.95	PASS
932.60†	932.60	0.05	0.08	932.08	932.08	-0.93	-75.11	269.25	75.20	10.49	7.68	PASS
1032.60†	1032.59	0.89	1.25	1030.41	1030.38	0.24	-76.85	269.52	78.14	11.60	7.16	PASS
1132.60†	1132.54	2.73	3.85	1128.47	1128.33	2.80	-80.68	270.05	84.63	12.79	6.99	PASS
1232.60†	1232.41	5.59	7.87	1226.04	1225.65	6.74	-86.55	270.70	94.67	13.96	7.14	PASS
1332.60†	1332.19	9.45	13.31	1322.94	1322.08	12.03	-94.43	271.37	108.25	15.10	7.51	PASS
1432.60†	1431.83	14.32	20.17	1418.98	1417.38	18.60	-104.24	271.97	125.32	16.23	8.07	PASS
1532.60†	1531.32	20.20	28.45	1513.96	1511.32	26.42	-115.90	272.47	145.86	17.34	8.77	PASS
1632.60†	1630.61	27.08	38.14	1607.71	1603.67	35.40	-129.30	272.85	169.80	18.43	9.59	PASS
1732.60†	1729.67	34.96	49.24	1700.08	1694.24	45.49	-144.35	273.11	197.08	19.51	10.49	PASS
1832.60†	1828.48	43.85	61.75	1792.17	1784.10	56.71	-161.09	273.30	227.58	20.58	11.46	PASS
1932.60†	1927.02	53.73	75.66	1886.82	1876.32	68.56	-178.77	273.34	259.86	21.66	12.42	PASS
2032.60†	2025.24	64.60	90.98	1981.02	1968.11	80.36	-196.37	273.14	293.40	22.81	13.29	PASS
2132.60†	2123.11	76.46	107.69	2074.75	2059.44	92.11	-213.88	272.79	328.19	23.96	14.14	PASS
2200.00	2188.87	85.02	119.73	2137.65	2120.72	99.98	-225.64	272.48	352.35	24.74	14.69	PASS
2232.60†	2220.64	89.26	125.71	2168.01	2150.31	103.79	-231.31	272.33	364.17	25.11	14.95	PASS
2332.60†	2318.08	102.29	144.06	2261.16	2241.06	115.46	-248.71	271.92	400.46	26.27	15.69	PASS
2432.60†	2415.51	115.31	162.40	2354.30	2331.82	127.12	-266.12	271.58	436.77	27.44	16.37	PASS
2532.60†	2512.95	128.34	180.74	2447.44	2422.58	138.79	-283.52	271.29	473.09	28.62	16.98	PASS
2632.60†	2610.39	141.36	199.08	2540.59	2513.33	150.46	-300.92	271.04	509.42	29.81	17.54	PASS
2732.60†	2707.82	154.38	217.42	2693.73	2604.09	162.13	-318.33	270.83	545.76	31.01	18.04	PASS

C-C Clearance Distance Cutoff: 750.00 ft



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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H
Facility	SD EA 18-19 Fed P15		

CLEARANCE DATA - Offset Wellbore: SD EA 18 19 FED P15 16H PWB Offset Wellpath: SD EA 18 19 FED P15 16H Rev B.0

Facility: SD EA 18-19 Fed P15 Slot: SD EA 18 19 FED P15 16H Well: SD EA 18 19 FED P15 16H Threshold Value=1.00 † = interpolated/extrapolated station												
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Horiz Bearing [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
2832.60†	2805.26	167.41	235.76	2726.88	2694.85	173.79	-335.73	270.64	582.10	32.21	18.51	PASS
2932.60†	2902.70	180.43	254.11	2820.02	2785.60	185.46	-353.14	270.48	618.45	33.43	18.93	PASS
3032.60†	3000.14	193.45	272.45	2913.16	2876.36	197.13	-370.54	270.33	654.80	34.65	19.32	PASS
3132.60†	3097.57	206.48	290.79	3006.31	2967.12	208.80	-387.94	270.20	691.16	35.88	19.68	PASS
3232.60†	3195.01	219.50	309.13	3099.45	3057.88	220.46	-405.35	270.08	727.52	37.11	20.01	PASS

C-C Clearance Distance Cutoff: 750.00 ft

POSITIONAL UNCERTAINTY - Offset Wellbore: SD EA 18 19 FED P15 16H PWB Offset Wellpath: SD EA 18 19 FED P15 16H Rev B.0

Slot Surface Uncertainty @1SD	Horizontal	0.000ft	Vertical	0.000ft
Facility Surface Uncertainty @1SD	Horizontal	3.300ft	Vertical	3.000ft

HOLE & CASING SECTIONS - Offset Wellbore: SD EA 18 19 FED P15 16H PWB Offset Wellpath: SD EA 18 19 FED P15 16H Rev B.0

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
13.375in Casing	32.60	800.00	767.40	32.60	800.00	-0.61	-45.72	-0.61	-45.72
9.625in Casing	32.60	11116.55	11083.95	32.60	11044.00	-0.61	-45.72	118.60	-223.53
5.5in Casing	32.60	22421.90	22389.30	32.60	12275.44	-0.61	-45.72	-3027.07	-199.65

SURVEY PROGRAM - Offset Wellbore: Offset Wellpath: SD EA 18 19 FED P15 16H Rev B.0

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
32.60	22727.99	BHI NaviTrak (Standard)		SD EA 18 19 FED P15 16H PWB



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SD EA 18 19 FED P15 19H Rev A.0
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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H
Facility	SD EA 18-19 Fed P15		

OFFSET WELLPATH REFERENCE - Offset Wellbore: SD EA 18 19 FED P15 16H PWB Offset Wellpath: SD EA 18 19 FED P15 16H Rev B.0

MD Reference: Rig: Nabors X30 (KB)	Offset TVD & local coordinates use Reference Wellpath settings (See WELLPATH DATUM on page 1 of this report)
Ellipse Start MD	32.60ft



Clearance Report

SD EA 18 19 FED P15 19H Rev A.0
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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H
Facility	SD EA 18-19 Fed P15		

CLEARANCE DATA - Offset Wellbore: SD EA 18 FEDERAL P6 6H Offset Wellpath: SD EA 18 FEDERAL P6 6H_awp 188' - 14185'

Facility: SD EA 18-19 Fed P15 [offset] Slot: SD EA 18 FEDERAL P6 6H Well: SD EA 18 FEDERAL P6 6H Threshold Value=1.00 † = interpolated/extrapolated station												
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Horiz Bearing [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
32.60	32.60	0.00	0.00	5.60	32.60	-5081.36	-818.88	189.16	5146.92	11.02	519.54	PASS

C-C Clearance Distance Cutoff: 750.00 ft

POSITIONAL UNCERTAINTY - Offset Wellbore: SD EA 18 FEDERAL P6 6H Offset Wellpath: SD EA 18 FEDERAL P6 6H_awp 188' - 14185'

Slot Surface Uncertainty @1SD	Horizontal	0.000ft	Vertical	0.000ft
Facility Surface Uncertainty @1SD	Horizontal	3.300ft	Vertical	3.000ft

WELLPATH COMPOSITION - Offset Wellbore: SD EA 18 FEDERAL P6 6H Offset Wellpath: SD EA 18 FEDERAL P6 6H_awp 188' - 14185'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
32.60	14185.00	ISCWSA MWD, Rev. 4 (Standard)	Imported MWD 188' - 14185'	SD EA 18 FEDERAL P6 6H

OFFSET WELLPATH REFERENCE - Offset Wellbore: SD EA 18 FEDERAL P6 6H Offset Wellpath: SD EA 18 FEDERAL P6 6H_awp 188' - 14185'

MD Reference: Rig on SD EA 18 FEDERAL P6 6H (KB)	Offset TVD & local coordinates use Reference Wellpath settings (See WELLPATH DATUM on page 1 of this report)
Ellipse Start MD	32.60ft



Clearance Report

SD EA 18 19 FED P15 19H Rev A.0
Closest Approach
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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H
Facility	SD EA 18-19 Fed P15		

CLEARANCE DATA - Offset Wellbore: SD EA 18 FEDERAL P6 5H Offset Wellpath: SD EA 18 FEDERAL P6 5H_awp 183' - 14156' Proj: 14214'

Facility: SD EA 18-19 Fed P15 [offset] Slot: SD EA 18 FEDERAL P6 5H Well: SD EA 18 FEDERAL P6 5H Threshold Value=1.00 † = interpolated/extrapolated station													
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Horiz Bearing [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status	
32.60	32.60	0.00	0.00	5.60	32.60	-5099.66	-834.25	189.29	5167.44	11.02	521.61	PASS	

C-C Clearance Distance Cutoff: 750.00 ft

POSITIONAL UNCERTAINTY - Offset Wellbore: SD EA 18 FEDERAL P6 5H Offset Wellpath: SD EA 18 FEDERAL P6 5H_awp 183' - 14156' Proj: 14214'

