

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTNM OIL CONSERVATION
ARTESIA DISTRICT
JUN 06 2014
RECEIVEDFORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010**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.***SUBMIT IN TRIPLICATE - Other instructions on reverse side.**

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMNM20965
2. Name of Operator RKI EXPLORATION & PROD LLC		6. If Indian, Allottee or Tribe Name
Contact: CHARLES K AHN E-Mail: cahn@rkixp.com		7. If Unit or CA/Agreement, Name and/or No.
3a. Address 210 PARK AVE SUITE 900 OKLAHOMA CITY, OK 73102	3b. Phone No. (include area code) Ph: 405-996-5771 Fx: 405-996-5772	8. Well Name and No. RDX FEDERAL COM 17 20H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 17 T26S R30E NENE 0330FNL 0790FEL 32.048834 N Lat, 103.896956 W Lon		9. API Well No. 30-015-41381-00-X1
		10. Field and Pool, or Exploratory UNDESIGNATED
		11. County or Parish, and State EDDY COUNTY, NM

12. CHECK 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	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Drilling Operations
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

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 shall 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 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

To-date, 17-1/2 inch hole has been drilled to 950 feet with 54.5# J-55 ST&C casing cemented to surface. 12-1/4 inch hole drilled to 3443 feet with 9-5/8 inch 40# J-55 LT&C casing cemented to surface.

After drilling the 8-3/4 inch hole to 13251 feet (TD), tripped out of hole (TOH) to run 5-1/2 inch production casing when the drill string became stuck at 5954 feet. Worked pipe down to 5974 feet, currently stuck at 5,974 feet.

Currently backed off drill string at 3747 feet. Consequently, RKI requests authorization to perform the "Side Track" operations as follows:

1. Trip into hole (TIH) open end to top of fish, displace cement to end of drill string

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

Electronic Submission #247749 verified by the BLM Well Information System
For RKI EXPLORATION & PROD LLC, sent to the Carlsbad
Committed to AFMSS for processing by ED FERNANDEZ on 06/02/2014 (14EF0064SE)

Name (Printed/Typed) CHARLES K AHN	Title HS&E/REGULATORY MANAGER
Signature (Electronic Submission)	Date 06/02/2014

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By EDWARD FERNANDEZ	Title PETROLEUM ENGINEER	Date 06/02/2014
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.

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

Additional data for EC transaction #247749 that would not fit on the form

32. Additional remarks, continued

2. Close annular and bull head 790 sks of class ?C? cement mixed at 14.8 ppg with 1.33 cubic feet per sack yield (volume to fill from top of Delaware to top of Bone Spring)

3. Spot 385 sks of ?H? cement, mixed at 17.5 ppg with 0.94 cubic feet per sack yield (cement kick off plug from 3775 feet to 3200 feet)

Please find attached the following for reference purposes:

- A. Current operations that have been attempted to free pipe and list of items left in hole with depths
- B. Current well bore diagram
- C. Cement detail sheet
- D. New sidetrack directional program

5/27/14

Last 24 Hours: TOO H to 5954' became differentially stuck. Work stuck pipe and pump 200 bbls of 6.7# crude oil then work stuck pipe. Well began to flow and recovered 125 bbls crude oil. Pumped 100 bbls 6.7# crude oil w/ 4 drums pipe free and shut in well for 1 hour. Began working stuck pipe again.

5/28/14

Continue to work stuck pipe. Set on spotted oil while waiting on Weatherford Fishing Hand and Wireline truck. Manually back out of fish at top the top of agitator 3,755'. POOH.PJSM with Weatherford Fishing hand. Pick up fishing tools.TIH with fishing tools.Tag fish at 3755' and screw into same.Spot 100 bbl oil at fish and wait on oil to soak. Workstuck pipe. Pipe became free. Displaced oil into open tops. Work pipe down to 5974' and became stuck again. Jar fish with no success. Mix and pump 60 vis sweep. Circulated out of hole with full returns while transferring 100 bbl oil from open top to slug pit. Spot 100 bbl oil at fish and wait on oil to soak. Jar on fish.

5/29/14

Well shut in, let spotted oil soak while waiting on orders. Jar on Fish with no success. Manually back out of fish. Breaking out at top of accelerator. Leaving accelerator, 6-6.25 Dc's, fishing jar, bumper sub and screw in sub in hole. Top of new fish 3514. Bottom of fish 5974.POOH. Chaining and strapping out. Wait on new set of fishing tool's. Pick up new fishing BHA. TIH with BHA # 9 (Fishing BHA # 2). Tag fish at 3514. Screw into same with no issues. Break circulation with full returns. Spot 138 bbl oil pill. Jar on fish with no success. Sit on spotted oil pill. Let drum brakes and jars cool while doing rig service. Jar on fish.

5/30/14

Jar on fish with no success.Displace oil pill out of hole, Change out pump liners to 5 inch.Wait on nitrogen unit. PJSM with C & J Services. Rig nitrogen unit and secure lines. Break circulation with rig pump with full returns at a rate of 5 bpm while pumping a total of 61,000 scf/min of nitrogen. Circulating psi 1,100 psi. Jar on fish with no success. While W.O.O., Displace hole F/5974- surface with 100 % nitrogen.145,000 scf/min of nitrogen. Max Psi of 2011.Jar on fish with no success. Transfer oil and displace hole from 5974 to surface with same. Shut well in and let oil pill soak.

