

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-104
Revised June 10, 2003

Submit to Appropriate District Office
5 Copies

☐ AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

¹ Operator name and Address Cimarex Energy Co., 202 S. Cheyenne Ave. Tulsa, OK 74103		² OGRID Number 215099
⁴ API Number 30-025-41852		⁵ Pool Name Carlsbad; Strawn Gas)
⁷ Property Code	⁸ Property Name James 29 Federal	⁶ Pool Code 53805
		⁹ Well Number 38H

II. ¹⁰ Surface Location

UI or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South Line	Feet from the	East/West line	County
B	29	23S	32E		330	North	2310	East	Lea

¹¹ Bottom Hole Location

UI or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	29	23S	32E		330	South	2420	East	Lea
¹² Lse Code F		¹³ Producing Method Code F		¹⁴ Gas Connection Date 3-4-15		¹⁵ C-129 Permit Number		¹⁶ C-129 Effective Date	¹⁷ C-129 Expiration Date

III. Oil and Gas Transporters

¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ POD	²¹ O/G	²² POD ULSTR Location and Description
21778	Sunoco Inc. R&M P.O. Box 2039 Tulsa OK		G	HOBBS OCD
226737	DCP Midstreams 370 17 th St. Ste. 2500 Denver Co			JUL 22 2015

IV. Produced Water

²³ POD	²⁴ POD ULSTR Location and Description Same as above
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V. Well Completion Data

²⁵ Spud Date	²⁶ Ready Date	²⁷ TD	²⁸ PBTD	²⁹ Perforations	³⁰ DHC, MC
10-8-14	3-4-15	13640'	13551'	9448-13525'	
³¹ Hole Size		³² Casing & Tubing Size	³³ Depth Set	³⁴ Sacks Cement	
17-1/2"		13-3/8" J-55	1310'	1050 sx	
12-1/4"		9-5/8" J-55	4775'	1400 sx	
8-3/4"		7" L-80	9692'	900 sx TOC 2550'	
		4-1/2" L-80 2-3/8"	13640' 8720'	530 sx	

VI. Well Test Data

³⁵ Date New Oil	³⁶ Gas Delivery Date	³⁷ Test Date	³⁸ Test Length	³⁹ Tbg. Pressure	⁴⁰ Csg. Pressure
3-4-15	3-4-15	3-18-15	24	920	300
⁴¹ Choke Size	⁴² Oil	⁴³ Water	⁴⁴ Gas	⁴⁵ AOF	⁴⁶ Test Method
26/64	531	1438	748		

⁴⁷ I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief.

Signature: *Hope Knauls*

Printed name: Hope Knauls

Title: Reg Tech

E-mail Address: hknauls@cimarex.com

Date: 7/6/2015

Phone: 918-295-1799

OIL CONSERVATION DIVISION

Approved by:

Title: *Petroleum Engineer*

Approval Date:

07/22/15

reComp _____ Add new well _____
Cancl Well _____ Create Pool _____

E-PERMITTING -- New Well _____
Comp *Ka* P&A _____ TA _____

CSNG *Ka* Loc Chng _____

JUL 22 2015

Ka

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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.

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

5. Lease Serial No.
NMNM0559539

6. If Indian, Allottee or Tribe Name

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

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
JAMES 29 FEDERAL 38H

2. Name of Operator
CIMAREX ENERGY COMPANY

Contact: CRISTEN BURDELL
E-Mail: cburdell@cimarex.com

9. API Well No.
30-025-41852

3a. Address
202 S. CHEYENNE AVE STE 1000
TULSA, OK 74103

3b. Phone No. (include area code)
Ph: 918-560-7038

10. Field and Pool, or Exploratory
SAND DUNES

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

Sec 29 T23S R32E NWNE 330FNL 2310FEL

11. County or Parish, and State

LEA 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	
	☐ 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 recomple 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 recomple 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.)