Slot Surface Uncertainty @1SD	Horizontal	0.000ft	Vertical	0.000ft
Facility Surface Uncertainty @1SD	Horizontal	3.300ft	Vertical	3.000ft

WELLPATH COMPOSITION - Offset Wellbore: SD EA 18 FEDERAL P6 5H Offset Wellpath: SD EA 18 FEDERAL P6 5H_awp 183' - 14156' Proj: 14214'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
31.60	14156.00	ISCWSA MWD, Rev. 4 (Standard)	Imported MWD 183' - 14156'	SD EA 18 FEDERAL P6 5H
14156.00	14214.00	Blind Drilling (std)	Projection to bit	SD EA 18 FEDERAL P6 5H

OFFSET WELLPATH REFERENCE - Offset Wellbore: SD EA 18 FEDERAL P6 5H Offset Wellpath: SD EA 18 FEDERAL P6 5H_awp 183' - 14156' Proj: 14214'

MD Reference: Rig on SD EA 18 FEDERAL P6 5H (KB)	Offset TVD & local coordinates use Reference Wellpath settings (See WELLPATH DATUM on page 1 of this report)
Ellipse Start MD	31.60ft



Clearance Report

SD EA 18 19 FED P15 19H Rev A.0
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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H
Facility	SD EA 18-19 Fed P15		

CLEARANCE DATA - Offset Wellbore: SD 18 26 33 FEDERAL 4H Offset Wellpath: SD 18 26 33 FEDERAL 4H_awp 132' - 13842' Proj: 13900'

Facility: SD EA 18-19 Fed P15 [offset] Slot: SD 18 26 33 FEDERAL 4H Well: SD 18 26 33 FEDERAL 4H Threshold Value=1.00 † = interpolated/extrapolated station												
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Horiz Bearing [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status
32.60	32.60	0.00	0.00	-5.60	42.00	-5044.19	-2331.49	204.81	5556.96	11.02	560.94	PASS

C-C Clearance Distance Cutoff: 750.00 ft

POSITIONAL UNCERTAINTY - Offset Wellbore: SD 18 26 33 FEDERAL 4H Offset Wellpath: SD 18 26 33 FEDERAL 4H_awp 132' - 13842' Proj: 13900'

Slot Surface Uncertainty @1SD	Horizontal	0.000ft	Vertical	0.000ft
Facility Surface Uncertainty @1SD	Horizontal	3.300ft	Vertical	3.000ft

WELLPATH COMPOSITION - Offset Wellbore: SD 18 26 33 FEDERAL 4H Offset Wellpath: SD 18 26 33 FEDERAL 4H_awp 132' - 13842' Proj: 13900'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
27.00	13842.00	ISCWSA MWD, Rev. 4 (Standard)	Imported 132' - 13842'	SD 18 26 33 FEDERAL 4H
13842.00	13900.00	Blind Drilling (std)	Projection to bit	SD 18 26 33 FEDERAL 4H

OFFSET WELLPATH REFERENCE - Offset Wellbore: SD 18 26 33 FEDERAL 4H Offset Wellpath: SD 18 26 33 FEDERAL 4H_awp 132' - 13842' Proj: 13900'

MD Reference: Rig on SD 18 26 33 FEDERAL 4H (KB)	Offset TVD & local coordinates use Reference Wellpath settings (See WELLPATH DATUM on page 1 of this report)
Ellipse Start MD	27.00ft



Clearance Report

SD EA 18 19 FED P15 19H Rev A.0
Closest Approach
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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H
Facility	SD EA 18-19 Fed P15		

CLEARANCE DATA - Offset Wellbore: SD 18 26 33 FEDERAL 3H ST1 Offset Wellpath: SD 18 26 33 FEDERAL 3H ST1_awp 8700' - 13890'

Facility: SD EA 18-19 Fed P15 [offset]				Slot: SD 18 26 33 FEDERAL 3H no survey to 778'				Well: SD 18 26 33 FEDERAL 3H ST1				Threshold Value=1.00 † = interpolated/extrapolated station	
Ref MD [ft]	Ref TVD [ft]	Ref North [ft]	Ref East [ft]	Offset MD [ft]	Offset TVD [ft]	Offset North [ft]	Offset East [ft]	Horiz Bearing [°]	C-C Clear Dist [ft]	ACR MASD [ft]	Sep Ratio	ACR Status	
32.60	32.60	0.00	0.00	0.40	42.00	-5044.52	-2381.07	205.27	5578.25	11.02	563.09	PASS	

C-C Clearance Distance Cutoff: 750.00 ft

POSITIONAL UNCERTAINTY - Offset Wellbore: SD 18 26 33 FEDERAL 3H ST1 Offset Wellpath: SD 18 26 33 FEDERAL 3H ST1_awp 8700' - 13890'

Slot Surface Uncertainty @1SD	Horizontal	0.000ft	Vertical	0.000ft
Facility Surface Uncertainty @1SD	Horizontal	3.300ft	Vertical	3.000ft

WELLPATH COMPOSITION - Offset Wellbore: SD 18 26 33 FEDERAL 3H ST1 Offset Wellpath: SD 18 26 33 FEDERAL 3H ST1_awp 8700' - 13890'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
33.00	8509.00	ISCWSA MWD, Rev. 4 (Standard)	Imported MWD 778' - 8509'	SD 18 26 33 FEDERAL 3H ST1
8509.00	13890.00	ISCWSA MWD, Rev. 4 (Standard)	Imported 8700' - 13835'	SD 18 26 33 FEDERAL 3H ST1

OFFSET WELLPATH REFERENCE - Offset Wellbore: SD 18 26 33 FEDERAL 3H ST1 Offset Wellpath: SD 18 26 33 FEDERAL 3H ST1_awp 8700' - 13890'

MD Reference: Rig on SD 18 26 33 FEDERAL 3H (KB)	Offset TVD & local coordinates use Reference Wellpath settings (See WELLPATH DATUM on page 1 of this report)
Ellipse Start MD	33.00ft



Planned Wellpath Report

SD EA 18 19 FED P15 19H ST01 Rev C.0

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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H ST01
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H ST01
Facility	SD EA 18-19 Fed P15	Sidetrack from	SD EA 18 19 FED P15 19H Rev A.0 at 12000.00 MD

REPORT SETUP INFORMATION

Projection System	NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Tranlam
Scale	0.999967	Report Generated	4/4/2018 at 9:03:16 AM
Convergence at slot	0.39° East	Database/Source file	WA_Midland/SD_EA_18_19_FED_P15_19H_ST01_Rev_C.0.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	1.00	75.00	725572.00	382462.00	32°02'57.884"N	103°36'19.034"W
Facility Reference Pt			725497.00	382461.00	32°02'57.879"N	103°36'19.905"W
Field Reference Pt			152400.30	0.00	30°59'42.846"N	105°26'33.659"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig: Nabors X30 (KB) to Facility Vertical Datum	3263.60ft
Horizontal Reference Pt	Slot	Rig: Nabors X30 (KB) to Mean Sea Level	3263.60ft
Vertical Reference Pt	Rig: Nabors X30 (KB)	Rig: Nabors X30 (KB) to Ground Level at Slot (SD EA 18 19 FED P15 19H)	32.60ft
MD Reference Pt	Rig: Nabors X30 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	179.57°



Planned Wellpath Report

SD EA 18 19 FED P15 19H ST01 Rev C.0

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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H ST01
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H ST01
Facility	SD EA 18-19 Fed P15	Sidetrack from	SD EA 18 19 FED P15 19H Rev A.0 at 12000.00 MD