5/31/14

Jar on fish with no success. Sit on spotted oil. Rig up Archer wireline. Free point kelly and one joint DP. Pick up one joint DP and screw back into fish. Attempt to run shot down the backside of drillstring with no success. Could not get shot passed collars. Jar on fish with no success. Slip and cut 100' of drillig line.Sit on spotted oil. Jar on fish with no success. Sit on spotted oil.

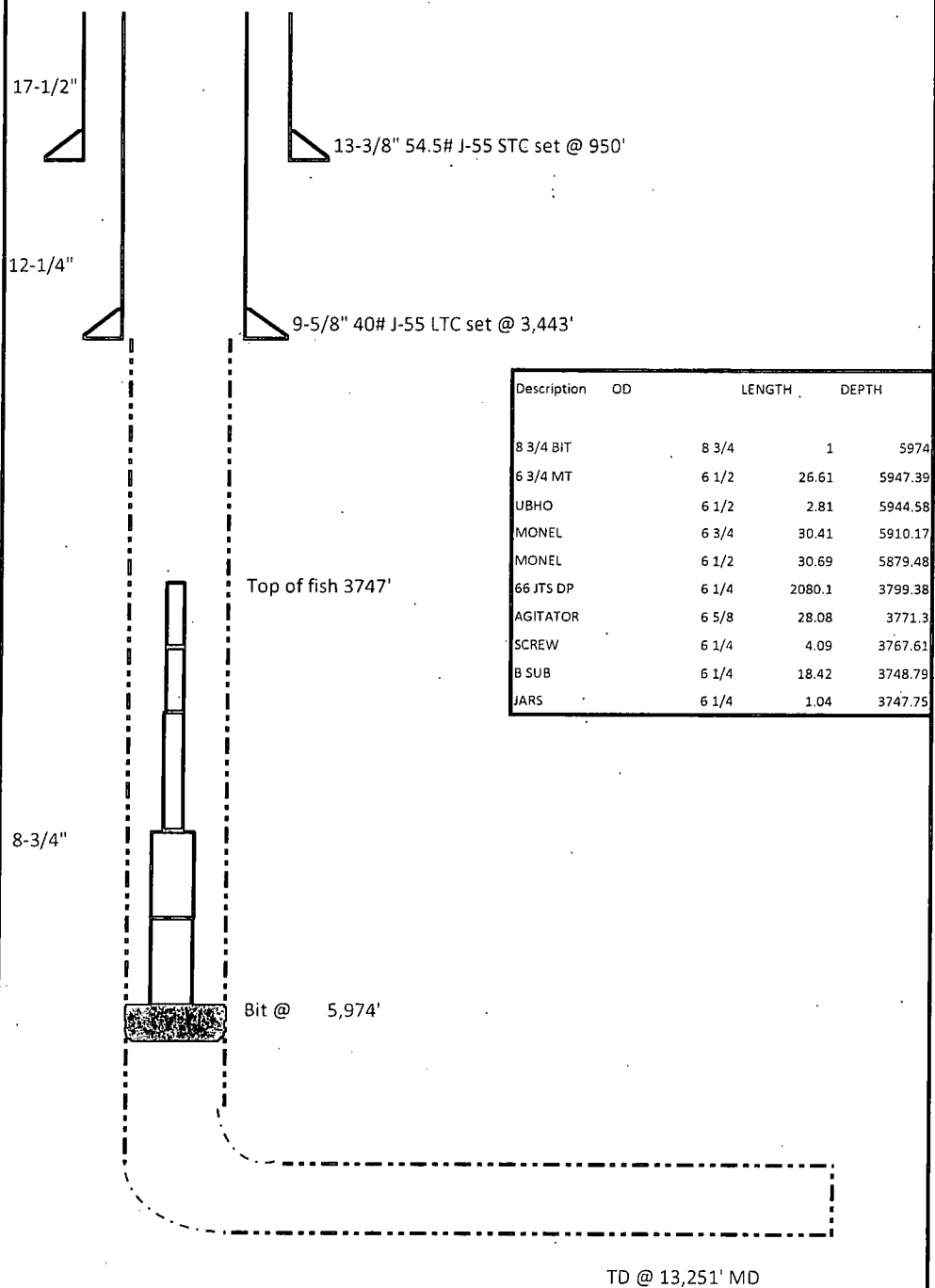
6/1/14

Sit on Spotted oil. RIH with free point. Tagged agitator at 3775 and could not go down any more. POOH with wire line. RIH with Charge. Shot off charge in attempt to back off. No success. RIH with wireline to 3771' shot of second charge with no success of backing out. POOH with wireline. RIH with Free Point and it was free at 3571'. POOH with Free Point. RIH with charge and shot at 3747 with success. Backing off at bottom of hyd. Jars. POOH. After inspecting recovered tools it was found that lower 1 foot of jar was left on fish when backed off. Wait on fishing tool's.Pick up fishing tools. TIH with fishing tool's and 8 1/8 OD with 6 1/4 grapple overshot. Attempt to overshot 6 1/4 fish. With no success. POOH. Inspect fishing tool's. Tool's showing some wear on the top 1 1/2' section of overshot. The ID was clean with no visual damage.