10-08-14 Spud well.
10-09-14 TD 17-1/2 hole @ 1310. RIH w/ 13-3/8, 48#, J55, STC csg & set @ 1310. Mix & pump lead: 850 sx Class C, 13.5 ppg, 1.73 yld. Tail w/ 200 sx Class C, 14.8 ppg, 1.34 yld. Circ 393 sxs to surface. WOC 8 hrs.
10-11-14 Test csg to 1250 psi for 30 mins. OK.
10-13-14 TD 12-1/4 hole @ 4775. RIH w/ 9-5/8, 40#, J55, LTC csg & set @ 4775.
10-14-14 Mix & pump lead: 1100 sx Class C, 12.9 ppg, 1.893 yld; tail w/ 300 sx Class C, 14.8 ppg, 1.328 yld. Circ 202 sxs to surf. WOC 7 hrs.
10-15-14 Test csg to 1500 psi for 30 mins. OK.
10-16-14 Drill 8-3/4 hole to 7020. BHA twisted off.
10-19-14 Fish in hole- 261? @ 6760, drill collars, bit, motor, stabilizer, & MWD. Attempted to free fish unsuccessful.

HOBBS OCD

JUL 22 2015

RECEIVED

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

Electronic Submission #289592 verified by the BLM Well Information System
For CIMAREX ENERGY COMPANY, sent to the Hobbs

Name (Printed/Typed) CRISTEN BURDELL

Title REGULATORY ANALYST

Signature (Electronic Submission)

Date 01/27/2015

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By

Title

Date

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

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.

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

Accepted for Record Only

Additional data for EC transaction #289592 that would not fit on the form

32. Additional remarks, continued

10-21-14 MURU & mix & pump 355 sx Class H, 17.5 ppg, .94 yld cmt plug @ 6760. WOC 8 hrs.
10-22-14 Tag cmt @ 6073. Drill out cmt from 6073-6097 for sidetrack.
10-30-14 TD 8-3/4 hole @ 9692. RIH w/ 7, 32#, L80, BTC csg & set @ 9692. DVTool @ 6999, ACP @ 7024.
10-31-14 to
11-01-14 Mix & pump 1st Stage: Lead: 230 sx Class H, 10.8 ppg, 2.78 yld; tail w/ 280 sx Class H, 14.5ppg, 1.238 yld; Open DV Tool. Mix & pump 2nd Stage: Lead: 390 sx Class C, 10.8 ppg, 2.522 yld. WOC 12 hrs. Run CBL -- TOC @ 2550. Pressure tested annulus to 500# for 30 mins. OK.
11-03-14 Tested csg to 2500# for 30 mins.
11-07-14 TD 6 hole @ 13640
11-08-14 RIH w/ 4-1/2, 13.5#, L80, BTC liner & set @ 8701-13640.
11-09-14 Mix & pump 530 sx Class H, 14.5 ppg, 1.22 yld. TOC @ TOL ? 8701.
11-10-14 Release rig.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS
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FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

5. Lease Serial No.
NMNM0559539

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

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

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
JAMES 29 FED 38H

2. Name of Operator
CIMAREX ENERGY COMPANY

Contact: HOPE KNAULS
E-Mail: hknuls@cimarex.com

9. API Well No.
30-025-41852

3a. Address
202 S. CHEYENNE AVE
TULSA, OK 74103

3b. Phone No. (include area code)
Ph: 918-585-1100

10. Field and Pool, or Exploratory
SAND DUNES; BS

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

Sec 29 T23S R32E 330FNL 2310FEL

11. County or Parish, and State

LEA 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 recomple 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 recomple 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.)

James 29 Federal 38H Completion Operations:

1-20-15 Tag'd @ 13288 milling down to 13545' PBTD. Tested csg to 7000 psi for 30 min. Test OK.
Perf'd 13378-13525. WO Frac.

2-15-15 to 2-17-15 Frac Avalon 9448-13525. .54 size hole, 756 holes. Frac w/ 6463464 gal total
fluid; 6231814 # sand. Test to 4500 psi. Test good.