WELLPATH DATA (241 stations) † = interpolated/extrapolated station

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]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
0.00†	0.000	54.623	0.00	0.00	0.00	0.00	725572.00	382462.00	32°02'57.884"N	103°36'19.034"W	0.00	0.00	0.00	
32.60	0.000	54.623	32.60	0.00	0.00	0.00	725572.00	382462.00	32°02'57.884"N	103°36'19.034"W	0.00	0.00	0.00	Tie On
132.60†	0.000	54.623	132.60	0.00	0.00	0.00	725572.00	382462.00	32°02'57.884"N	103°36'19.034"W	0.00	0.00	0.00	
232.60†	0.000	54.623	232.60	0.00	0.00	0.00	725572.00	382462.00	32°02'57.884"N	103°36'19.034"W	0.00	0.00	0.00	
332.60†	0.000	54.623	332.60	0.00	0.00	0.00	725572.00	382462.00	32°02'57.884"N	103°36'19.034"W	0.00	0.00	0.00	
432.60†	0.000	54.623	432.60	0.00	0.00	0.00	725572.00	382462.00	32°02'57.884"N	103°36'19.034"W	0.00	0.00	0.00	
532.60†	0.000	54.623	532.60	0.00	0.00	0.00	725572.00	382462.00	32°02'57.884"N	103°36'19.034"W	0.00	0.00	0.00	
632.60†	0.000	54.623	632.60	0.00	0.00	0.00	725572.00	382462.00	32°02'57.884"N	103°36'19.034"W	0.00	0.00	0.00	
732.60†	0.000	54.623	732.60	0.00	0.00	0.00	725572.00	382462.00	32°02'57.884"N	103°36'19.034"W	0.00	0.00	0.00	
832.60†	0.000	54.623	832.60	0.00	0.00	0.00	725572.00	382462.00	32°02'57.884"N	103°36'19.034"W	0.00	0.00	0.00	
900.00	0.000	54.623	900.00	0.00	0.00	0.00	725572.00	382462.00	32°02'57.884"N	103°36'19.034"W	0.00	0.00	0.00	End of Tangent
932.60†	0.326	54.623	932.60	-0.05	0.05	0.08	725572.08	382462.05	32°02'57.885"N	103°36'19.033"W	1.00	1.00	167.56	
1032.60†	1.326	54.623	1032.59	-0.88	0.89	1.25	725573.25	382462.89	32°02'57.893"N	103°36'19.019"W	1.00	1.00	0.00	
1132.60†	2.326	54.623	1132.54	-2.70	2.73	3.85	725575.85	382464.73	32°02'57.911"N	103°36'18.989"W	1.00	1.00	0.00	
1232.60†	3.326	54.623	1232.41	-5.53	5.59	7.87	725579.87	382467.59	32°02'57.939"N	103°36'18.942"W	1.00	1.00	0.00	
1332.60†	4.326	54.623	1332.19	-9.35	9.45	13.31	725585.31	382471.45	32°02'57.977"N	103°36'18.878"W	1.00	1.00	0.00	
1432.60†	5.326	54.623	1431.83	-14.17	14.32	20.17	725592.17	382476.32	32°02'58.025"N	103°36'18.798"W	1.00	1.00	0.00	
1532.60†	6.326	54.623	1531.32	-19.98	20.20	28.45	725600.44	382482.20	32°02'58.082"N	103°36'18.702"W	1.00	1.00	0.00	
1632.60†	7.326	54.623	1630.61	-26.79	27.08	38.14	725610.14	382489.08	32°02'58.150"N	103°36'18.589"W	1.00	1.00	0.00	
1732.60†	8.326	54.623	1729.67	-34.59	34.96	49.24	725621.24	382496.96	32°02'58.227"N	103°36'18.459"W	1.00	1.00	0.00	
1832.60†	9.326	54.623	1828.49	-43.38	43.85	61.75	725633.75	382505.84	32°02'58.314"N	103°36'18.313"W	1.00	1.00	0.00	
1932.60†	10.326	54.623	1927.02	-53.16	53.73	75.66	725647.66	382515.72	32°02'58.411"N	103°36'18.150"W	1.00	1.00	0.00	
2032.60†	11.326	54.623	2025.24	-63.92	64.60	90.98	725662.97	382526.60	32°02'58.517"N	103°36'17.972"W	1.00	1.00	0.00	
2132.60†	12.326	54.623	2123.11	-75.65	76.46	107.69	725679.68	382538.46	32°02'58.634"N	103°36'17.777"W	1.00	1.00	0.00	
2200.00	13.000	54.623	2188.87	-84.12	85.02	119.73	725691.73	382547.02	32°02'58.718"N	103°36'17.636"W	1.00	1.00	0.00	End of Build
2232.60†	13.000	54.623	2220.64	-88.32	89.26	125.71	725697.71	382551.26	32°02'58.759"N	103°36'17.566"W	0.00	0.00	0.00	
2332.60†	13.000	54.623	2318.08	-101.20	102.29	144.06	725716.05	382564.28	32°02'58.887"N	103°36'17.352"W	0.00	0.00	0.00	
2432.60†	13.000	54.623	2415.51	-114.09	115.31	162.40	725734.39	382577.31	32°02'59.014"N	103°36'17.138"W	0.00	0.00	0.00	
2532.60†	13.000	54.623	2512.95	-126.98	128.34	180.74	725752.73	382590.33	32°02'59.142"N	103°36'16.924"W	0.00	0.00	0.00	
2632.60†	13.000	54.623	2610.39	-139.86	141.36	199.08	725771.07	382603.35	32°02'59.270"N	103°36'16.710"W	0.00	0.00	0.00	



Planned Wellpath Report

SD EA 18 19 FED P15 19H ST01 Rev C.0

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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H ST01
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H ST01
Facility	SD EA 18-19 Fed P15	Sidetrack from	SD EA 18 19 FED P15 19H Rev A.0 at 12000.00 MD

WELLPATH DATA (241 stations) † = interpolated/extrapolated station

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]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
2732.60†	13.000	54.623	2707.82	-152.75	154.38	217.42	725789.41	382616.38	32°02'59.397"N	103°36'16.496"W	0.00	0.00	0.00	
2832.60†	13.000	54.623	2805.26	-165.63	167.41	235.76	725807.76	382629.40	32°02'59.525"N	103°36'16.282"W	0.00	0.00	0.00	
2932.60†	13.000	54.623	2902.70	-178.52	180.43	254.11	725826.10	382642.42	32°02'59.653"N	103°36'16.067"W	0.00	0.00	0.00	
3032.60†	13.000	54.623	3000.14	-191.40	193.45	272.45	725844.44	382655.45	32°02'59.780"N	103°36'15.853"W	0.00	0.00	0.00	
3132.60†	13.000	54.623	3097.57	-204.29	206.48	290.79	725862.78	382668.47	32°02'59.908"N	103°36'15.639"W	0.00	0.00	0.00	
3232.60†	13.000	54.623	3195.01	-217.17	219.50	309.13	725881.12	382681.49	32°03'00.036"N	103°36'15.425"W	0.00	0.00	0.00	
3332.60†	13.000	54.623	3292.45	-230.06	232.52	327.47	725899.46	382694.52	32°03'00.163"N	103°36'15.211"W	0.00	0.00	0.00	
3432.60†	13.000	54.623	3389.88	-242.95	245.55	345.81	725917.80	382707.54	32°03'00.291"N	103°36'14.997"W	0.00	0.00	0.00	
3532.60†	13.000	54.623	3487.32	-255.83	258.57	364.15	725936.14	382720.56	32°03'00.419"N	103°36'14.783"W	0.00	0.00	0.00	
3632.60†	13.000	54.623	3584.76	-268.72	271.60	382.50	725954.48	382733.59	32°03'00.546"N	103°36'14.569"W	0.00	0.00	0.00	
3732.60†	13.000	54.623	3682.19	-281.60	284.62	400.84	725972.82	382746.61	32°03'00.674"N	103°36'14.354"W	0.00	0.00	0.00	
3832.60†	13.000	54.623	3779.63	-294.49	297.64	419.18	725991.17	382759.63	32°03'00.802"N	103°36'14.140"W	0.00	0.00	0.00	
3932.60†	13.000	54.623	3877.07	-307.37	310.67	437.52	726009.51	382772.66	32°03'00.929"N	103°36'13.926"W	0.00	0.00	0.00	
4010.90	13.000	54.623	3953.36	-317.46	320.86	451.88	726023.87	382782.85	32°03'01.029"N	103°36'13.759"W	0.00	0.00	0.00	End of Tangent
4032.60†	12.783	54.623	3974.51	-320.24	323.67	455.83	726027.81	382785.66	32°03'01.057"N	103°36'13.713"W	1.00	-1.00	0.00	
4132.60†	11.783	54.623	4072.22	-332.42	335.98	473.18	726045.16	382797.97	32°03'01.177"N	103°36'13.510"W	1.00	-1.00	0.00	
4232.60†	10.783	54.623	4170.29	-343.63	347.31	489.13	726061.11	382809.30	32°03'01.288"N	103°36'13.324"W	1.00	-1.00	0.00	
4332.60†	9.783	54.623	4268.68	-353.86	357.65	503.68	726075.67	382819.63	32°03'01.390"N	103°36'13.154"W	1.00	-1.00	0.00	
4432.60†	8.783	54.623	4367.37	-363.10	366.98	516.84	726088.82	382828.97	32°03'01.481"N	103°36'13.000"W	1.00	-1.00	0.00	
4532.60†	7.783	54.623	4466.33	-371.35	375.32	528.58	726100.56	382837.31	32°03'01.563"N	103°36'12.863"W	1.00	-1.00	0.00	
4632.60†	6.783	54.623	4565.52	-378.61	382.66	538.92	726110.90	382844.65	32°03'01.635"N	103°36'12.743"W	1.00	-1.00	0.00	
4732.60†	5.783	54.623	4664.92	-384.88	389.00	547.84	726119.82	382850.99	32°03'01.697"N	103°36'12.638"W	1.00	-1.00	0.00	
4832.60†	4.783	54.623	4764.49	-390.15	394.33	555.35	726127.33	382856.32	32°03'01.749"N	103°36'12.551"W	1.00	-1.00	0.00	
4932.60†	3.783	54.623	4864.21	-394.43	398.65	561.44	726133.42	382860.64	32°03'01.792"N	103°36'12.480"W	1.00	-1.00	0.00	
5032.60†	2.783	54.623	4964.05	-397.71	401.97	566.11	726138.09	382863.96	32°03'01.824"N	103°36'12.425"W	1.00	-1.00	0.00	
5132.60†	1.783	54.623	5063.96	-399.99	404.28	569.36	726141.34	382866.26	32°03'01.847"N	103°36'12.387"W	1.00	-1.00	0.00	
5232.60†	0.783	54.623	5163.94	-401.27	405.57	571.18	726143.16	382867.56	32°03'01.859"N	103°36'12.366"W	1.00	-1.00	0.00	
5310.90	0.000	54.623	5242.24	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	1.00	-1.00	-69.76	End of Drop
5332.60†	0.000	179.565	5263.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
5432.60†	0.000	179.565	5363.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H ST01
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H ST01
Facility	SD EA 18-19 Fed P15	Sidetrack from	SD EA 18 19 FED P15 19H Rev A.0 at 12000.00 MD