Current Fish:

Description	OD	LENGTH	DEPTH
8 3/4 BIT	8 3/4	1	5974
6 3/4 MT	6 1/2	26.61	5947.39
UBHO	6 1/2	2.81	5944.58
MONEL	6 3/4	30.41	5910.17
MONEL	6 1/2	30.69	5879.48
66 JTS DP	6 1/4	2080.1	3799.38
AGITATOR	6 5/8	28.08	3771.3
SCREW	6 1/4	4.09	3767.61
B SUB	6 1/4	18.42	3748.79
JARS	6 1/4	1.04	3747.75

Well RDX Fed 17-20H API# 30-015-41381
 Location SHL: 330' FNL & 790' FEL Sec 17-26S-30E
 BHL: 330 FSL & 990' FEL Sec 17-26S-30E
 County Eddy
 State New Mexico



PAR FIVE

ENERGY SERVICES LLC

Service Order for Job: J00004195

Call Out Sheet Number: CALL00004276

Date of Job: 30-May-2014

District: Artesia

Time Well Ready: 3:38 pm

Ready to Pump: 3:38 pm

Customer: RKI Exploration & Production LI

DV Tool:

Well TVD: 7324

Job Stage Number: 2

Treat Down: Plugging

Head & Manifold Plug

Hole Size: 8 3/4

Well MD:

Well TVD: 7324

BHST:

BHP:

BHCT:

Max Allowed Pressure:

New Well:

Well #: RDX Federal Com 17 #20H

County: Eddy

State: New Mexico

Legal Location: 99 999 999

Field:

Description:

API#:

Salesman: Chris DeLeon

Contact Person/Companyman: Mr. Preston Wray

Contact Number: 1-405-435-0089

Email:

Rig Contractor: Silver Oak

Rig Number: 10

Rig Phone:

Max Allowed Ann Pressure:

Casing/Tubing

String Type	Depth	Size	Weight	Grade	Thread
Plugging					

Job Type

Plugging

Service Supervisor: Granados Anthony

Sks/Gals.

Cement Type/Additives

Tractor

Trailer

Equipment Operators

790.00 Sack	Class C, per cu. ft. (94lb/cu ft)
385.00 Sack	Class H, per cu. ft. (94lb/cu ft)
181.00 Pound	PF65 TIC Dispersant, per lb

Cement/Recipe

BULL HEAD Cmt Plug

Openhole 8 3/4 7324 - 5954'

DP 4 1/2 16.6# 5954 - 3775'

790 Sks C Neat

14.8# Yield 1.33 H2O 6.32

PF909: 94#

KICK OFF PLUG 3775 - 3200'

385 Sks H + .5% PF65

17.5# Yield .94 H2O 3.383

PF909: 94#

PF65: 47#

4 1/2 IF/XH Drill Pin

300# Sugar

Description	Quantity	Unit Price	Extended Price	Disc %	Net Amount
DOT Conformance Charge, per unit*	3.00	\$325.00	\$975.00	50%	\$487.50
Fuel Used On Location*	3.00	\$425.00	\$1,275.00	50%	\$637.50
Mileage Charge, all other equipment, per mile*	360.00	\$6.00	\$2,160.00	50%	\$1,080.00
Cars, pickups, monitoring vehicles round trip*	180.00	\$4.00	\$720.00	50%	\$360.00
PF-999 - Sugar*	300.00	\$4.00	\$1,200.00	50%	\$600.00

PAR FIVE

ENERGY SERVICES LLC

Description	Quantity	Unit Price	Extended Price	Disc %	Net Amount
P & A - 7001' - 8000*	1.00	\$6,700.00	\$6,700.00	50%	\$3,350.00
Cement Field Bin Set Up Charge*	1.00	\$750.00	\$750.00	50%	\$375.00
Drill Pin, rental, per job*	1.00	\$140.00	\$140.00	50%	\$70.00
Plug Valve Rental, per day*	1.00	\$250.00	\$250.00	50%	\$125.00
Delivery Charge - Ton mileage, per ton mile*	4,978.00	\$2.25	\$11,200.50	50%	\$5,600.25
Service Charges - Land jobs*	1,200.00	\$2.50	\$3,000.00	50%	\$1,500.00
Laboratory Testing QA/QC Per Job*	1.00	\$500.00	\$500.00	50%	\$250.00
Data Acquisition Recorder*	1.00	\$800.00	\$800.00	50%	\$400.00
Class C, per cu. ft. (94lb/cu ft)	790.00	\$29.50	\$23,305.00	50%	\$11,652.50
Class H, per cu. ft. (94lb/cu ft)	385.00	\$29.50	\$11,357.50	50%	\$5,678.75
PF65 TIC Dispersant, per lb	181.00	\$7.00	\$1,267.00	50%	\$633.50
Job Total:					\$32,800.00

Service Instructions

BULL HEAD Cmt Plug
 Openhole 8 3/4 7324 - 5954'
 DP 4 1/2 16.6# 5954 - 3775'

790 Sks C Neat
 14.8# Yield 1.33 H2O 6.32

PF909: 94#

KICK OFF PLUG 3775 - 3200'

385 Sks H + .5% PF65
 17.5# Yield .94 H2O 3.383

PF909: 94#
 PF65: 47#

4 1/2 IF/XH Drill Pin
 300# Sugar

Directions

US 285 south to mm#4, turn left and go to the NM side of the field FOLLOW RIG SIGNS



Project: Eddy County, New Mexico (NAD 83)
Site: RDX Federal Com 17
Well: 20H
Wellbore: WB #2 Job #1410739
Design: Plan #5 06-01-14
Rig: Silver Oak 10



