

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM 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.
NMNM25953

6. If Indian, Allottee or Tribe Name

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

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.

KYLE 34 FEDERAL COM 5H

2. Name of Operator

BC OPERATING INC

Contact: SARAH PRESLEY

E-Mail: spresley@bcoperating.com

9. API Well No.

30-015-43295-00-X1

3a. Address

MIDLAND, TX 79710

3b. Phone No. (include area code)

Ph: 432.684.9696

10. Field and Pool or Exploratory Area

WILLOW LAKE-BONE SPRING, SE

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

Sec 34 T24S R28E SESE 225FSL 990FEL
32.167025 N Lat, 104.069194 W Lon

11. County or Parish, State

EDDY COUNTY, NM

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 recompleat 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 recompleat 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.

BC OPERATING, INC. RESPECTFULLY REQUESTS TO RETURN THE SUBJECT WELL BACK TO THE ORIGINAL DESIGN
APPROVED ON JULY 28, 2015.

BC 10-30-17
Accepted for record - NMOCD

NM OIL CONSERVATION
ARTESIA DISTRICT

OCT 30 2017

RECEIVED

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #374240 verified by the BLM Well Information System

For BC OPERATING INC, sent to the Carlsbad

Committed to AFMSS for processing by DEBORAH MCKINNEY on 05/01/2017 (17DLM1532SE)

Name (Printed/Typed) SARAH PRESLEY

Title REGULATORY ANALYST

Signature

(Electronic Submission)

Date 04/27/2017

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By

ZOTA STEVENS

Title PETROLEUM ENGINEER

Date 05/30/2017

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 Carlsbad

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 ****

District I
1625 N. French Dr. Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St. Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-43295	² Pool Code 98220	³ Pool Name PURPLE SAGE; WOLFCAMP (GAS)
⁴ Property Code	⁵ Property Name KYLE 34 FEDERAL	⁶ Well Number 5H
⁷ OGRID No. 160825	⁸ Operator Name B.C. OPERATING, INC.	⁹ Elevation 2994

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	34	T24S	R28E		225	SOUTH	990	EAST	EDDY

¹¹ Bottom Hole Location If Different From Surface

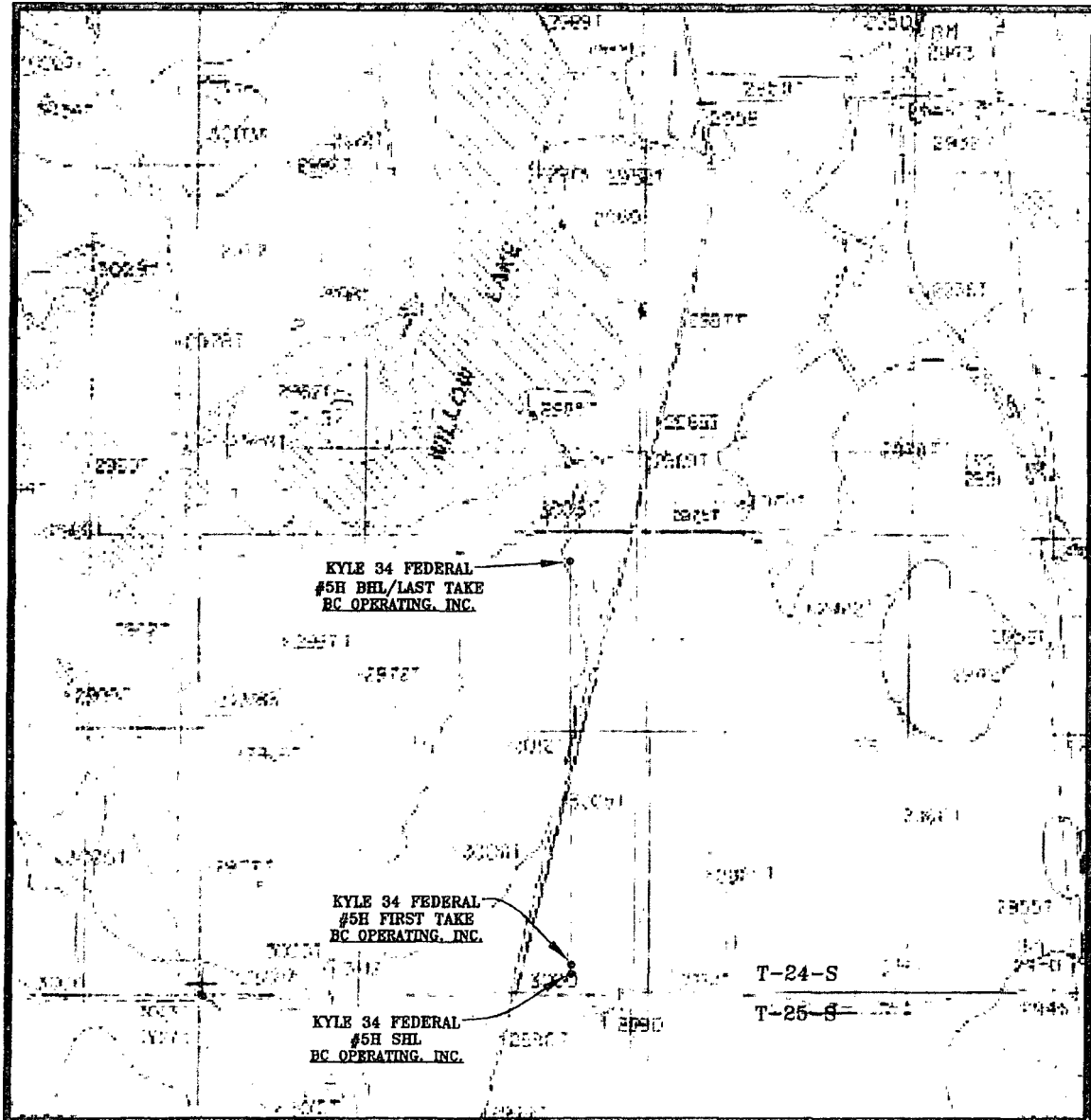
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	34	T24S	R28E		330	NORTH	990	EAST	EDDY