WELLPATH DATA (241 stations) † = interpolated/extrapolated station

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]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
5532.60†	0.000	179.565	5463.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
5632.60†	0.000	179.565	5563.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
5732.60†	0.000	179.565	5663.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
5832.60†	0.000	179.565	5763.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
5932.60†	0.000	179.565	5863.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
6032.60†	0.000	179.565	5963.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
6132.60†	0.000	179.565	6063.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
6232.60†	0.000	179.565	6163.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
6332.60†	0.000	179.565	6263.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
6432.60†	0.000	179.565	6363.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
6532.60†	0.000	179.565	6463.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
6632.60†	0.000	179.565	6563.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
6732.60†	0.000	179.565	6663.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
6832.60†	0.000	179.565	6763.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
6932.60†	0.000	179.565	6863.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
7032.60†	0.000	179.565	6963.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
7132.60†	0.000	179.565	7063.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
7232.60†	0.000	179.565	7163.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
7332.60†	0.000	179.565	7263.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
7432.60†	0.000	179.565	7363.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
7532.60†	0.000	179.565	7463.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
7632.60†	0.000	179.565	7563.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
7732.60†	0.000	179.565	7663.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
7832.60†	0.000	179.565	7763.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
7932.60†	0.000	179.565	7863.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
8032.60†	0.000	179.565	7963.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
8132.60†	0.000	179.565	8063.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
8232.60†	0.000	179.565	8163.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
8332.60†	0.000	179.565	8263.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
8432.60†	0.000	179.565	8363.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H ST01
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H ST01
Facility	SD EA 18-19 Fed P15	Sidetrack from	SD EA 18 19 FED P15 19H Rev A.0 at 12000.00 MD

WELLPATH DATA (241 stations) † = interpolated/extrapolated station

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]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
8532.60†	0.000	179.565	8463.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
8632.60†	0.000	179.565	8563.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
8732.60†	0.000	179.565	8663.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
8832.60†	0.000	179.565	8763.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
8932.60†	0.000	179.565	8863.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
9032.60†	0.000	179.565	8963.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
9132.60†	0.000	179.565	9063.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
9232.60†	0.000	179.565	9163.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
9332.60†	0.000	179.565	9263.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
9432.60†	0.000	179.565	9363.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
9532.60†	0.000	179.565	9463.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
9632.60†	0.000	179.565	9563.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
9732.60†	0.000	179.565	9663.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
9832.60†	0.000	179.565	9763.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
9932.60†	0.000	179.565	9863.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
10032.60†	0.000	179.565	9963.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
10132.60†	0.000	179.565	10063.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
10232.60†	0.000	179.565	10163.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
10332.60†	0.000	179.565	10263.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
10432.60†	0.000	179.565	10363.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
10532.60†	0.000	179.565	10463.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
10632.60†	0.000	179.565	10563.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
10732.60†	0.000	179.565	10663.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
10832.60†	0.000	179.565	10763.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
10932.60†	0.000	179.565	10863.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
11032.60†	0.000	179.565	10963.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
11132.60†	0.000	179.565	11063.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
11232.60†	0.000	179.565	11163.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
11332.60†	0.000	179.565	11263.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
11432.60†	0.000	179.565	11363.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H ST01
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H ST01
Facility	SD EA 18-19 Fed P15	Sidetrack from	SD EA 18 19 FED P15 19H Rev A.0 at 12000.00 MD

WELLPATH DATA (241 stations) † = interpolated/extrapolated station

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]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
11532.60†	0.000	179.565	11463.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
11632.60†	0.000	179.565	11563.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
11732.60†	0.000	179.565	11663.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
11832.60†	0.000	179.565	11763.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
11932.60†	0.000	179.565	11863.94	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	
12000.00	0.000	54.623	11931.34	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	Tangent to Tie On
12091.06	0.000	179.565	12022.40	-401.58	405.88	571.62	726143.60	382867.87	32°03'01.862"N	103°36'12.361"W	0.00	0.00	0.00	End of Tangent
12100.00†	1.072	179.565	12031.34	-401.50	405.80	571.62	726143.60	382867.78	32°03'01.862"N	103°36'12.361"W	12.00	12.00	2009.47	
12200.00†	13.072	179.565	12130.39	-389.21	393.51	571.71	726143.69	382855.50	32°03'01.740"N	103°36'12.361"W	12.00	12.00	0.00	
12300.00†	25.072	179.565	12224.73	-356.59	360.89	571.96	726143.94	382822.88	32°03'01.417"N	103°36'12.360"W	12.00	12.00	0.00	
12400.00†	37.072	179.565	12310.23	-305.07	309.38	572.35	726144.33	382771.37	32°03'00.907"N	103°36'12.360"W	12.00	12.00	0.00	
12500.00†	49.072	179.565	12383.14	-236.91	241.21	572.87	726144.85	382703.21	32°03'00.233"N	103°36'12.359"W	12.00	12.00	0.00	
12600.00†	61.072	179.565	12440.29	-155.07	159.38	573.49	726145.47	382621.37	32°02'59.423"N	103°36'12.358"W	12.00	12.00	0.00	
12700.00†	73.072	179.565	12479.18	-63.14	67.45	574.19	726146.17	382529.45	32°02'58.513"N	103°36'12.358"W	12.00	12.00	0.00	
12800.00†	85.072	179.565	12498.10	34.87	-30.55	574.93	726146.91	382431.45	32°02'57.543"N	103°36'12.357"W	12.00	12.00	0.00	
12839.70	89.835	179.565	12499.87	74.51	-70.20	575.23	726147.21	382391.80	32°02'57.151"N	103°36'12.356"W	12.00	12.00	0.00	End of Build
12900.00†	89.835	179.565	12500.04	134.82	-130.50	575.69	726147.67	382331.50	32°02'56.554"N	103°36'12.356"W	0.00	0.00	0.00	
13000.00†	89.835	179.565	12500.33	234.82	-230.50	576.45	726148.43	382231.51	32°02'55.565"N	103°36'12.355"W	0.00	0.00	0.00	
13100.00†	89.835	179.565	12500.62	334.82	-330.49	577.21	726149.19	382131.52	32°02'54.575"N	103°36'12.354"W	0.00	0.00	0.00	
13200.00†	89.835	179.565	12500.90	434.82	-430.49	577.97	726149.95	382031.52	32°02'53.586"N	103°36'12.353"W	0.00	0.00	0.00	
13300.00†	89.835	179.565	12501.19	534.82	-530.49	578.73	726150.71	381931.53	32°02'52.596"N	103°36'12.352"W	0.00	0.00	0.00	
13400.00†	89.835	179.565	12501.48	634.82	-630.48	579.49	726151.47	381831.54	32°02'51.607"N	103°36'12.351"W	0.00	0.00	0.00	
13500.00†	89.835	179.565	12501.77	734.81	-730.48	580.25	726152.23	381731.54	32°02'50.617"N	103°36'12.350"W	0.00	0.00	0.00	
13600.00†	89.835	179.565	12502.06	834.81	-830.48	581.00	726152.98	381631.55	32°02'49.627"N	103°36'12.349"W	0.00	0.00	0.00	
13700.00†	89.835	179.565	12502.34	934.81	-930.47	581.76	726153.74	381531.56	32°02'48.638"N	103°36'12.348"W	0.00	0.00	0.00	
13800.00†	89.835	179.565	12502.63	1034.81	-1030.47	582.52	726154.50	381431.56	32°02'47.648"N	103°36'12.347"W	0.00	0.00	0.00	
13900.00†	89.835	179.565	12502.92	1134.81	-1130.47	583.28	726155.26	381331.57	32°02'46.659"N	103°36'12.346"W	0.00	0.00	0.00	
14000.00†	89.835	179.565	12503.21	1234.81	-1230.46	584.04	726156.02	381231.58	32°02'45.669"N	103°36'12.345"W	0.00	0.00	0.00	
14100.00†	89.835	179.565	12503.50	1334.81	-1330.46	584.80	726156.78	381131.59	32°02'44.680"N	103°36'12.344"W	0.00	0.00	0.00	
14200.00†	89.835	179.565	12503.78	1434.81	-1430.46	585.56	726157.54	381031.59	32°02'43.690"N	103°36'12.343"W	0.00	0.00	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H ST01
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H ST01
Facility	SD EA 18-19 Fed P15	Sidetrack from	SD EA 18 19 FED P15 19H Rev A.0 at 12000.00 MD