PHOENIX
TECHNOLOGY SERVICES



Azimuths to Grid North
True North: -0.23°
Magnetic North: 7.13°
Magnetic Field
Strength: 48182.5nT
Dip Angle: 59.90°
Date: 05/30/2014
Model: IGRF2010_14

SITE DETAILS: RDX Federal Com 17

Site Centre Northing: 381822.10
Easting: 676389.30
Positional Uncertainty: 0.00
Convergence: 0.23
Local North: Grid

PROJECT DETAILS: Eddy County, New Mexico (NAD 83)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

WELL DETAILS

	+N/-S	+E/-W	Northing	Ground Level	Easting	Latitude	Longitude
	0.00	0.00	381822.10	3081.00	676389.30	32° 2' 56.25408 N	103° 53' 50.76837 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target	Annotation
1	3600.00	3.17	349.24	3578.98	277.64	-107.14	0.00	0.00	-285.24		Tie On Survey, Start 2.50°/100' Build
2	4043.34	10.00	91.00	4019.99	289.04	-70.82	2.50	117.83	-293.73		Hold 10.00° Inc at 91.00° Azm
3	5893.34	10.00	91.00	5841.89	283.43	250.38	0.00	0.00	-262.77		Start Drop 1.50°/100'
4	6560.01	0.00	0.00	6505.18	282.42	308.40	1.50	180.00	-257.18		Begin Vertical Hold
5	7939.62	0.00	0.00	7884.79	282.42	308.40	0.00	0.00	-257.18		KOP, Start 10.00°/100' Build
6	8388.62	45.00	173.00	8289.93	115.86	328.85	10.00	173.00	-89.52		Hold 45.00° Inc for 100'
7	8489.62	45.00	173.00	8380.64	45.67	337.47	0.00	0.00	-18.87		Start 10.00°/100' Build & Turn
8	8954.35	91.07	179.87	8530.00	-372.84	359.22	10.00	9.50	400.15		LP, Hold 91.07° Inc at 179.87° Azm
9	13235.72	91.07	179.87	8450.00	-4653.55	368.75	0.00	0.00	4668.13		BHL v3 RDX Fed Com 17-20H v5

Map System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone Name: New Mexico Eastern Zone
Local Origin: Well 20H, Grid North
Latitude: 32° 2' 56.25408 N
Longitude: 103° 53' 50.76837 W
Grid East: 676389.30
Grid North: 381822.10
Scale Factor: 1.000

Geomagnetic Model: IGRF2010_14
Sample Date: 30-May-14
Magnetic Declination: 7.36°
Dip Angle from Horizontal: 59.90°
Magnetic Field Strength: 48183

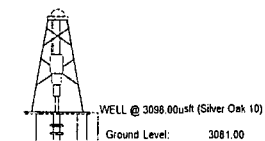
To convert a Magnetic Direction to a Grid Direction, Add 7.13°
To convert a Magnetic Direction to a True Direction, Add 7.36° East
To convert a True Direction to a Grid Direction, Subtract 0.23°