¹² Dedicated Acres 320.00	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

¹⁶ CORNER COORDINATES NAD 83, SPCS NM EAST A - Y: 429780.74 / X: 621190.24 B - Y: 429793.49 / X: 623853.93 C - Y: 424423.92 / X: 623909.23 D - Y: 424409.95 / X: 621226.81 SECTION 28 SECTION 27 SECTION 33 SECTION 34 BOTTOM HOLE LOCATION 330' FNL 990' FEL, SECTION 34 NAD 83, SPCS NM EAST Y: 429458.76 / X: 622867.32 LAT: 32.18038538N / LON: 104.06980694W NAD 27, SPCS NM EAST Y: 429400.41 / X: 581683.52 LAT: 32.18026320N / LON: 104.06931615W LAST TAKE POINT 330' FNL 990' FEL, SECTION 34 NAD 83, SPCS NM EAST Y: 429458.76 / X: 622867.32 LAT: 32.18038538N / LON: 104.06980694W NAD 27, SPCS NM EAST Y: 429400.41 / X: 581683.52 LAT: 32.18026320N / LON: 104.06931615W FIRST TAKE POINT 330' FSL 990' FEL, SECTION 34 NAD 83, SPCS NM EAST Y: 424748.06 / X: 622915.83 LAT: 32.167143579N / LON: 104.06968747W NAD 27, SPCS NM EAST Y: 424689.80 / X: 581731.93 LAT: 32.16731345N / LON: 104.06919708W SURFACE HOLE LOCATION 225' FSL 990' FEL, SECTION 34 NAD 83, SPCS NM EAST Y: 424643.00' / X: 622917.10' LAT: 32.16714659N / LON: 104.06968420W NAD 27, SPCS NM EAST Y: 424584.74' / X: 581733.20' LAT: 32.16702465N / LON: 104.06919382W SECTION 33 SECTION 34 T-24-S SECTION 4 SECTION 3 T-25-S	CORNER COORDINATES NAD 27, SPCS NM EAST A - Y: 429722.40 / X: 580006.48 B - Y: 429735.18 / X: 582670.12 C - Y: 424364.55 / X: 582725.30 D - Y: 424351.72 / X: 580042.94 SECTION 26 SECTION 35 990' LAST TAKE/ BHL 330' 330' 330' 225' 330' 990' 990' SECTION 35 SECTION 35 SECTION 2 PRODUCING AREA FIRST TAKE SHL	¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature: <i>Sarah Presley</i> Date: 4-27-17 SARAH PRESLEY Printed Name SPRESLEY@BCOPERATING.COM E-mail Address ¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. APRIL 12, 2017 Date of Survey Signature and Seal of Professional Surveyor: <i>LLOYD P. SHORT</i> Certificate Number: LLOYD P. SHORT 21653
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LOCATION VERIFICATION MAP



SEC. 34 TWP. 24-S RGE. 28-E
 SURVEY: N.M.P.M.
 COUNTY: EDDY
 DESCRIPTION: 225' FSL & 990' FEL
 ELEVATION: 2994'
 OPERATOR: B.C. OPERATING, INC.
 LEASE: KYLE 34 FEDERAL
 U.S.G.S. TOPOGRAPHIC MAP: MALAGA, N.M.

SCALE: 1" = 2000'
 CONTOUR INTERVAL = 20'