WELLPATH DATA (241 stations) † = interpolated/extrapolated station

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]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
14300.00†	89.835	179.565	12504.07	1534.81	-1530.45	586.32	726158.30	380931.60	32°02'42.700"N	103°36'12.342"W	0.00	0.00	0.00	
14400.00†	89.835	179.565	12504.36	1634.81	-1630.45	587.08	726159.06	380831.61	32°02'41.711"N	103°36'12.341"W	0.00	0.00	0.00	
14500.00†	89.835	179.565	12504.65	1734.81	-1730.45	587.84	726159.82	380731.61	32°02'40.721"N	103°36'12.340"W	0.00	0.00	0.00	
14600.00†	89.835	179.565	12504.94	1834.81	-1830.44	588.60	726160.58	380631.62	32°02'39.732"N	103°36'12.339"W	0.00	0.00	0.00	
14700.00†	89.835	179.565	12505.22	1934.81	-1930.44	589.36	726161.34	380531.63	32°02'38.742"N	103°36'12.338"W	0.00	0.00	0.00	
14800.00†	89.835	179.565	12505.51	2034.81	-2030.44	590.12	726162.10	380431.63	32°02'37.753"N	103°36'12.337"W	0.00	0.00	0.00	
14900.00†	89.835	179.565	12505.80	2134.81	-2130.43	590.88	726162.85	380331.64	32°02'36.763"N	103°36'12.336"W	0.00	0.00	0.00	
15000.00†	89.835	179.565	12506.09	2234.81	-2230.43	591.63	726163.61	380231.65	32°02'35.773"N	103°36'12.335"W	0.00	0.00	0.00	
15100.00†	89.835	179.565	12506.38	2334.81	-2330.43	592.39	726164.37	380131.65	32°02'34.784"N	103°36'12.334"W	0.00	0.00	0.00	
15200.00†	89.835	179.565	12506.66	2434.81	-2430.42	593.15	726165.13	380031.66	32°02'33.794"N	103°36'12.333"W	0.00	0.00	0.00	
15300.00†	89.835	179.565	12506.95	2534.81	-2530.42	593.91	726165.89	379931.67	32°02'32.805"N	103°36'12.332"W	0.00	0.00	0.00	
15400.00†	89.835	179.565	12507.24	2634.81	-2630.42	594.67	726166.65	379831.67	32°02'31.815"N	103°36'12.331"W	0.00	0.00	0.00	
15500.00†	89.835	179.565	12507.53	2734.81	-2730.41	595.43	726167.41	379731.68	32°02'30.826"N	103°36'12.330"W	0.00	0.00	0.00	
15600.00†	89.835	179.565	12507.82	2834.81	-2830.41	596.19	726168.17	379631.69	32°02'29.836"N	103°36'12.330"W	0.00	0.00	0.00	
15700.00†	89.835	179.565	12508.10	2934.81	-2930.41	596.95	726168.93	379531.69	32°02'28.846"N	103°36'12.329"W	0.00	0.00	0.00	
15800.00†	89.835	179.565	12508.39	3034.81	-3030.40	597.71	726169.69	379431.70	32°02'27.857"N	103°36'12.328"W	0.00	0.00	0.00	
15900.00†	89.835	179.565	12508.68	3134.80	-3130.40	598.47	726170.45	379331.71	32°02'26.867"N	103°36'12.327"W	0.00	0.00	0.00	
16000.00†	89.835	179.565	12508.97	3234.80	-3230.40	599.23	726171.21	379231.71	32°02'25.878"N	103°36'12.326"W	0.00	0.00	0.00	
16100.00†	89.835	179.565	12509.26	3334.80	-3330.40	599.99	726171.97	379131.72	32°02'24.888"N	103°36'12.325"W	0.00	0.00	0.00	
16200.00†	89.835	179.565	12509.54	3434.80	-3430.39	600.75	726172.72	379031.73	32°02'23.899"N	103°36'12.324"W	0.00	0.00	0.00	
16300.00†	89.835	179.565	12509.83	3534.80	-3530.39	601.50	726173.48	378931.73	32°02'22.909"N	103°36'12.323"W	0.00	0.00	0.00	
16400.00†	89.835	179.565	12510.12	3634.80	-3630.39	602.26	726174.24	378831.74	32°02'21.919"N	103°36'12.322"W	0.00	0.00	0.00	
16500.00†	89.835	179.565	12510.41	3734.80	-3730.38	603.02	726175.00	378731.75	32°02'20.930"N	103°36'12.321"W	0.00	0.00	0.00	
16600.00†	89.835	179.565	12510.70	3834.80	-3830.38	603.78	726175.76	378631.75	32°02'19.940"N	103°36'12.320"W	0.00	0.00	0.00	
16700.00†	89.835	179.565	12510.98	3934.80	-3930.38	604.54	726176.52	378531.76	32°02'18.951"N	103°36'12.319"W	0.00	0.00	0.00	
16800.00†	89.835	179.565	12511.27	4034.80	-4030.37	605.30	726177.28	378431.77	32°02'17.961"N	103°36'12.318"W	0.00	0.00	0.00	
16900.00†	89.835	179.565	12511.56	4134.80	-4130.37	606.06	726178.04	378331.77	32°02'16.972"N	103°36'12.317"W	0.00	0.00	0.00	
17000.00†	89.835	179.565	12511.85	4234.80	-4230.37	606.82	726178.80	378231.78	32°02'15.982"N	103°36'12.316"W	0.00	0.00	0.00	
17025.10	89.835	179.565	12511.92	4259.90	-4255.46	607.01	726178.89	378206.69	32°02'15.734"N	103°36'12.316"W	0.00	0.00	0.00	End of Tangent
17100.00†	88.337	179.565	12513.11	4334.79	-4330.35	607.58	726179.56	378131.80	32°02'14.993"N	103°36'12.315"W	2.00	-2.00	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H ST01
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H ST01
Facility	SD EA 18-19 Fed P15	Sidetrack from	SD EA 18 19 FED P15 19H Rev A.0 at 12000.00 MD