CASING DETAILS

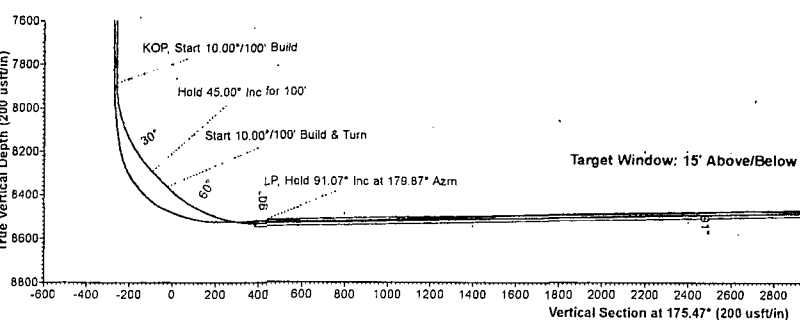
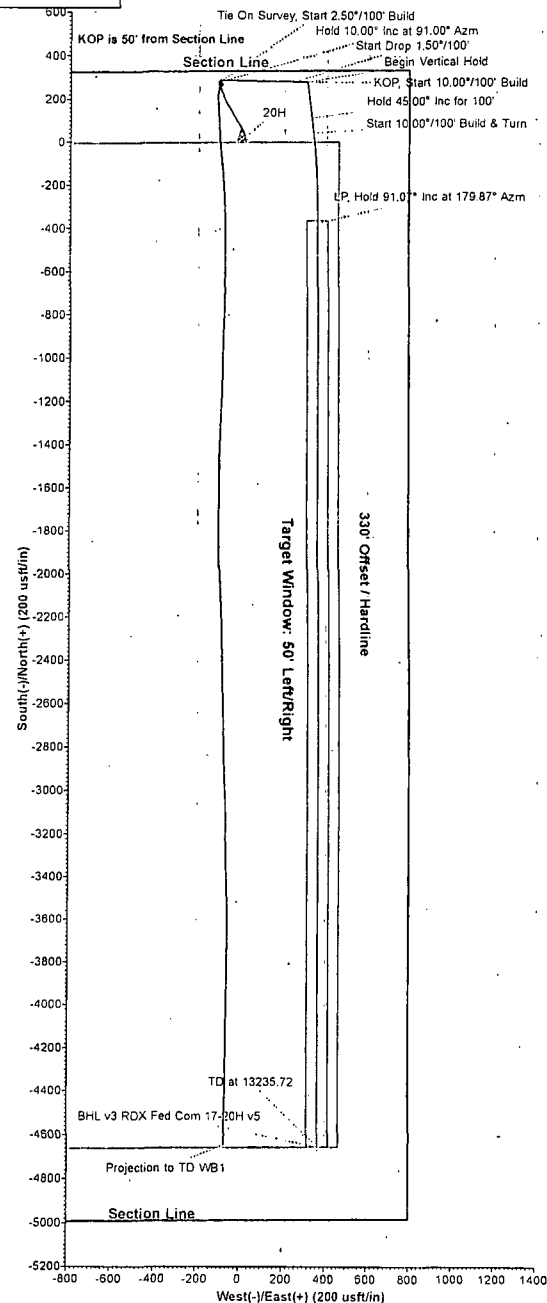
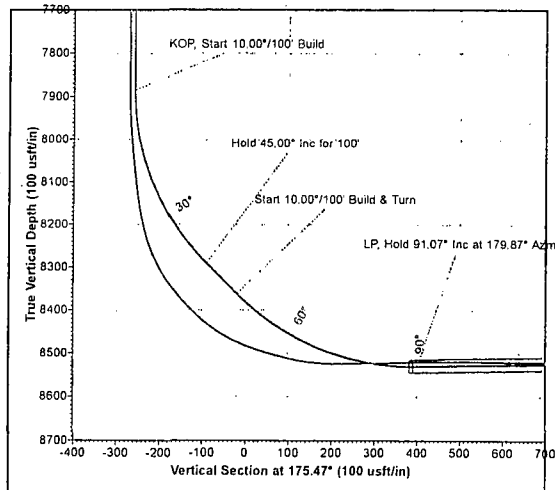
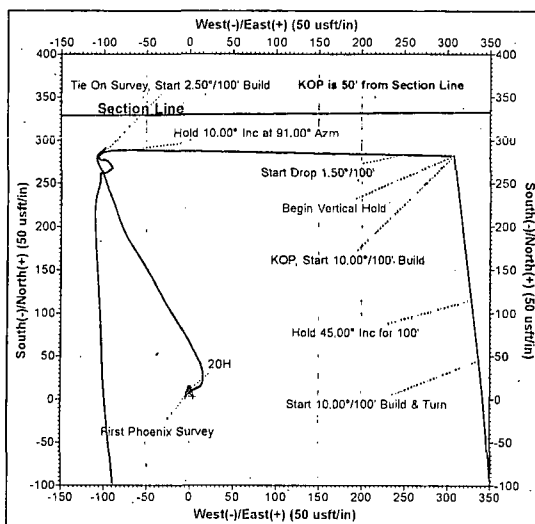
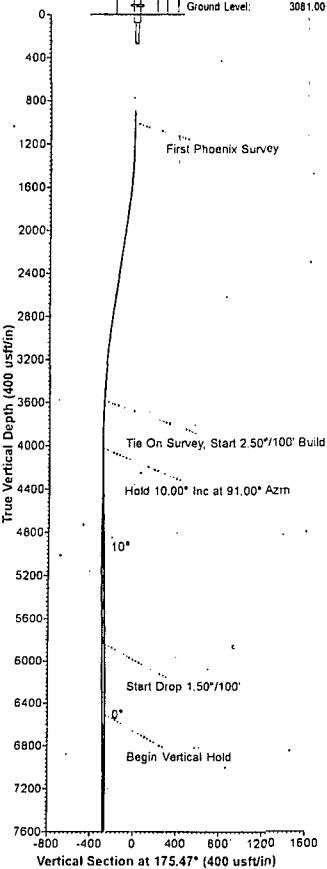
TVD	MD	Name	Size
-----	----	------	------

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BHL v3 RDX Fed Com 17-20H v5	8450.00	-4653.55	368.75	377168.55	676758.05	32° 2' 10.18754 N	103° 53' 46.70262 W



WELL @ 3088.00usf (Silver Oak 10)
Ground Level: 3081.00



BHL v3 RDX Fed Com 17-20H v5
Projection to TD WB1
TD at 13235.72

RKI Exploration

Eddy County, New Mexico (NAD 83)

RDX Federal Com 17

20H

WB #2 Job #1410739

Plan: Plan #5 06-01-14

Standard Planning Report

31 May, 2014

Planning Report

Database:	Compass 5000 GCR DB	Local Co-ordinate Reference:	Well 20H
Company:	RKI Exploration	TVD Reference:	WELL @ 3098.00usft (Silver Oak 10)
Project:	Eddy County, New Mexico (NAD 83)	MD Reference:	WELL @ 3098.00usft (Silver Oak 10)
Site:	RDX Federal Cor 17	North Reference:	Grid
Well:	20H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB #2 Job #1410739		
Design:	Plan #5 06-01-14		

Project:	Eddy County, New Mexico (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site:	RDX Federal Cor 17		
Site Position:		Northing:	381,822.10 usft
From:	Map	Easting:	676,389.30 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"
		Latitude:	32° 2' 56.25408 N
		Longitude:	103° 53' 50.76837 W
		Grid Convergence:	0.23 °

Well:	20H		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	Ground Level:
			3,081.00 usft

Wellbore	WB #2 Job #1410739		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2010_14	05/30/14	7.36
			Dip Angle
			(°)
			Field Strength
			(nT)
			59.90
			48,183

Design:	Plan #5 06-01-14		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
			3,600.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)
			175.47