PREPARED BY:
 R-SQUARED GLOBAL, LLC
 1309 LOUISVILLE AVENUE, MONROE, LA 71201
 318-323-8900 OFFICE
 JOB No. R3681-01

001 006 005 004 003 002 001 006 005 004 003 002 001

012 007 008 009 010 011 012 007 008 009 010 011 012

013 018 017 016 015 014 013 018 017 016 015 014 013

024 019 020 021 022 023 024 019 020 021 022 023 024

025 030 029 028 027 026 025 030 029 028 027 026 025

036 031 032 033 034 035 036 031 032 033 034 035 036

001 006 005 004 003 002 001 006 005 004 003 002 001

012 007 008 009 010 011 012 007 008 009 010 011 012

013 018 017 016 015 014 013 018 017 016 015 014 013

024 019 020 021 022 023 024 019 020 021 022 023 024

025 030 029 028 027 026 025 030 029 028 027 026 025

036 031 032 033 034 035 036 031 032 033 034 035 036

001 006 005 004 003 002 001 006 005 004 003 002 001

**KYLE 34 FEDERAL
#5H BHL/LAST TAKE
BC OPERATING, INC.**

**KYLE 34 FEDERAL
#5H FIRST TAKE
BC OPERATING, INC.**

**KYLE 34 FEDERAL
#5H SHL
BC OPERATING, INC.**

SCALE: 1" = 2 MILES

PREPARED BY:
R-SQUARED GLOBAL, LLC
1309 LOUISVILLE AVENUE, MONROE, LA 71201
318-323-8900 OFFICE
JOB No. R3681-01

DRILLING AND OPERATIONS PLAN
NADEL AND GUSSMAN PERMIAN, L.L.C.
KYLE 34 FEDERAL #5H

Surface: 225' FSL & 990' FEL, UL P

BHL: 330' FNL & 990' FEL, UL A

Sec 34, T-24-S, R-28-E

Eddy County, New Mexico

1. Geological Surface Formation: **Permian and Quaternary Alluvium.**
2. Horizontal Oil well. No pilot hole, total depth 15,186', depth to Fresh Water 200'. **Elevation 2993'**

3. **TOPS OF IMPORTANT GEOLOGICAL MARKERS: TVD**

Rustler	surface
Top Salt	1774'
BX (base salt)	2311'
Delaware Mountain Group	2510'
Bell Canyon	2633'
Cherry Canyon	3470'
Brushy Canyon	5036'
Bone Springs Ls	6270'
Avalon Shale	6597'
1 st Bone Springs Sand	7226'
2 nd Bone Springs Sand	8000'
3 rd Bone Spring Sand	9170'
Wolfcamp	9450'
Wolfcamp Horizontal Target	10,575'

4. **Estimated Depth of Anticipated/Possible Water, Oil or Gas:**

Rustler/Castile	0-200'	Fresh Water from WAIDS database
Bell Canyon	2633	Oil, gas and water
Brushy Canyon	5036	Oil, gas and water
Bone Springs	6270	Oil, gas and water
Wolfcamp	9450	Oil, gas and water

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water will be protected by setting 13 3/8" casing at 400' and circulating cement back to surface, all other intervals will be isolated by the 9 5/8" intermediate and 7" production casing.

5. Proposed Casing Program

HOLE SIZE	CASING SIZE	WT./GRADE	THREAD/COLLAR	SETTING DEPTH	TOP CEMENT
Conductor	20"	94# H-40	8rd STC	40'	Surface**
17.5"	13 3/8" (new)	48# H-40	8rd STC	400'	Surface**
12.25"	9 5/8" (new)	36# J-55	8rd LTC	2,600'	Surface**
8.75"	7" (new)	26# P-110	8rd BTC	10,500'	Surface**
*6.125"	4 1/2" (new)	13.5# P-110	8rd LTC	10,000'-15,100'	liner top**

*start 6.125" hole at end of curve 10,500' md, 4.5" casing set with liner hanger.

** When running casing keep liquid filled and void of air

MINIMUM SAFETY FACTORS: BURST 1.125 COLLAPSE 1.125 TENSION 1.8

ALL CASING WILL BE NEW API APPROVED

CEMENT PROGRAM-ALL CEMENT BLENDS WILL BE TESTED TO BLM MINIMUM REQUIREMENTS.

A. 13 3/8"	SURFACE	CEMENT TO SURFACE	100% EXCESS OVER CALCULATED
		450 SACKS CLASS "C"+2%CaCl ₂ +25# CELLO-FLAKE+.25% DEFOAMER, 14.8 PPG, 1.35 YIELD, 6.34 GAL/SK	
B. 9 5/8"	INTERMEDIATE	CEMENT TO SURFACE	75% EXCESS LEAD, 50% TAIL
		LEAD 600 SACKS CLASS "C" 35/65 +6% BENTONITE+5% SALT+.25% DEFOAMER 12.8 PPG, 1.9 YIELD, 11.2 GAL/SK	
		TAIL 200 SACKS CLASS "C" + .25% DEFOAMER, 14.8 PPG, 1.33 YIELD, 6.34 GAL/SK	
C. 7"	PRODUCTION	CEMENT TO SURFACE	50% EXCESS OVER CALCULATED.
		LEAD 800 SACKS CLASS C 50/50 +10% BENTONITE +.15% C-20 RETARDER +3# STAR SEAL +.3% C-12 FLUID LOSS+.3% SALT+.25% DEFOAMER, 11.8 PPG, 2.37 YIELD, 13.52 GL/SK	
		TAIL 250 SACKS CLASS "H" +.5% FL-10+.2% C-20, 15.6 PPG, 1.2 YIELD, 5.5 GAL/SK	
D. 4.5" PRODUCTION LINER		CEMENT TO LINER TOP	50% EXCESS OVER CALCULATED
		TAIL SLURRY: 750 SACKS PVL ACIDSOLID +30% CALCIUM CARBONATE, +5%PF174, +.7% PF606 + .2% PF153 +.4% PF813+.4 PPS PF46, 13.0 PPG 1.87 YIELD 9.517 GALLONS/SACK MIX WATER	