2-26-15 Mill out CFP plugs to PBTD @ 13551'

3-1-15 RIH w/ 2-3/8" tbg, L-80, 4.7#. Packer set @ 8723'. GLV @ 1957,3229,4142,
4958,5646,6302,6955,7546,8136,8689

HOBBS OCD

JUL 22 2015

RECEIVED

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

Electronic Submission #308008 verified by the BLM Well Information System
For CIMAREX ENERGY COMPANY, sent to the Hobbs

Name (Printed/Typed) HOPE KNAULS

Title REGULATORY TECHNICIAN

Signature (Electronic Submission)

Date 07/06/2015

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By	Title	Date
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	

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.

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

Accepted for Record Only

Additional data for EC transaction #308008 that would not fit on the form

32. Additional remarks, continued

3-4-15 Well turned to production.

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87605
Phone (505) 438-3480 Fax (505) 438-3482

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other		5. Lease Serial No. NMNM0559539							
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resrv. Other _____		6. If Indian, Allottee or Tribe Name							
2. Name of Operator CIMAREX ENERGY COMPANY		7. Unit or CA Agreement Name and No.							
Contact: HOPE KNAULS E-Mail: hknaults@cimarex.com		8. Lease Name and Well No. JAMES 29 FEDERAL 38							
3. Address 202 S. CHEYENNE AVE TULSA, OK 74103		9. API Well No. 30-025-41852							
3a. Phone No. (include area code) Ph: 918-585-1100		10. Field and Pool, or Exploratory SAND DUNES;							
4. Location of Well (Report location clearly and in accordance with Federal requirements)* At surface 330FNL 2310FEL At top prod interval reported below 330FNL 2310FEL At total depth 330FSL 2420FEL		11. Sec., T., R., M., or Block and Survey or Area Sec 29 T23S R32E Mer							
14. Date Spudded 10/08/2014		15. Date T.D. Reached 11/07/2014							
16. Date Completed ☐ D & A ☐ Ready to Prod. 03/04/2015		17. Elevations (DF, KB, RT, GL)*							
18. Total Depth: MD 13640 TVD 9397		19. Plug Back T.D.: MD 13551 TVD 9407							
20. Depth Bridge Plug Set: MD TVD		21. Type Electric & Other Mechanical Logs Run (Submit copy of each) NONE							
22. Was well cored? ☒ No ☐ Yes (Submit analysis) Was DST run? ☒ No ☐ Yes (Submit analysis) Directional Survey? ☒ No ☐ Yes (Submit analysis)									
23. Casing and Liner Record (Report all strings set in well)									
Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
17.500	13.375 J-55	48.0		1310		1050			393
12.250	9.625 J-55	48.0		4775		1400			202
8.750	7.000 L80	32.0		9692		900		2550	
24. Tubing Record									
Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	
2.875	8720	8720							
25. Producing Intervals									
Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status			
A) AVALON BS	9448	13525	9448 TO 13525	0.540	758				
B)									
C)									
D)									
26. Perforation Record									
27. Acid, Fracture, Treatment, Cement Squeeze, Etc.									
Depth Interval		Amount and Type of Material							
9448 TO 13525		FRAC W/ 6463464 GAL TOTAL FLUID; 6231814 # SAND							
28. Production - Interval A									
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
03/18/2015	03/18/2015	24	→	531.0	748.0	1438.0	45.5	748.00	GAS LIFT
Choke Size	Thg. Press. Flwg. SI	Csg. Press. SI	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
26/34	920	300.0	→	531	748	1438	1408	POW	
28a. Production - Interval B									
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Thg. Press. Flwg. SI	Csg. Press. SI	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #308113 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **

HOBBBS OGD

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28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Thg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Thg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

29. Disposition of Gas(Sold, used for fuel, vented, etc.)
SOLD

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth
BELL CANYON	4805	5630	WATER		
CHERRY CANYON	5630	6960	WATER		
BONE SPRING	8600	9784	WATER, OIL, AND GAS		

32. Additional remarks (include plugging procedure):

Cimarex Energy Co. Would like to hold all completion work confidential.

33. Circle enclosed attachments:

1. Electrical/Mechanical Logs (1 full set req'd.)
2. Geologic Report
3. DST Report
4. Directional Survey
5. Sundry Notice for plugging and cement verification
6. Core Analysis
7. Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #308113 Verified by the BLM Well Information System,
For CIMAREX ENERGY COMPANY, sent to the Hobbs

Name (please print) HOPE KNAULS

Title REGULATORY TECHNICIAN

Signature (Electronic Submission)

Date 07/06/2015

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.

**** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ****

ACTUAL WELLPATH REPORT (CSV version)

Prepared by Baker Hughes

Software System: WellArchitect® 4.0.0

REFERENCE WELLPATH IDENTIFICATION

Operator Cimarex Energy Co.

Area Lea County, NM

Field (James Federal) Sec 29, TS 23 S, R 32 E

Facility James Federal No. 38

Slot No. 38H SHL

Well No. 38H AWB ST01

Wellbore No. 38H AWB ST01

Wellpath No. 38H ST01 AWB

Sidetrack No. 38H AWB at 6033.45 MD

REPORT SETUP INFORMATION

Projection NAD83 / TM New Mexico SP, Eastern Zone (3001), US feet

North Refe Grid

Scale 0.999954

Convergen 0.34° East

Software S WellArchitect® 4.0.0

User Abraall

Report Ger 11/11/2014 at 9:35:06 AM

DataBase/c WA_Midland/ev2829.xml

WELLPATH	Local North	Local East	Easting	Northing	Latitude	Longitude
	[ft]	[ft]	[US ft]	[US ft]		
Slot Locatic	0	0	738420.5	466875.2	32°16'54.8	103°41'44.174"W
Facility Ref			738420.5	466875.2	32°16'54.8	103°41'44.174"W
Field Refer			165000		0 30°59'39.8	105°32'03.866"W

WELLPATH DATUM

Calculation Minimum curvature

Horizontal Slot

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Vertical Re: Rig on No. 38H SHL (KB)
MD Refere Rig on No. 38H SHL (KB)
Field Vertic Mean Sea Level
Rig on No. 25.00ft
Rig on No. 3714.00ft
Rig on No. 25.00ft
Section Ori N 0.00, E 0.00 ft
Section Azi 180.99°

WELL PATH DATA † = interpolated/extrapolated station

	MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	DLS
	[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[US ft]	[US ft]			[°/100ft]
†	0	0	48.75	0	0	0	0	738420.5	466875.2	32°16'54.8	103°41'44.	0
	25	0	48.75	25	0	0	0	738420.5	466875.2	32°16'54.8	103°41'44.	0
	49.99	0.48	48.75	49.99	-0.07	0.07	0.08	738420.6	466875.3	32°16'54.8	103°41'44.	1.92
	98.6	1.49	343.75	98.59	-0.81	0.81	0.05	738420.6	466876	32°16'54.8	103°41'44.	2.8
	142.69	0.62	113.52	142.68	-1.27	1.27	0.11	738420.6	466876.5	32°16'54.8	103°41'44.	4.41
	167.25	0.88	14.91	167.24	-1.4	1.39	0.28	738420.8	466876.6	32°16'54.8	103°41'44.	4.68
	227.52	0.79	11.44	227.5	-2.26	2.25	0.49	738421	466877.5	32°16'54.8	103°41'44.	0.17
	266.92	0.88	5.02	266.9	-2.83	2.82	0.57	738421.1	466878	32°16'54.8	103°41'44.	0.33
	298.49	0.88	8.32	298.46	-3.31	3.3	0.62	738421.1	466878.5	32°16'54.8	103°41'44.	0.16
	331.45	0.7	11.92	331.42	-3.76	3.75	0.7	738421.2	466879	32°16'54.8	103°41'44.	0.57
	392.34	0.7	356.71	392.31	-4.49	4.48	0.76	738421.3	466879.7	32°16'54.8	103°41'44.	0.3
	426.43	0.7	6.91	426.39	-4.91	4.9	0.77	738421.3	466880.1	32°16'54.9	103°41'44.	0.37
	482.67	0.79	4.14	482.63	-5.64	5.62	0.84	738421.3	466880.8	32°16'54.9	103°41'44.	0.17
	573.84	0.62	6.13	573.79	-6.76	6.74	0.94	738421.4	466881.9	32°16'54.9	103°41'44.	0.19
	664.82	0.62	355.84	664.77	-7.74	7.72	0.95	738421.5	466882.9	32°16'54.9	103°41'44.	0.12
	755.78	0.79	2.21	755.72	-8.85	8.84	0.94	738421.4	466884	32°16'54.9	103°41'44.	0.21
	845.51	0.79	346.12	845.44	-10.07	10.06	0.82	738421.3	466885.3	32°16'54.9	103°41'44.	0.25
	936.55	0.88	339.44	936.47	-11.33	11.32	0.42	738420.9	466886.5	32°16'54.9	103°41'44.	0.15
	1031.48	0.88	350.34	1031.39	-12.72	12.72	0.04	738420.5	466887.9	32°16'54.9	103°41'44.	0.18
	1125.71	1.01	342.61	1125.61	-14.22	14.23	-0.33	738420.2	466889.4	32°16'54.9	103°41'44.	0.19
	1146.32	0.88	337.82	1146.21	-14.54	14.55	-0.44	738420.1	466889.8	32°16'54.9	103°41'44.	0.74