Plan Sections:										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)	(°)	
3,600.00	3.17	349.24	3,578.98	277.64	-107.14	0.00	0.00	0.00	0.00	
4,043.34	10.00	91.00	4,019.99	289.04	-70.82	2.50	1.54	22.95	117.83	
5,893.34	10.00	91.00	5,841.89	283.43	250.38	0.00	0.00	0.00	0.00	
6,560.01	0.00	0.00	6,505.18	282.42	308.40	1.50	-1.50	0.00	180.00	
7,939.62	0.00	0.00	7,884.79	282.42	308.40	0.00	0.00	0.00	0.00	
8,389.62	45.00	173.00	8,289.93	115.86	328.85	10.00	10.00	0.00	173.00	
8,489.62	45.00	173.00	8,360.64	45.67	337.47	0.00	0.00	0.00	0.00	
8,954.35	91.07	179.87	8,530.00	-372.94	359.22	10.00	9.91	1.48	9.50	
13,235.72	91.07	179.87	8,450.00	-4,653.55	368.75	0.00	0.00	0.00	0.00	BHL v3 RDX Fed Cor

Planning Report

Database:	Compass 5000 GCR DB	Local Co-ordinate Reference:	Well 20H
Company:	RKI Exploration	TVD Reference:	WELL @ 3098.00usft (Silver Oak 10)
Project:	Eddy County, New Mexico (NAD 83)	MD Reference:	WELL @ 3098.00usft (Silver Oak 10)
Site:	RDX Federal Com 17	North Reference:	Grid
Well:	20H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB #2 Job #1410739		
Design:	Plan #5 06-01-14		

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)
3,600.00	3.17	349.24	3,578.98	277.64	-107.14	-285.24	0.00	0.00	0.00
Tie On Survey, Start 2.50°/100' Build									
3,700.00	2.98	37.13	3,678.86	282.43	-106.08	-289.93	2.50	-0.19	47.89
3,800.00	4.50	68.65	3,778.65	285.93	-100.86	-293.01	2.50	1.52	31.52
3,900.00	6.64	82.25	3,878.18	288.14	-91.48	-294.47	2.50	2.14	13.60
4,000.00	8.97	89.04	3,977.25	289.05	-77.96	-294.30	2.50	2.33	6.80
4,043.34	10.00	91.00	4,019.99	289.04	-70.82	-293.73	2.50	2.39	4.51
Hold 10.00° Inc at 91.00° Azm									
4,100.00	10.00	91.00	4,075.79	288.87	-60.98	-292.78	0.00	0.00	0.00
4,200.00	10.00	91.00	4,174.27	288.57	-43.62	-291.11	0.00	0.00	0.00
4,300.00	10.00	91.00	4,272.75	288.26	-26.26	-289.44	0.00	0.00	0.00
4,400.00	10.00	91.00	4,371.24	287.96	-8.90	-287.76	0.00	0.00	0.00
4,500.00	10.00	91.00	4,469.72	287.66	8.46	-286.09	0.00	0.00	0.00
4,600.00	10.00	91.00	4,568.20	287.35	25.83	-284.42	0.00	0.00	0.00
4,700.00	10.00	91.00	4,666.68	287.05	43.19	-282.74	0.00	0.00	0.00
4,800.00	10.00	91.00	4,765.16	286.75	60.55	-281.07	0.00	0.00	0.00
4,900.00	10.00	91.00	4,863.64	286.44	77.91	-279.39	0.00	0.00	0.00
5,000.00	10.00	91.00	4,962.12	286.14	95.27	-277.72	0.00	0.00	0.00
5,100.00	10.00	91.00	5,060.60	285.84	112.64	-276.05	0.00	0.00	0.00
5,200.00	10.00	91.00	5,159.08	285.54	130.00	-274.37	0.00	0.00	0.00
5,300.00	10.00	91.00	5,257.56	285.23	147.36	-272.70	0.00	0.00	0.00
5,400.00	10.00	91.00	5,356.04	284.93	164.72	-271.03	0.00	0.00	0.00
5,500.00	10.00	91.00	5,454.52	284.63	182.09	-269.35	0.00	0.00	0.00
5,600.00	10.00	91.00	5,553.00	284.32	199.45	-267.68	0.00	0.00	0.00
5,700.00	10.00	91.00	5,651.49	284.02	216.81	-266.01	0.00	0.00	0.00
5,800.00	10.00	91.00	5,749.97	283.72	234.17	-264.33	0.00	0.00	0.00
5,893.34	10.00	91.00	5,841.89	283.43	250.38	-262.77	0.00	0.00	0.00
Start Drop 1.50°/100'									
5,900.00	9.90	91.00	5,848.45	283.41	251.53	-262.66	1.50	-1.50	0.00
6,000.00	8.40	91.00	5,947.17	283.14	267.43	-261.13	1.50	-1.50	0.00
6,100.00	6.90	91.00	6,046.28	282.90	280.74	-259.84	1.50	-1.50	0.00
6,200.00	5.40	91.00	6,145.70	282.72	291.45	-258.81	1.50	-1.50	0.00
6,300.00	3.90	91.00	6,245.37	282.58	299.55	-258.03	1.50	-1.50	0.00
6,400.00	2.40	91.00	6,345.22	282.48	305.05	-257.50	1.50	-1.50	0.00
6,500.00	0.90	91.00	6,445.17	282.43	307.93	-257.22	1.50	-1.50	0.00
6,560.01	0.00	0.00	6,505.18	282.42	308.40	-257.18	1.50	-1.50	0.00
Begin Vertical Hold									
6,600.00	0.00	0.00	6,545.17	282.42	308.40	-257.18	0.00	0.00	0.00
6,700.00	0.00	0.00	6,645.17	282.42	308.40	-257.18	0.00	0.00	0.00
6,800.00	0.00	0.00	6,745.17	282.42	308.40	-257.18	0.00	0.00	0.00
6,900.00	0.00	0.00	6,845.17	282.42	308.40	-257.18	0.00	0.00	0.00
7,000.00	0.00	0.00	6,945.17	282.42	308.40	-257.18	0.00	0.00	0.00
7,100.00	0.00	0.00	7,045.17	282.42	308.40	-257.18	0.00	0.00	0.00
7,200.00	0.00	0.00	7,145.17	282.42	308.40	-257.18	0.00	0.00	0.00
7,300.00	0.00	0.00	7,245.17	282.42	308.40	-257.18	0.00	0.00	0.00
7,400.00	0.00	0.00	7,345.17	282.42	308.40	-257.18	0.00	0.00	0.00
7,500.00	0.00	0.00	7,445.17	282.42	308.40	-257.18	0.00	0.00	0.00
7,600.00	0.00	0.00	7,545.17	282.42	308.40	-257.18	0.00	0.00	0.00
7,700.00	0.00	0.00	7,645.17	282.42	308.40	-257.18	0.00	0.00	0.00
7,800.00	0.00	0.00	7,745.17	282.42	308.40	-257.18	0.00	0.00	0.00
7,900.00	0.00	0.00	7,845.17	282.42	308.40	-257.18	0.00	0.00	0.00
7,939.62	0.00	0.00	7,884.79	282.42	308.40	-257.18	0.00	0.00	0.00
KOP, Start 10.00°/100' Build									
8,000.00	6.04	173.00	7,945.06	279.27	308.79	-254.00	10.00	10.00	0.00