SPECIFICATIONS FOR PRESSURE CONTROL EQUIPMENT: (EXHIBIT #5)

A 2000# WP Annular will be installed after running the 13-3/8" casing. A 5,000# WP Double Ram BOP and 5,000 annular will be installed after running the 9-5/8" and 7" casing. Pressure test will be conducted prior to drilling out under all casing strings. BOP controls will be installed prior to drilling under surface casing and will remain in use until completion of drilling operations. BOP's will be inspected and operated as recommended in Onshore Order #2. A Kelly cock and a sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the rig floor in the open position when the Kelly is not in use. 7" and 9-5/8" BOP will be tested to 5000# and the annular to 2500# with a third party testing company before drilling below each shoe. If operations last more than 30 days from 1st test, will test again as per BLM Onshore Oil and Gas order #2.

MUD PROGRAM:

Spud and drill 17 1/2" surface hole with **fresh water (8.4 to 8.7 ppg)** to a depth of approx 400'. Control lost circulation with paper and LCM pills. Viscosity 28-55, no fluid loss control. Fresh water gel sweeps.

Drill 12 1/4" hole from 400' to 2,600' with **Brine (10.0 ppg)**. Control lost circulation with paper and LCM pills. Viscosity 28-36, no fluid loss control. Salt water gel sweeps.

Drill 8 3/4" production hole from 2,600' to 10,500' **cut brine (8.8 to 10.0 ppg)**. Control lost circulation with paper and LCM pills. Clean hole with salt water sweeps as necessary. System properties: viscosity 28-32, fluid loss <30 ml/30min.

Drill 6 1/8" horizontal production hole from 10,500'-15,100' with **Brine water (10.5-12.8 ppg)**, control filtrate and increase viscosity with Xanthan gum and Poly Anionic Cellulose. System Properties funnel viscosity 35-50 seconds, fluid loss <10 ml/30min, chlorides 150k.

All necessary mud products for weight addition and fluid loss control will be on location at all times. Mud program subject to change due to hole conditions.

Mud monitoring system: Mud will be maintained and checked daily for mud weight, viscosity, API water loss, pH, etc. Additional electronic monitoring will include a pit volume totalizer to monitor mud volume in active system, pump rate, and mud return flow percentage. H2S monitors and alarms will be located on rig floor, shale shakers, and mud tanks (see rig plat). Gas chromatograph with monitor hydrocarbon gas content of mud from 2,600' to TD. Third party corrosion company will utilize H2S/oxygen scavengers to monitor for corrosion and limit damage to tubulars.

Auxiliary Equipment

- A. A Kelly cock will be in the drill string at all times.
- B. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times
- C. Hydrogen Sulfide detection equipment will be in operation after drilling out the 13 3/8" casing shoe until the 4 1/2" liner is run and set and rigging down operations have begun.

TESTING, LOGGING & CORING PROGRAM:

- a. Testing: No DST's will be conducted.
- b. Mud logging will take place from 2,600ft to TD 10ft samples
- c. Gyro survey will be run at KOP of 10,086'
- d. MWD (directional surveys) and LWD (gamma) surveys will be taken from KOP (10,086') to TD 14,935ft
- e. Cased hole CBL/Gamma

POTENTIAL HAZARDS:

No significant hazards are expected, Pressure gradient of .50 psi/ft. Normal temperature gradient is expected. Anticipated pressure 5287 psi at 10,575 ft. Expected temperature at 10,575 TVD is 160 deg F. Lost circulation may occur, no H₂S is expected, but the operator will utilize a 3rd party H₂S monitoring package from 400' to TD. No losses or H₂s occurred in the Kyle Federal #1 or #2H. If H₂S is encountered the operator will comply with the provisions of onshore oil and gas order no 6. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well.

ANTICIPATED STARTING DATE & DURATION:

Nadel & Gussman Permian, LLC anticipates drilling operations to begin around February 1, 2015 and completed in approximately 45 days. An additional 15 days will be needed for completion activities. Road and location construction will begin after the BLM has approved the APD.

Jason Goss, Drilling Engineer
Nadel & Gussman Permian, LLC

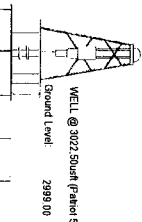
Date

Nadel and Gussman Permian, LLC

Project: Eddy County, New Mexico (MAD27)
 Site: Kyle 34 Federal
 Well: 5H
 Wellbore: Wellbore #1 Job # 1411545
 Design: Plan #1 08-19-14
 Rig: Patriot 5



T
M
Azimuth to Grid North
True North: 0.14°
Magnetic North: 7.28°
Strength: 49213.75nT
Dip Angle: 59.97°
Date: 08/18/2014
Model: IGRF2010_14