1218.43	1.01	340.54	1218.31	-15.64	15.66	-0.86	738419.6	466890.9	32°16'55.0	103°41'44.	0.19
1387.31	0.79	339.22	1387.17	-18.12	18.15	-1.77	738418.7	466893.4	32°16'55.0	103°41'44.	0.13
1482.81	0.62	317.91	1482.67	-19.11	19.15	-2.35	738418.2	466894.4	32°16'55.0	103°41'44.	0.32
1576.36	0.88	327.62	1576.21	-20.08	20.13	-3.07	738417.4	466895.3	32°16'55.0	103°41'44.	0.31
1671.03	0.88	322.83	1670.87	-21.26	21.33	-3.9	738416.6	466896.5	32°16'55.0	103°41'44.	0.08
1763.41	0.7	324.15	1763.24	-22.26	22.35	-4.66	738415.8	466897.6	32°16'55.0	103°41'44.	0.2
1858.43	0.79	321.82	1858.25	-23.24	23.33	-5.41	738415.1	466898.5	32°16'55.0	103°41'44.	0.1
1952.22	0.88	315.71	1952.03	-24.24	24.36	-6.31	738414.2	466899.6	32°16'55.0	103°41'44.	0.13
2046.1	0.79	314.53	2045.9	-25.2	25.33	-7.27	738413.2	466900.5	32°16'55.1	103°41'44.	0.1
2141.96	0.79	308.81	2141.75	-26.06	26.21	-8.26	738412.2	466901.4	32°16'55.1	103°41'44.	0.08
2235.48	1.1	303.54	2235.26	-26.94	27.11	-9.51	738411	466902.3	32°16'55.1	103°41'44.	0.34
2329.19	0.88	300.33	2328.95	-27.77	27.97	-10.88	738409.6	466903.2	32°16'55.1	103°41'44.	0.24
2419.95	1.01	301.34	2419.7	-28.52	28.73	-12.17	738408.3	466903.9	32°16'55.1	103°41'44.	0.14
2516.44	1.01	310.53	2516.18	-29.49	29.73	-13.54	738407	466904.9	32°16'55.1	103°41'44.	0.17
2611.29	1.01	313.21	2611.01	-30.58	30.84	-14.78	738405.7	466906	32°16'55.1	103°41'44.	0.05
2706.39	1.19	306.75	2706.09	-31.72	32.01	-16.19	738404.3	466907.2	32°16'55.1	103°41'44.	0.23
2802.3	1.1	318.13	2801.99	-32.98	33.29	-17.6	738402.9	466908.5	32°16'55.1	103°41'44.	0.25
2897.29	1.19	311.45	2896.96	-34.29	34.62	-18.95	738401.6	466909.8	32°16'55.1	103°41'44.	0.17
2991.79	1	324.72	2991.44	-35.59	35.95	-20.16	738400.3	466911.1	32°16'55.2	103°41'44.	0.33
3085.96	1.41	319.01	3085.59	-37.11	37.49	-21.39	738399.1	466912.7	32°16'55.2	103°41'44.	0.45
3177.33	1.49	319.84	3176.93	-38.84	39.25	-22.9	738397.6	466914.5	32°16'55.2	103°41'44.	0.09
3270.99	1.49	324.81	3270.56	-40.74	41.17	-24.38	738396.1	466916.4	32°16'55.2	103°41'44.	0.14
3367.66	1.71	332.02	3367.19	-43.02	43.47	-25.78	738394.7	466918.7	32°16'55.2	103°41'44.	0.31
3461.91	1.8	325.65	3461.4	-45.46	45.94	-27.28	738393.2	466921.1	32°16'55.3	103°41'44.	0.23
3556.98	1.89	329.91	3556.42	-48.02	48.53	-28.91	738391.6	466923.7	32°16'55.3	103°41'44.	0.17
3652.4	1.89	330.13	3651.78	-50.72	51.25	-30.48	738390	466926.5	32°16'55.3	103°41'44.	0.01
3748.01	2.2	324.33	3747.33	-53.54	54.11	-32.34	738388.2	466929.3	32°16'55.3	103°41'44.	0.39
3843.06	2.11	329.42	3842.32	-56.5	57.1	-34.29	738386.2	466932.3	32°16'55.4	103°41'44.	0.22
3936.69	2.2	324.15	3935.88	-59.4	60.04	-36.22	738384.3	466935.2	32°16'55.4	103°41'44.	0.23
4033.11	1.8	332.15	4032.24	-62.21	62.88	-38.01	738382.5	466938.1	32°16'55.4	103°41'44.	0.5
4127.1	1.58	331.23	4126.19	-64.63	65.32	-39.32	738381.2	466940.5	32°16'55.5	103°41'44.	0.24
4222.84	1.49	338.35	4221.9	-66.92	67.63	-40.42	738380.1	466942.8	32°16'55.5	103°41'44.	0.22
4318.16	1.1	330.35	4317.19	-68.85	69.58	-41.33	738379.2	466944.8	32°16'55.5	103°41'44.	0.45
4413.82	0.7	342.92	4412.84	-70.2	70.94	-41.95	738378.6	466946.1	32°16'55.5	103°41'44.	0.46