Planning Report

Database:	Compass 5000 GCR DB	Local Co-ordinate Reference:	Well 20H
Company:	RKI Exploration	TVD Reference:	WELL @ 3098.00usft (Silver Oak 10)
Project:	Eddy County, New Mexico (NAD 83)	MD Reference:	WELL @ 3098.00usft (Silver Oak 10)
Site:	RDX Federal Com 17	North Reference:	Grid
Well:	20H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB #2 Job #1410739		
Design:	Plan #5 06-01-14		

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)
8,100.00	16.04	173.00	8,043.08	260.29	311.12	-234.90	10.00	10.00	0.00
8,200.00	26.04	173.00	8,136.30	224.70	315.49	-199.08	10.00	10.00	0.00
8,300.00	36.04	173.00	8,221.87	173.59	321.76	-147.63	10.00	10.00	0.00
8,389.62	45.00	173.00	8,289.93	115.86	328.85	-89.52	10.00	10.00	0.00
Hold 45.00° Inc for 100'									
8,400.00	45.00	173.00	8,297.27	108.57	329.75	-82.19	0.00	0.00	0.00
8,489.62	45.00	173.00	8,360.64	45.67	337.47	-18.87	0.00	0.00	0.00
Start 10.00°/100' Build & Turn									
8,500.00	46.02	173.24	8,367.92	38.32	338.36	-11.48	10.00	9.87	2.29
8,600.00	55.91	175.19	8,430.82	-38.87	346.09	66.08	10.00	9.89	1.95
8,700.00	65.82	176.72	8,479.45	-125.89	352.18	153.31	10.00	9.91	1.54
8,800.00	75.74	178.04	8,512.33	-220.10	356.46	247.57	10.00	9.92	1.31
8,900.00	85.67	179.24	8,528.45	-318.63	358.79	345.98	10.00	9.93	1.20
8,954.35	91.07	179.87	8,530.00	-372.94	359.22	400.15	10.00	9.93	1.17
LP, Hold 91.07° Inc at 179.87° Azm									
9,000.00	91.07	179.87	8,529.14	-418.58	359.32	445.66	0.00	0.00	0.00
9,100.00	91.07	179.87	8,527.28	-518.56	359.54	545.34	0.00	0.00	0.00
9,200.00	91.07	179.87	8,525.41	-618.54	359.76	645.03	0.00	0.00	0.00
9,300.00	91.07	179.87	8,523.54	-718.53	359.98	744.72	0.00	0.00	0.00
9,400.00	91.07	179.87	8,521.67	-818.51	360.21	844.40	0.00	0.00	0.00
9,500.00	91.07	179.87	8,519.80	-918.49	360.43	944.09	0.00	0.00	0.00
9,600.00	91.07	179.87	8,517.93	-1,018.47	360.65	1,043.78	0.00	0.00	0.00
9,700.00	91.07	179.87	8,516.06	-1,118.46	360.88	1,143.47	0.00	0.00	0.00
9,800.00	91.07	179.87	8,514.20	-1,218.44	361.10	1,243.15	0.00	0.00	0.00
9,900.00	91.07	179.87	8,512.33	-1,318.42	361.32	1,342.84	0.00	0.00	0.00
10,000.00	91.07	179.87	8,510.46	-1,418.40	361.54	1,442.53	0.00	0.00	0.00
10,100.00	91.07	179.87	8,508.59	-1,518.38	361.77	1,542.22	0.00	0.00	0.00
10,200.00	91.07	179.87	8,506.72	-1,618.37	361.99	1,641.90	0.00	0.00	0.00
10,300.00	91.07	179.87	8,504.85	-1,718.35	362.21	1,741.59	0.00	0.00	0.00
10,400.00	91.07	179.87	8,502.99	-1,818.33	362.43	1,841.28	0.00	0.00	0.00
10,500.00	91.07	179.87	8,501.12	-1,918.31	362.66	1,940.97	0.00	0.00	0.00
10,600.00	91.07	179.87	8,499.25	-2,018.30	362.88	2,040.65	0.00	0.00	0.00
10,700.00	91.07	179.87	8,497.38	-2,118.28	363.10	2,140.34	0.00	0.00	0.00
10,800.00	91.07	179.87	8,495.51	-2,218.26	363.33	2,240.03	0.00	0.00	0.00
10,900.00	91.07	179.87	8,493.64	-2,318.24	363.55	2,339.72	0.00	0.00	0.00
11,000.00	91.07	179.87	8,491.77	-2,418.23	363.77	2,439.40	0.00	0.00	0.00
11,100.00	91.07	179.87	8,489.91	-2,518.21	363.99	2,539.09	0.00	0.00	0.00
11,200.00	91.07	179.87	8,488.04	-2,618.19	364.22	2,638.78	0.00	0.00	0.00
11,300.00	91.07	179.87	8,486.17	-2,718.17	364.44	2,738.47	0.00	0.00	0.00
11,400.00	91.07	179.87	8,484.30	-2,818.15	364.66	2,838.15	0.00	0.00	0.00
11,500.00	91.07	179.87	8,482.43	-2,918.14	364.88	2,937.84	0.00	0.00	0.00
11,600.00	91.07	179.87	8,480.56	-3,018.12	365.11	3,037.53	0.00	0.00	0.00
11,700.00	91.07	179.87	8,478.69	-3,118.10	365.33	3,137.22	0.00	0.00	0.00
11,800.00	91.07	179.87	8,476.83	-3,218.08	365.55	3,236.90	0.00	0.00	0.00
11,900.00	91.07	179.87	8,474.96	-3,318.07	365.77	3,336.59	0.00	0.00	0.00
12,000.00	91.07	179.87	8,473.09	-3,418.05	366.00	3,436.28	0.00	0.00	0.00
12,100.00	91.07	179.87	8,471.22	-3,518.03	366.22	3,535.97	0.00	0.00	0.00
12,200.00	91.07	179.87	8,469.35	-3,618.01	366.44	3,635.65	0.00	0.00	0.00
12,300.00	91.07	179.87	8,467.48	-3,718.00	366.67	3,735.34	0.00	0.00	0.00
12,400.00	91.07	179.87	8,465.62	-3,817.98	366.89	3,835.03	0.00	0.00	0.00
12,500.00	91.07	179.87	8,463.75	-3,917.96	367.11	3,934.72	0.00	0.00	0.00
12,600.00	91.07	179.87	8,461.88	-4,017.94	367.33	4,034.40	0.00	0.00	0.00
12,700.00	91.07	179.87	8,460.01	-4,117.92	367.56	4,134.09	0.00	0.00	0.00