WELLPATH DATA (241 stations) † = interpolated/extrapolated station

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]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
17180.32	86.730	179.565	12516.57	4415.04	-4410.60	608.19	726180.17	378051.56	32°02'14.198"N	103°36'12.314"W	2.00	-2.00	0.00	End of 3D Arc
17200.00†	86.730	179.565	12517.69	4434.68	-4430.24	608.34	726180.32	378031.91	32°02'14.004"N	103°36'12.314"W	0.00	0.00	0.00	
17300.00†	86.730	179.565	12523.40	4534.52	-4530.07	609.09	726181.07	377932.08	32°02'13.016"N	103°36'12.313"W	0.00	0.00	0.00	
17400.00†	86.730	179.565	12529.10	4634.35	-4629.91	609.85	726181.83	377832.25	32°02'12.028"N	103°36'12.312"W	0.00	0.00	0.00	
17500.00†	86.730	179.565	12534.80	4734.19	-4729.74	610.61	726182.59	377732.42	32°02'11.040"N	103°36'12.311"W	0.00	0.00	0.00	
17600.00†	86.730	179.565	12540.51	4834.03	-4829.58	611.37	726183.35	377632.59	32°02'10.052"N	103°36'12.310"W	0.00	0.00	0.00	
17700.00†	86.730	179.565	12546.21	4933.87	-4929.41	612.13	726184.10	377532.76	32°02'09.064"N	103°36'12.309"W	0.00	0.00	0.00	
17800.00†	86.730	179.565	12551.91	5033.70	-5029.24	612.88	726184.86	377432.93	32°02'08.076"N	103°36'12.308"W	0.00	0.00	0.00	
17900.00†	86.730	179.565	12557.62	5133.54	-5129.08	613.64	726185.62	377333.10	32°02'07.088"N	103°36'12.307"W	0.00	0.00	0.00	
18000.00†	86.730	179.565	12563.32	5233.38	-5228.91	614.40	726186.38	377233.27	32°02'06.100"N	103°36'12.306"W	0.00	0.00	0.00	
18100.00†	86.730	179.565	12569.02	5333.21	-5328.75	615.16	726187.14	377133.44	32°02'05.112"N	103°36'12.305"W	0.00	0.00	0.00	
18200.00†	86.730	179.565	12574.73	5433.05	-5428.58	615.91	726187.89	377033.61	32°02'04.124"N	103°36'12.304"W	0.00	0.00	0.00	
18297.01	86.730	179.565	12580.26	5529.90	-5525.43	616.65	726188.63	376933.76	32°02'03.166"N	103°36'12.303"W	0.00	0.00	0.00	End of Tangent
18300.00†	86.790	179.565	12580.43	5532.89	-5528.42	616.67	726188.65	376933.77	32°02'03.136"N	103°36'12.303"W	2.00	2.00	0.00	
18400.00†	88.790	179.565	12584.28	5632.81	-5628.33	617.43	726189.41	376833.86	32°02'02.148"N	103°36'12.302"W	2.00	2.00	0.00	
18464.98	90.090	179.565	12584.92	5697.78	-5693.31	617.92	726189.90	376768.89	32°02'01.505"N	103°36'12.302"W	2.00	2.00	0.00	End of 3D Arc
18500.00†	90.090	179.565	12584.86	5732.81	-5728.33	618.19	726190.17	376733.87	32°02'01.158"N	103°36'12.301"W	0.00	0.00	0.00	
18600.00†	90.090	179.565	12584.71	5832.80	-5828.32	618.95	726190.93	376633.88	32°02'00.169"N	103°36'12.300"W	0.00	0.00	0.00	
18700.00†	90.090	179.565	12584.55	5932.80	-5928.32	619.71	726191.69	376533.88	32°01'59.179"N	103°36'12.300"W	0.00	0.00	0.00	
18800.00†	90.090	179.565	12584.39	6032.80	-6028.32	620.47	726192.45	376433.89	32°01'58.189"N	103°36'12.299"W	0.00	0.00	0.00	
18900.00†	90.090	179.565	12584.24	6132.80	-6128.31	621.23	726193.21	376333.90	32°01'57.200"N	103°36'12.298"W	0.00	0.00	0.00	
19000.00†	90.090	179.565	12584.08	6232.80	-6228.31	621.99	726193.97	376233.90	32°01'56.210"N	103°36'12.297"W	0.00	0.00	0.00	
19100.00†	90.090	179.565	12583.92	6332.80	-6328.31	622.75	726194.73	376133.91	32°01'55.221"N	103°36'12.296"W	0.00	0.00	0.00	
19200.00†	90.090	179.565	12583.77	6432.80	-6428.31	623.51	726195.49	376033.92	32°01'54.231"N	103°36'12.295"W	0.00	0.00	0.00	
19300.00†	90.090	179.565	12583.61	6532.80	-6528.30	624.27	726196.25	375933.92	32°01'53.242"N	103°36'12.294"W	0.00	0.00	0.00	
19400.00†	90.090	179.565	12583.45	6632.80	-6628.30	625.03	726197.01	375833.93	32°01'52.252"N	103°36'12.293"W	0.00	0.00	0.00	
19500.00†	90.090	179.565	12583.30	6732.80	-6728.30	625.79	726197.77	375733.94	32°01'51.262"N	103°36'12.292"W	0.00	0.00	0.00	
19600.00†	90.090	179.565	12583.14	6832.80	-6828.29	626.55	726198.52	375633.94	32°01'50.273"N	103°36'12.291"W	0.00	0.00	0.00	
19700.00†	90.090	179.565	12582.98	6932.80	-6928.29	627.31	726199.28	375533.95	32°01'49.283"N	103°36'12.290"W	0.00	0.00	0.00	
19800.00†	90.090	179.565	12582.83	7032.80	-7028.29	628.07	726200.04	375433.96	32°01'48.294"N	103°36'12.289"W	0.00	0.00	0.00	



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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H ST01
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H ST01
Facility	SD EA 18-19 Fed P15	Sidetrack from	SD EA 18 19 FED P15 19H Rev A.0 at 12000.00 MD

WELLPATH DATA (241 stations) † = interpolated/extrapolated station

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]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
19900.00†	90.090	179.565	12582.67	7132.80	-7128.28	628.83	726200.80	375333.96	32°01'47.304"N	103°36'12.288"W	0.00	0.00	0.00	
20000.00†	90.090	179.565	12582.51	7232.80	-7228.28	629.58	726201.56	375233.97	32°01'46.315"N	103°36'12.287"W	0.00	0.00	0.00	
20100.00†	90.090	179.565	12582.36	7332.80	-7328.28	630.34	726202.32	375133.97	32°01'45.325"N	103°36'12.286"W	0.00	0.00	0.00	
20200.00†	90.090	179.565	12582.20	7432.80	-7428.28	631.10	726203.08	375033.98	32°01'44.335"N	103°36'12.285"W	0.00	0.00	0.00	
20300.00†	90.090	179.565	12582.04	7532.80	-7528.27	631.86	726203.84	374933.99	32°01'43.346"N	103°36'12.284"W	0.00	0.00	0.00	
20400.00†	90.090	179.565	12581.89	7632.80	-7628.27	632.62	726204.60	374833.99	32°01'42.356"N	103°36'12.283"W	0.00	0.00	0.00	
20500.00†	90.090	179.565	12581.73	7732.80	-7728.27	633.38	726205.36	374734.00	32°01'41.367"N	103°36'12.282"W	0.00	0.00	0.00	
20600.00†	90.090	179.565	12581.57	7832.80	-7828.26	634.14	726206.12	374634.01	32°01'40.377"N	103°36'12.281"W	0.00	0.00	0.00	
20697.10	90.090	179.565	12581.42	7929.90	-7925.36	634.88	726206.88	374533.91	32°01'39.416"N	103°36'12.280"W	0.00	0.00	0.00	End of Tangent
20700.00†	90.032	179.565	12581.42	7932.80	-7928.26	634.90	726206.88	374534.01	32°01'39.387"N	103°36'12.280"W	2.00	-2.00	0.00	
20734.26	89.347	179.565	12581.60	7967.06	-7962.52	635.16	726207.14	374499.76	32°01'39.048"N	103°36'12.280"W	2.00	-2.00	0.00	End of 3D Arc
20800.00†	89.347	179.565	12582.35	8032.80	-8028.25	635.66	726207.64	374434.02	32°01'38.398"N	103°36'12.279"W	0.00	0.00	0.00	
20900.00†	89.347	179.565	12583.49	8132.79	-8128.24	636.42	726208.40	374334.04	32°01'37.408"N	103°36'12.278"W	0.00	0.00	0.00	
21000.00†	89.347	179.565	12584.63	8232.78	-8228.23	637.18	726209.16	374234.05	32°01'36.419"N	103°36'12.277"W	0.00	0.00	0.00	
21100.00†	89.347	179.565	12585.77	8332.78	-8328.22	637.94	726209.92	374134.06	32°01'35.429"N	103°36'12.276"W	0.00	0.00	0.00	
21200.00†	89.347	179.565	12586.91	8432.77	-8428.22	638.70	726210.67	374034.08	32°01'34.440"N	103°36'12.275"W	0.00	0.00	0.00	
21300.00†	89.347	179.565	12588.05	8532.76	-8528.21	639.46	726211.43	373934.09	32°01'33.450"N	103°36'12.274"W	0.00	0.00	0.00	
21400.00†	89.347	179.565	12589.19	8632.76	-8628.20	640.21	726212.19	373834.10	32°01'32.461"N	103°36'12.273"W	0.00	0.00	0.00	
21500.00†	89.347	179.565	12590.33	8732.75	-8728.19	640.97	726212.95	373734.11	32°01'31.471"N	103°36'12.272"W	0.00	0.00	0.00	
21600.00†	89.347	179.565	12591.47	8832.75	-8828.18	641.73	726213.71	373634.13	32°01'30.482"N	103°36'12.271"W	0.00	0.00	0.00	
21700.00†	89.347	179.565	12592.62	8932.74	-8928.17	642.49	726214.47	373534.14	32°01'29.492"N	103°36'12.270"W	0.00	0.00	0.00	
21800.00†	89.347	179.565	12593.76	9032.73	-9028.16	643.25	726215.23	373434.15	32°01'28.503"N	103°36'12.269"W	0.00	0.00	0.00	
21900.00†	89.347	179.565	12594.90	9132.73	-9128.15	644.01	726215.99	373334.17	32°01'27.513"N	103°36'12.268"W	0.00	0.00	0.00	
22000.00†	89.347	179.565	12596.04	9232.72	-9228.14	644.77	726216.75	373234.18	32°01'26.524"N	103°36'12.267"W	0.00	0.00	0.00	
22100.00†	89.347	179.565	12597.18	9332.71	-9328.13	645.53	726217.51	373134.19	32°01'25.534"N	103°36'12.266"W	0.00	0.00	0.00	
22200.00†	89.347	179.565	12598.32	9432.71	-9428.12	646.29	726218.26	373034.20	32°01'24.545"N	103°36'12.265"W	0.00	0.00	0.00	
22300.00†	89.347	179.565	12599.46	9532.70	-9528.11	647.05	726219.02	372934.22	32°01'23.555"N	103°36'12.265"W	0.00	0.00	0.00	
22400.00†	89.347	179.565	12600.60	9632.69	-9628.10	647.80	726219.78	372834.23	32°01'22.566"N	103°36'12.264"W	0.00	0.00	0.00	
22500.00†	89.347	179.565	12601.74	9732.69	-9728.09	648.56	726220.54	372734.24	32°01'21.576"N	103°36'12.263"W	0.00	0.00	0.00	
22600.00†	89.347	179.565	12602.88	9832.68	-9828.08	649.32	726221.30	372634.26	32°01'20.587"N	103°36'12.262"W	0.00	0.00	0.00	