WELL @ 3002 Start (Patriot 5)
 Ground Level: 2999.00

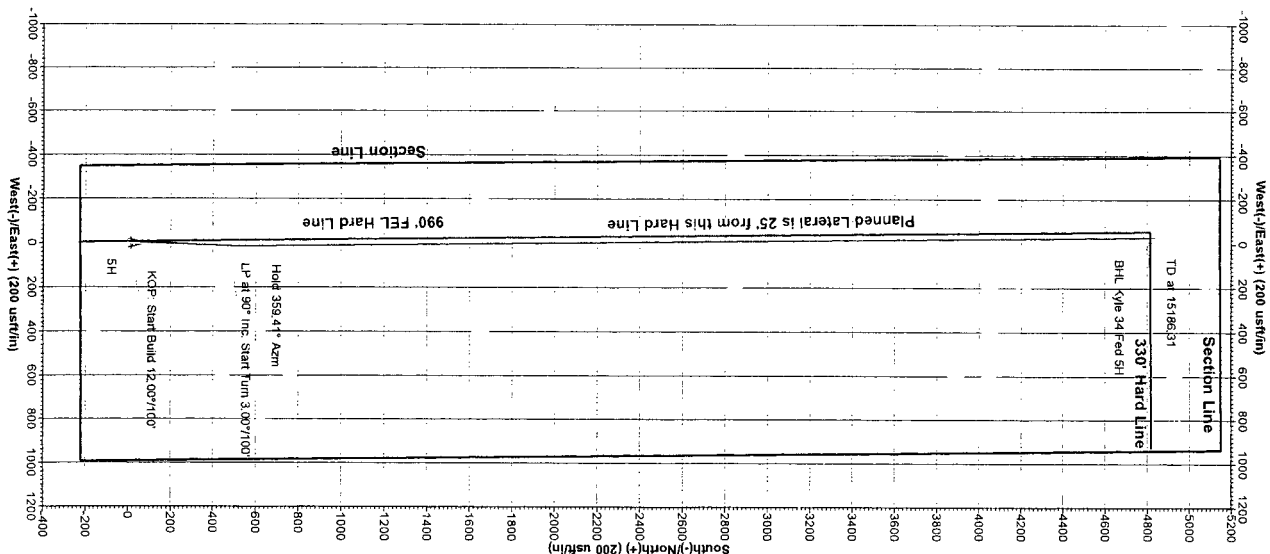
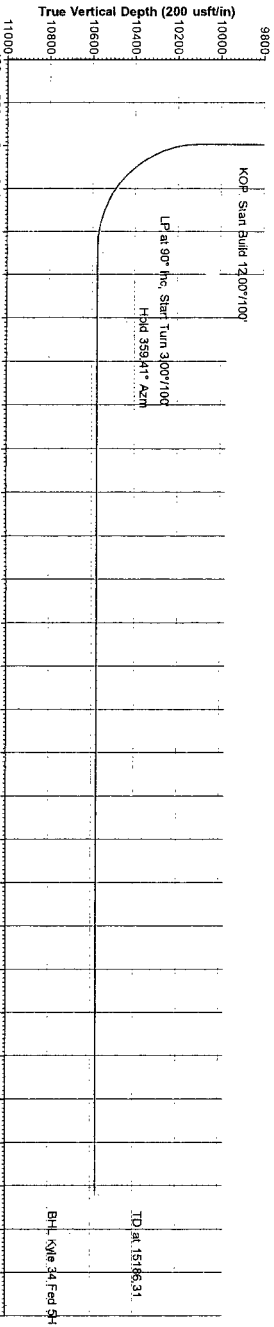
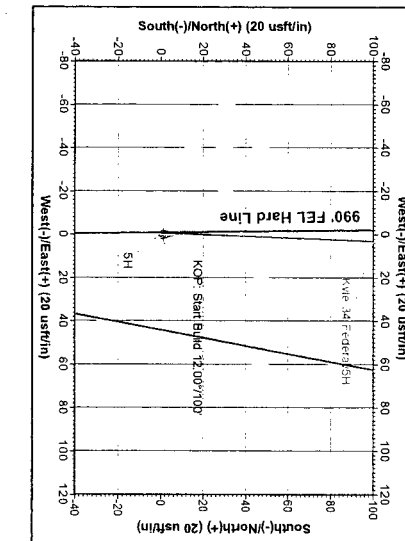
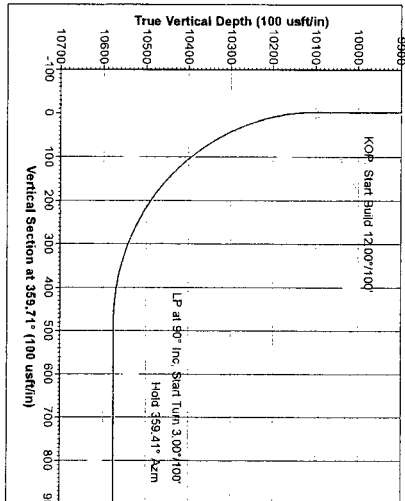
WELL DETAILS			
WELL	WELL	WELL	WELL
WELL	WELL	WELL	WELL
WELL	WELL	WELL	WELL

SECTION DETAILS			
Sec	MD	Inc	Asd
1	0.00	0.00	0.00
2	1000.00	0.00	1000.00
3	1000.00	0.00	1000.00
4	1000.00	0.00	1000.00
5	1000.00	0.00	1000.00