Planning Report

Database:	Compass 5000.GCR-DB	Local Co-ordinate Reference:	Well 20H
Company:	RKI Exploration	TVD Reference:	WELL @ 3098.00usft (Silver Oak 10)
Project:	Eddy County New Mexico (NAD 83)	MD Reference:	WELL @ 3098.00usft (Silver Oak 10)
Site:	RDX Federal Com 17	North Reference:	Grid
Well:	20H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB #2 Job #1410739		
Design:	Plan #5 06-01-14		

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)
12,800.00	91.07	179.87	8,458.14	-4,217.91	367.78	4,233.78	0.00	0.00	0.00
12,900.00	91.07	179.87	8,456.27	-4,317.89	368.00	4,333.47	0.00	0.00	0.00
13,000.00	91.07	179.87	8,454.40	-4,417.87	368.22	4,433.15	0.00	0.00	0.00
13,100.00	91.07	179.87	8,452.54	-4,517.85	368.45	4,532.84	0.00	0.00	0.00
13,200.00	91.07	179.87	8,450.67	-4,617.84	368.67	4,632.53	0.00	0.00	0.00
13,235.72	91.07	179.87	8,450.00	-4,653.55	368.75	4,668.13	0.00	0.00	0.00
TD at 13235.72									

Design Targets

Target Name	hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BHL v3 RDX Fed Com 1	-	-1.07	179.89	8,450.00	-4,653.55	368.75	377,168.55	676,758.04	32° 2' 10.18754 N	103° 53' 46.70263 W
- plan hits target center										
- Rectangle (sides W100.00 H4,293.00 D30.00)										

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3,600.00	3,578.98	277.64	-107.14	Tie On Survey, Start 2.50°/100' Build
4,043.34	4,019.99	289.04	-70.82	Hold 10.00° Inc at 91.00° Azm
5,893.34	5,841.89	283.43	250.38	Start Drop 1.50°/100'
6,560.01	6,505.18	282.42	308.40	Begin Vertical Hold
7,939.62	7,884.79	282.42	308.40	KOP, Start 10.00°/100' Build
8,389.62	8,289.93	115.86	328.85	Hold 45.00° Inc for 100'
8,489.62	8,360.64	45.67	337.47	Start 10.00°/100' Build & Turn
8,954.35	8,530.00	-372.94	359.22	LP, Hold 91.07° Inc at 179.87° Azm
13,235.72	8,450.00	-4,653.55	368.75	TD at 13235.72