Planned Wellpath Report

SD EA 18 19 FED P15 19H ST01 Rev C.0

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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H ST01
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H ST01
Facility	SD EA 18-19 Fed P15	Sidetrack from	SD EA 18 19 FED P15 19H Rev A.0 at 12000.00 MD

WELLPATH DATA (241 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]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
22692.27	89.347	179.565	12603.93	9924.94	-9920.34	650.02	726222.00	372542.00	32°01'19.674"N	103°36'12.261"W	0.00	0.00	0.00	End of Tangent

HOLE & CASING SECTIONS - Ref Wellbore: SD EA 18 19 FED P15 19H ST01 Ref Wellpath: SD EA 18 19 FED P15 19H ST01 Rev C.0

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
13.375in Casing	32.60	800.00	767.40	32.60	800.00	0.00	0.00	0.00	0.00
9.625in Casing	32.60	11112.66	11080.06	32.60	11044.00	0.00	0.00	405.88	571.62
7.625in Casing	12000.00	12266.59	266.59	11931.34	12194.00	405.88	571.62	373.98	571.86
5.5in Casing	12000.00	22692.00	10692.00	11931.34	12603.93	405.88	571.62	-9920.08	650.02

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SD EA 18 19 FED P15 19H FTP		12499.88	-72.34	574.77	726146.75	382389.66	32°02'57.130"N	103°36'12.362"W	point
1) SD EA 18 19 FED P15 19H TP1	17025.10	12511.92	-4255.46	607.01	726178.99	378206.69	32°02'15.734"N	103°36'12.316"W	point
2) SD EA 18 19 FED P15 19H MP	18297.01	12580.26	-5525.43	616.65	726188.63	376936.76	32°02'03.166"N	103°36'12.303"W	point
3) SD EA 18 19 FED P15 19H TP2	20697.10	12581.42	-7925.36	634.88	726206.86	374536.91	32°01'39.416"N	103°36'12.280"W	point
4) SD EA 18 19 FED P15 19H PBLH rev 2	22692.27	12603.93	-9920.34	650.02	726222.00	372542.00	32°01'19.674"N	103°36'12.261"W	point



Planned Wellpath Report

SD EA 18 19 FED P15 19H ST01 Rev C.0

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**BAKER
HUGHES**
a GE company

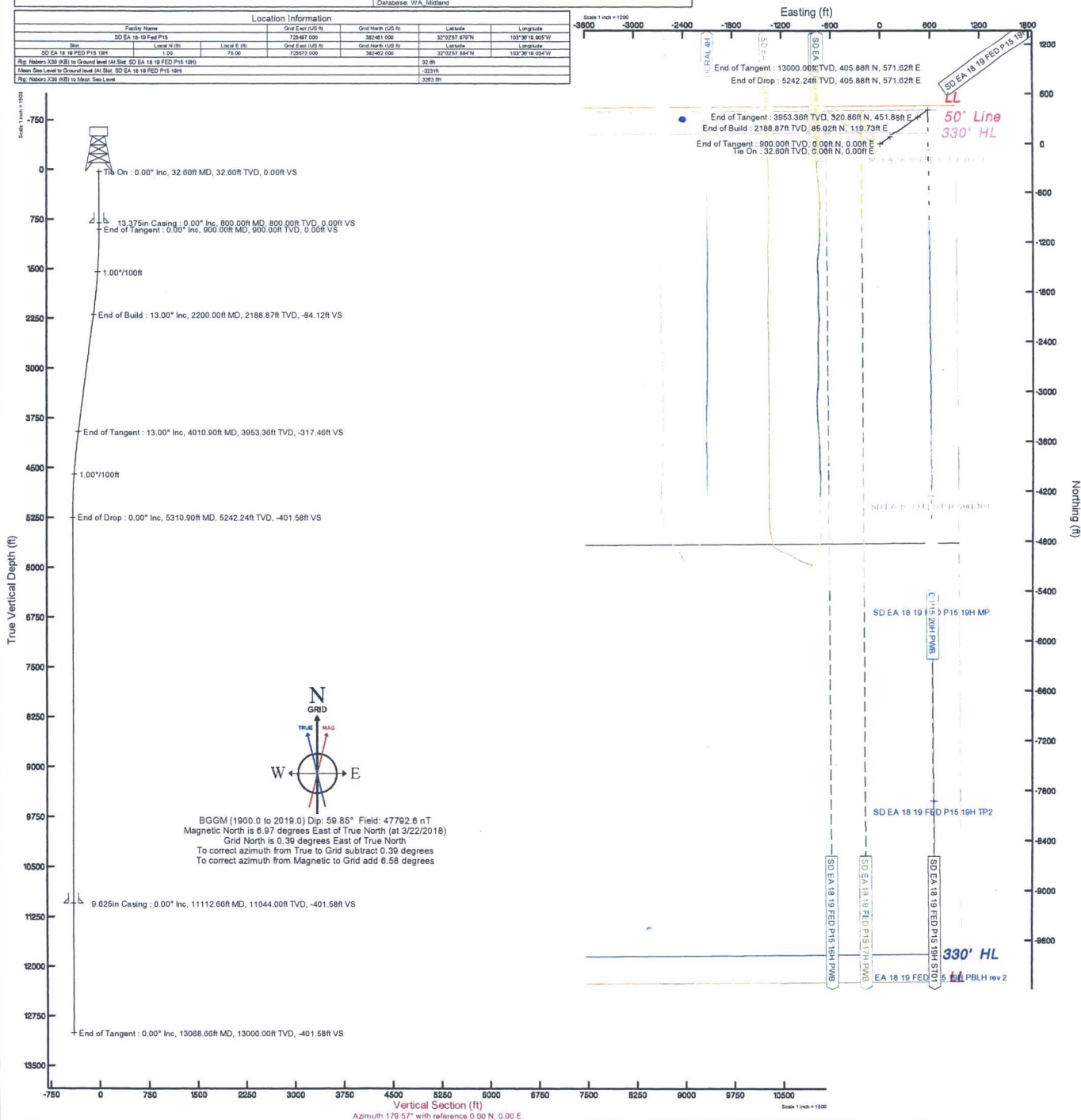


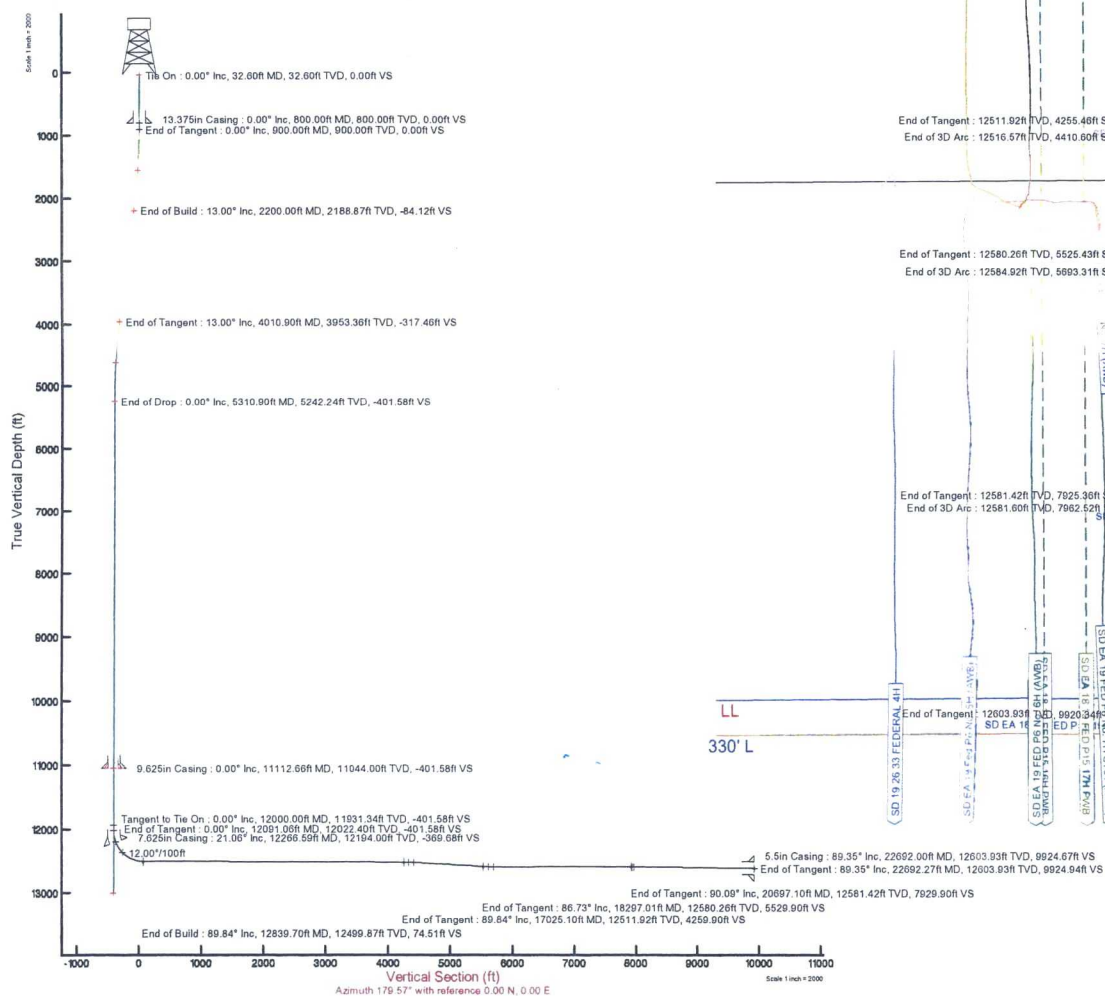
REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD EA 18 19 FED P15 19H
Area	Lea County, NM	Well	SD EA 18 19 FED P15 19H ST01
Field	Bone Spring (Lea County, NM) NAD 27	Wellbore	SD EA 18 19 FED P15 19H ST01
Facility	SD EA 18-19 Fed P15	Sidetrack from	SD EA 18 19 FED P15 19H Rev A.0 at 12000.00 MD