DESIGN TARGET DETAILS			
Name	WELL	WELL	WELL
BHL	WELL	WELL	WELL
WELL	WELL	WELL	WELL
WELL	WELL	WELL	WELL

CASING DETAILS			
No casing data is available			

FORMATION TOP DETAILS			
No formation data is available			



Nadel and Gussman Permian, LLC

Eddy County, New Mexico (NAD27)

Kyle 34 Federal

5H

Wellbore #1 Job # 1411545

Plan: Plan #1 08-19-14

Standard Planning Report

19 August, 2014



Phoenix Technology Services
Planning Report



Database:	Compass 5000 GCR DB	Local Co-ordinate Reference:	Well 5H
Company:	Nadel and Gussman Permian, LLC	TVD Reference:	WELL @ 3022.50usft (Patriot 5)
Project:	Eddy County, New Mexico (NAD27)	MD Reference:	WELL @ 3022.50usft (Patriot 5)
Site:	Kyle 34 Federal	North Reference:	Grid
Well:	5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1 Job # 1411545		
Design:	Plan #1 08-19-14		

Project	Eddy County, New Mexico (NAD27)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Kyle 34 Federal				
Site Position:		Northing:	424,669.90 usft	Latitude:	32° 10' 2.22727 N
From:	Map	Easting:	577,690.20 usft	Longitude:	104° 4' 56.13216 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.13 °

Well	5H					
Well Position	+N/-S	-85.10 usft	Northing:	424,584.80 usft	Latitude:	32° 10' 1.28931 N
	+E/-W	4,043.00 usft	Easting:	581,733.20 usft	Longitude:	104° 4' 9.09770 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	2,999.00 usft

Wellbore	Wellbore #1 Job # 1411545				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	08/18/14	7.42	59.97	48,214

Design	Plan #1 08-19-14			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	359.71

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10,097.50	0.00	0.00	10,097.50	0.00	0.00	0.00	0.00	0.00	0.00	
10,847.50	90.00	2.15	10,574.97	477.13	17.91	12.00	12.00	0.00	2.15	
10,938.75	90.00	359.41	10,574.97	568.36	19.16	3.00	0.00	-3.00	-90.01	
15,186.31	90.00	359.41	10,575.00	4,815.70	-24.40	0.00	0.00	0.00	0.00	BHL Kyle 34 Fed 5H

Phoenix Technology Services

Planning Report



Database: Compass 5000 GCR DB
Company: Nadel and Gussman Permian, LLC
Project: Eddy County, New Mexico (NAD27)
Site: Kyle 34 Federal
Well: 5H
Wellbore: Wellbore #1 Job # 1411545
Design: Plan #1 08-19-14

Local Co-ordinate Reference: Well 5H
TVD Reference: WELL @ 3022.50usft (Patriot 5)
MD Reference: WELL @ 3022.50usft (Patriot 5)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00

Phoenix Technology Services

Planning Report



Database: Compass 5000 GCR DB
Company: Nadel and Gussman Permian, LLC
Project: Eddy County, New Mexico (NAD27)
Site: Kyle 34 Federal
Well: 5H
Wellbore: Wellbore #1 Job # 1411545
Design: Plan #1 08-19-14

Local Co-ordinate Reference: Well 5H
TVD Reference: WELL @ 3022.50usft (Patriot 5)
MD Reference: WELL @ 3022.50usft (Patriot 5)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00
8,400.00	0.00	0.00	8,400.00	0.00	0.00	0.00	0.00	0.00	0.00
8,500.00	0.00	0.00	8,500.00	0.00	0.00	0.00	0.00	0.00	0.00
8,600.00	0.00	0.00	8,600.00	0.00	0.00	0.00	0.00	0.00	0.00
8,700.00	0.00	0.00	8,700.00	0.00	0.00	0.00	0.00	0.00	0.00
8,800.00	0.00	0.00	8,800.00	0.00	0.00	0.00	0.00	0.00	0.00
8,900.00	0.00	0.00	8,900.00	0.00	0.00	0.00	0.00	0.00	0.00
9,000.00	0.00	0.00	9,000.00	0.00	0.00	0.00	0.00	0.00	0.00
9,100.00	0.00	0.00	9,100.00	0.00	0.00	0.00	0.00	0.00	0.00
9,200.00	0.00	0.00	9,200.00	0.00	0.00	0.00	0.00	0.00	0.00
9,300.00	0.00	0.00	9,300.00	0.00	0.00	0.00	0.00	0.00	0.00
9,400.00	0.00	0.00	9,400.00	0.00	0.00	0.00	0.00	0.00	0.00
9,500.00	0.00	0.00	9,500.00	0.00	0.00	0.00	0.00	0.00	0.00
9,600.00	0.00	0.00	9,600.00	0.00	0.00	0.00	0.00	0.00	0.00
9,700.00	0.00	0.00	9,700.00	0.00	0.00	0.00	0.00	0.00	0.00
9,800.00	0.00	0.00	9,800.00	0.00	0.00	0.00	0.00	0.00	0.00
9,900.00	0.00	0.00	9,900.00	0.00	0.00	0.00	0.00	0.00	0.00
10,000.00	0.00	0.00	10,000.00	0.00	0.00	0.00	0.00	0.00	0.00
10,097.50	0.00	0.00	10,097.50	0.00	0.00	0.00	0.00	0.00	0.00
KOP: Start Build 12.00°/100'									
10,100.00	0.30	2.15	10,100.00	0.01	0.00	0.01	12.00	12.00	0.00
10,125.00	3.30	2.15	10,124.99	0.79	0.03	0.79	12.00	12.00	0.00
10,150.00	6.30	2.15	10,149.89	2.88	0.11	2.88	12.00	12.00	0.00
10,175.00	9.30	2.15	10,174.66	6.27	0.24	6.27	12.00	12.00	0.00