4509	0.4	348.72	4508.02	-71.08	71.82	-42.19	738378.3	466947 32°16'55.5 103°41'44.	0.32
4808	0.22	353.73	4807.01	-72.67	73.41	-42.46	738378.1	466948.6 32°16'55.5 103°41'44.	0.06
4903	0.09	298.14	4902.01	-72.88	73.63	-42.54	738378	466948.8 32°16'55.5 103°41'44.	0.19
4998	0.22	267.33	4997.01	-72.9	73.66	-42.79	738377.7	466948.9 32°16'55.5 103°41'44.	0.16
5093	0.22	270.32	5092.01	-72.89	73.65	-43.16	738377.4	466948.9 32°16'55.5 103°41'44.	0.01
5188	0.22	278.23	5187.01	-72.91	73.68	-43.52	738377	466948.9 32°16'55.5 103°41'44.	0.03
5282	0.4	299.63	5281.01	-73.09	73.86	-43.98	738376.5	466949.1 32°16'55.5 103°41'44.	0.22
5376	0.62	296.82	5375	-73.47	74.26	-44.72	738375.8	466949.5 32°16'55.5 103°41'44.	0.24
5470	0.7	305.43	5469	-74.02	74.82	-45.64	738374.9	466950 32°16'55.5 103°41'44.	0.14
5561.42	0.7	303.32	5560.41	-74.63	75.45	-46.56	738373.9	466950.6 32°16'55.6 103°41'44.	0.03
5655.82	0.48	312.33	5654.81	-75.2	76.03	-47.34	738373.2	466951.2 32°16'55.6 103°41'44.	0.25
5749	0.62	307.85	5747.98	-75.76	76.6	-48.03	738372.5	466951.8 32°16'55.6 103°41'44.	0.16
5842.93	0.48	304.55	5841.91	-76.28	77.14	-48.75	738371.8	466952.3 32°16'55.6 103°41'44.	0.15
5938.14	0.48	318.04	5937.11	-76.79	77.66	-49.35	738371.2	466952.9 32°16'55.6 103°41'44.	0.12
6033.45	0.62	312.11	6032.42	-77.43	78.3	-50	738370.5	466953.5 32°16'55.6 103°41'44.	0.16
6117	2.81	2.65	6115.93	-79.77	80.65	-50.24	738370.3	466955.9 32°16'55.6 103°41'44.	2.95
6130	3.69	7.44	6128.91	-80.5	81.39	-50.17	738370.3	466956.6 32°16'55.6 103°41'44.	7.08
6225	6.02	12.23	6223.56	-88.43	89.29	-48.72	738371.8	466964.5 32°16'55.7 103°41'44.	2.49
6320	6.02	10.65	6318.04	-98.23	99.05	-46.74	738373.8	466974.3 32°16'55.8 103°41'44.	0.17
6414	5.89	11.35	6411.53	-107.83	108.62	-44.88	738375.6	466983.8 32°16'55.9 103°41'44.	0.16
6509	5.89	11.35	6506.03	-117.42	118.18	-42.96	738377.5	466993.4 32°16'56.0 103°41'44.	0