SURVEY PROGRAM - Ref Wellbore: SD EA 18 19 FED P15 19H ST01 Ref Wellpath: SD EA 18 19 FED P15 19H ST01 Rev C.0

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
32.60	11112.00	BHI NaviTrak (Standard)		SD EA 18 19 FED P15 19H
11112.00	12000.00	BHI AutoTrak Curve (Short)		SD EA 18 19 FED P15 19H
12000.00	22692.27	BHI AutoTrak Curve (Short)		SD EA 18 19 FED P15 19H ST01





PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Chevron USA Inc
LEASE NO.:	NM132070
WELL NAME & NO.:	SD EA 18 19 Fed Com P15 – 19H
SURFACE HOLE FOOTAGE:	455'/N & 905'/E
BOTTOM HOLE FOOTAGE:	180'/S & 330'/E, sec. 19
LOCATION:	Sec. 18, T. 26 S, R. 33 E
COUNTY:	Lea County

COA

All previous COAs still apply expect the following:

H2S	☐ Yes	☒ No	
Potash	☒ None	☐ Secretary	☐ R-111-P
Cave/Karst Potential	☐ Low	☒ Medium	☐ High
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	☐ Conventional	☒ Multibowl	☐ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP

Operator shall filled casing with fluid while running intermediate and liner casing to maintain collapse safety factor.

1. The minimum required fill of cement behind the **9-5/8** inch intermediate casing: Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.
 - a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job. **Additional cement maybe required. Excess cement calculates to 19%.**
 - b. Second stage above DV tool: Cement to surface. If cement does not circulate, contact the appropriate BLM office.
- ❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings , the cement on the 3rd casing string must come to surface.
2. The minimum required fill of cement behind the **7-5/8** inch production liner is:
 - c. Cement should tie-back at least **100** feet into previous casing string. Operator shall provide method of verification. **Additional cement maybe required. Excess cement calculates to 8%.**

The pilot hole plugging procedure is approved as written. Note plug tops on subsequent drilling report.

Pilot hole is required to have a plug at the bottom of the hole. If two plugs are set, the BLM is to be contacted (575-361-2822) prior to tag of bottom plug, which must be a minimum of 200' in length. Operator can set one plug from bottom of pilot hole to kick-off point and save the WOC time for tagging the first plug. Note plug tops on subsequent drilling report.

Variance approved for annular clearance for the 5 1/2 x 7 5/8 casing.

3. The minimum required fill of cement behind the 5-1/2 x 5 inch production casing is:
 - d. Cement should tie-back 200 ft into the previous casing. Operator shall provide method of verification. **Additional cement maybe required. Excess cement calculates to -8%.**

ZS 040618

Delaware Basin

Variance to APD/COA for Federal Well



Well Names:

SD EA 29 FED COM P8	12H	30-025-43271
SD EA 29 FED COM P8	10H	30-025-43269
SD EA 18 19 FED COM P15	19H	30-025-44167
SD EA 18 19 FED COM P15	17H	30-025-44089

Rig: Nabors X-30

CVX CONTACT:

Jason Hannen

MCBU D&C Engineer

Chevron North America Exploration and Production Co.

MidContinent Business Unit

Office: (713) 372-1169

Cell: (432) 238-3004

Email: JASON.HANNEN@CHEVRON.COM

Summary of Variance to APD Submission

Chevron respectfully requests a variance for the annular spacing between the 5-1/2" x 7-5/8" casing for the following wells:

Well Names:

SD EA 29 FED COM P8 12H

SD EA 29 FED COM P8 10H

SD EA 18 19 FED COM P15 19H

SD EA 18 19 FED COM P15 17H

API:

3002543271

3002543269

3002544167

3002544089

13 3/8	surface csg in a	17 1/2	inch hole.	Design Factors			SURFACE		
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	Weight	
"A"	54.50	J 55	ST&C	10.84	2.87	0.51	870	47,415	
"B"							0	0	
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,500			Tail Cmt	does	circ to sfc.	Totals:	870	47,415	
Comparison of Proposed to Minimum Required Cement Volumes									
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
17 1/2	0.6946	650	865	659	31	8.70	2889	3M	1.56
Burst Frac Gradient(s) for Segment(s) A, B = , b All > 0.70, OK.									

9 5/8	casing inside the	13 3/8	A Buoyant		Design Factors		INTERMEDIATE		
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	Weight	
"A"	43.50	L 80	LT&C	1.93	0.71	0.74	11,500	500,250	
"B"							0	0	
w/8.4#/g mud, 30min Sfc Csg Test psig:						Totals:	11,500	500,250	
The cement volume(s) are intended to achieve a top of				0	ft from surface or a		870	overlap.	
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
12 1/4	0.3132	look	0	3663		9.20	5858	10M	0.81
DV Tool(s):			4870			sum of sx	Σ CuFt	Σ % excess	
t by stage % :			19	71		2367	5163	41	
Class 'H' tail cmt yld > 1.20						MASP is within 10% of 5000psig, need			
Burst Frac Gradient(s) for Segment(s): A, B, C, D = 0.57, b, c, d < 0.70						CASING WILL BE FILL WITH FLUID WHILE RUNNING INTERMEDIATE CASING. Justify calculation by operator.			
a Problem!!									

Tail cmt											
7 5/8	Liner w/top @	10850			Design Factors			LINER			
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	Weight			
"A"	29.70	HCP 110	BUTT	17.09	0.84	0.93	1,450	43,065			
"B"							0	0			
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,318							Totals:	1,450	43,065		
A	would be:			13.10	0.84	if it were a vertical wellbore.					
Nc Pilot Hole Planned					MTD	Max VTD	Csg VD	Curve KOP	Dogleg°	Severity°	MEOC
				12300	12172	12172	11849	52	0	0	
The cement volume(s) are intended to achieve a top of					10850	ft from surface or a		650	overlap		
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd	Min Dist		
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE	Hole-Cplg		
8 1/2	0.0770	123	150	139	8	13.50	7270	10M	0.44		
Class 'H' tail cmt yld > 1.20					MASP is within 10% of 5000psig, need exrta equip?						
Burst Frac Gradient(s) for Segment(s): A, B, C, D = 0.78,					CASING WILL BE FILL WITH FLUID WHILE RUNNING INTERMEDIATE						
b, c, d All > 0.70, OK.					CASING. Justify calculation by operator.						

5 1/2	casing inside the	7 5/8	Design Factors				PRODUCTION			
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	Weight		
"A"	20.00	P 110	BUTT	2.86	1.31	1.42	11,849	236,980		
"B"	20.00	P 110	BUTT	2.56	1.16	1.42	651	13,020		
"C"	18.00	P 110	BUTT	95.11	1.49	1.38	10,500	189,000		
"D"							0	0		
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,607							Totals:	23,000 439,000		
B Segment Design Factors would be:				41.61	1.24	if it were a vertical wellbore.				
4831151				MTD	Max VTD	Csg VD	Curve KOP	Dogleg°	Severity°	MEOC
				23000	13000	12750	11849	90	12	12599
The cement volume(s) are intended to achieve a top of				12100	ft from surface or a			200	overlap.	
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd	Min Dist	
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE	Hole-Cplg	
6 3/4	0.0835	1300	1630	917	78	15.00			0.33	
Class 'H' tail cmt yld > 1.20				Capitan Reef est top XXXX.			MASP is within 10% of 5000psig, need exrta equip?			