Phoenix Technology Services

Planning Report



Database: Compass 5000 GCR DB
Company: Nadel and Gussman Permian, LLC
Project: Eddy County, New Mexico (NAD27)
Site: Kyle 34 Federal
Well: 5H
Wellbore: Wellbore #1 Job # 1411545
Design: Plan #1 08-19-14

Local Co-ordinate Reference: Well 5H
TVD Reference: WELL @ 3022.50usft (Patriot 5)
MD Reference: WELL @ 3022.50usft (Patriot 5)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,200.00	12.30	2.15	10,199.21	10.95	0.41	10.95	12.00	12.00	0.00
10,225.00	15.30	2.15	10,223.49	16.91	0.63	16.91	12.00	12.00	0.00
10,250.00	18.30	2.15	10,247.42	24.13	0.91	24.13	12.00	12.00	0.00
10,275.00	21.30	2.15	10,270.94	32.59	1.22	32.59	12.00	12.00	0.00
10,300.00	24.30	2.15	10,293.98	42.27	1.59	42.26	12.00	12.00	0.00
10,325.00	27.30	2.15	10,316.49	53.14	2.00	53.13	12.00	12.00	0.00
10,350.00	30.30	2.15	10,338.39	65.18	2.45	65.16	12.00	12.00	0.00
10,375.00	33.30	2.15	10,359.64	78.34	2.94	78.33	12.00	12.00	0.00
10,400.00	36.30	2.15	10,380.17	92.60	3.48	92.58	12.00	12.00	0.00
10,425.00	39.30	2.15	10,399.92	107.91	4.05	107.89	12.00	12.00	0.00
10,450.00	42.30	2.15	10,418.84	124.23	4.66	124.20	12.00	12.00	0.00
10,475.00	45.30	2.15	10,436.88	141.52	5.31	141.49	12.00	12.00	0.00
10,500.00	48.30	2.15	10,453.99	159.73	6.00	159.70	12.00	12.00	0.00
10,525.00	51.30	2.15	10,470.13	178.81	6.71	178.77	12.00	12.00	0.00
10,550.00	54.30	2.15	10,485.24	198.70	7.46	198.66	12.00	12.00	0.00
10,575.00	57.30	2.15	10,499.29	219.36	8.24	219.32	12.00	12.00	0.00
10,600.00	60.30	2.15	10,512.24	240.73	9.04	240.68	12.00	12.00	0.00
10,625.00	63.30	2.15	10,524.05	262.75	9.86	262.69	12.00	12.00	0.00
10,650.00	66.30	2.15	10,534.70	285.35	10.71	285.29	12.00	12.00	0.00
10,675.00	69.30	2.15	10,544.14	308.48	11.58	308.41	12.00	12.00	0.00
10,700.00	72.30	2.15	10,552.36	332.07	12.47	332.00	12.00	12.00	0.00
10,725.00	75.30	2.15	10,559.34	356.05	13.37	355.98	12.00	12.00	0.00
10,750.00	78.30	2.15	10,565.04	380.37	14.28	380.30	12.00	12.00	0.00
10,775.00	81.30	2.15	10,569.47	404.96	15.20	404.88	12.00	12.00	0.00
10,800.00	84.30	2.15	10,572.60	429.74	16.13	429.65	12.00	12.00	0.00
10,825.00	87.30	2.15	10,574.44	454.65	17.07	454.56	12.00	12.00	0.00
10,847.50	90.00	2.15	10,574.97	477.13	17.91	477.03	12.00	12.00	0.00
LP at 90° Inc, Start Turn 3.00°/100'									
10,900.00	90.00	0.58	10,574.97	529.61	19.16	529.51	3.00	0.00	-3.00
10,938.75	90.00	359.41	10,574.97	568.36	19.16	568.26	3.00	0.00	-3.00
Hold 359.41° Azm									
11,000.00	90.00	359.41	10,574.97	629.61	18.53	629.51	0.00	0.00	0.00
11,100.00	90.00	359.41	10,574.97	729.60	17.50	729.51	0.00	0.00	0.00
11,200.00	90.00	359.41	10,574.97	829.60	16.48	829.50	0.00	0.00	0.00
11,300.00	90.00	359.41	10,574.97	929.59	15.45	929.50	0.00	0.00	0.00
11,400.00	90.00	359.41	10,574.97	1,029.59	14.43	1,029.50	0.00	0.00	0.00
11,500.00	90.00	359.41	10,574.97	1,129.58	13.40	1,129.50	0.00	0.00	0.00
11,600.00	90.00	359.41	10,574.97	1,229.58	12.38	1,229.50	0.00	0.00	0.00
11,700.00	90.00	359.41	10,574.97	1,329.57	11.35	1,329.50	0.00	0.00	0.00
11,800.00	90.00	359.41	10,574.97	1,429.57	10.32	1,429.50	0.00	0.00	0.00
11,900.00	90.00	359.41	10,574.97	1,529.56	9.30	1,529.49	0.00	0.00	0.00
12,000.00	90.00	359.41	10,574.97	1,629.56	8.27	1,629.49	0.00	0.00	0.00
12,100.00	90.00	359.41	10,574.97	1,729.55	7.25	1,729.49	0.00	0.00	0.00
12,200.00	90.00	359.41	10,574.98	1,829.55	6.22	1,829.49	0.00	0.00	0.00
12,300.00	90.00	359.41	10,574.98	1,929.54	5.20	1,929.49	0.00	0.00	0.00
12,400.00	90.00	359.41	10,574.98	2,029.53	4.17	2,029.49	0.00	0.00	0.00
12,500.00	90.00	359.41	10,574.98	2,129.53	3.15	2,129.49	0.00	0.00	0.00
12,600.00	90.00	359.41	10,574.98	2,229.52	2.12	2,229.48	0.00	0.00	0.00
12,700.00	90.00	359.41	10,574.98	2,329.52	1.10	2,329.48	0.00	0.00	0.00
12,800.00	90.00	359.41	10,574.98	2,429.51	0.07	2,429.48	0.00	0.00	0.00
12,900.00	90.00	359.41	10,574.98	2,529.51	-0.96	2,529.48	0.00	0.00	0.00
13,000.00	90.00	359.41	10,574.98	2,629.50	-1.98	2,629.48	0.00	0.00	0.00
13,100.00	90.00	359.41	10,574.98	2,729.50	-3.01	2,729.48	0.00	0.00	0.00
13,200.00	90.00	359.41	10,574.98	2,829.49	-4.03	2,829.48	0.00	0.00	0.00

Phoenix Technology Services

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Site: Kyle 34 Federal
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13,300.00	90.00	359.41	10,574.98	2,929.49	-5.06	2,929.48	0.00	0.00	0.00
13,400.00	90.00	359.41	10,574.99	3,029.48	-6.08	3,029.47	0.00	0.00	0.00
13,500.00	90.00	359.41	10,574.99	3,129.48	-7.11	3,129.47	0.00	0.00	0.00
13,600.00	90.00	359.41	10,574.99	3,229.47	-8.13	3,229.47	0.00	0.00	0.00
13,700.00	90.00	359.41	10,574.99	3,329.47	-9.16	3,329.47	0.00	0.00	0.00
13,800.00	90.00	359.41	10,574.99	3,429.46	-10.18	3,429.47	0.00	0.00	0.00
13,900.00	90.00	359.41	10,574.99	3,529.46	-11.21	3,529.47	0.00	0.00	0.00
14,000.00	90.00	359.41	10,574.99	3,629.45	-12.23	3,629.47	0.00	0.00	0.00
14,100.00	90.00	359.41	10,574.99	3,729.45	-13.26	3,729.46	0.00	0.00	0.00
14,200.00	90.00	359.41	10,574.99	3,829.44	-14.29	3,829.46	0.00	0.00	0.00
14,300.00	90.00	359.41	10,574.99	3,929.43	-15.31	3,929.46	0.00	0.00	0.00
14,400.00	90.00	359.41	10,574.99	4,029.43	-16.34	4,029.46	0.00	0.00	0.00
14,500.00	90.00	359.41	10,574.99	4,129.42	-17.36	4,129.46	0.00	0.00	0.00
14,600.00	90.00	359.41	10,575.00	4,229.42	-18.39	4,229.46	0.00	0.00	0.00
14,700.00	90.00	359.41	10,575.00	4,329.41	-19.41	4,329.46	0.00	0.00	0.00
14,800.00	90.00	359.41	10,575.00	4,429.41	-20.44	4,429.46	0.00	0.00	0.00
14,900.00	90.00	359.41	10,575.00	4,529.40	-21.46	4,529.45	0.00	0.00	0.00
15,000.00	90.00	359.41	10,575.00	4,629.40	-22.49	4,629.45	0.00	0.00	0.00
15,100.00	90.00	359.41	10,575.00	4,729.39	-23.51	4,729.45	0.00	0.00	0.00
15,186.31	90.00	359.41	10,575.00	4,815.70	-24.40	4,815.76	0.00	0.00	0.00
TD at 15186.31									

Design Targets

Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BHL Kyle 34 Fed 5H - plan hits target center - Point	0.00	0.00	10,575.00	4,815.70	-24.40	429,400.50	581,708.80	32° 10' 48.94779 N	104° 4' 9.24405 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,097.50	10,097.50	0.00	0.00	KOP: Start Build 12.00°/100'
10,847.50	10,574.97	477.13	17.91	LP at 90° Inc, Start Turn 3.00°/100'
10,938.75	10,574.97	568.36	19.16	Hold 359.41° Azm
15,186.31	10,575.00	4,815.70	-24.40	TD at 15186.31