6603	5.8	12.23	6599.54	-126.82	127.55	-41.01	738379.5	467002.8 32°16'56.1 103°41'44.	0.14
6699	5.8	11.29	6695.05	-136.35	137.05	-39.03	738381.5	467012.2 32°16'56.2 103°41'44.	0.1
6793	6.02	13.02	6788.55	-145.85	146.51	-36.99	738383.5	467021.7 32°16'56.3 103°41'44.	0.3
6888	4.22	10.43	6883.17	-154.17	154.8	-35.23	738385.3	467030 32°16'56.3 103°41'44.	1.91
6983	2.68	9.42	6977.99	-159.81	160.43	-34.24	738386.3	467035.6 32°16'56.4 103°41'44.	1.62
7077	2.5	6.65	7071.9	-164.03	164.64	-33.64	738386.9	467039.8 32°16'56.4 103°41'44.	0.23
7172	2.42	6.72	7166.81	-168.09	168.69	-33.16	738387.3	467043.9 32°16'56.5 103°41'44.	0.08
7266	2.11	5.94	7260.73	-171.78	172.38	-32.75	738387.8	467047.6 32°16'56.5 103°41'44.	0.33
7360	1.58	355.75	7354.69	-174.8	175.39	-32.67	738387.8	467050.6 32°16'56.5 103°41'44.	0.66
7453	0.8	355.13	7447.66	-176.72	177.32	-32.82	738387.7	467052.5 32°16'56.6 103°41'44.	0.84
7548	0.7	341.33	7542.66	-177.93	178.53	-33.06	738387.4	467053.7 32°16'56.6 103°41'44.	0.22
7642	0.79	341.42	7636.65	-179.08	179.69	-33.45	738387.1	467054.9 32°16'56.6 103°41'44.	0.1
7737	0.62	3.44	7731.64	-180.21	180.82	-33.63	738386.9	467056 32°16'56.6 103°41'44.	0.33

7831	0.48	14.51	7825.64	-181.1	181.71	-33.5	738387	467056.9 32°16'56.6 103°41'44..	0.19
7924	0.48	13.63	7918.63	-181.86	182.46	-33.31	738387.2	467057.7 32°16'56.6 103°41'44..	0.01
8019	0.4	20.45	8013.63	-182.56	183.16	-33.1	738387.4	467058.4 32°16'56.6 103°41'44..	0.1
8114	0.31	45.23	8108.63	-183.06	183.65	-32.8	738387.7	467058.8 32°16'56.6 103°41'44..	0.19
8209	0.4	61.71	8203.63	-183.4	183.99	-32.33	738388.2	467059.2 32°16'56.6 103°41'44..	0.14
8304	0.22	62.94	8298.63	-183.65	184.23	-31.88	738388.6	467059.4 32°16'56.6 103°41'44..	0.19
8398	0.22	118.53	8392.63	-183.65	184.23	-31.56	738389	467059.4 32°16'56.6 103°41'44..	0.22
8493	0.31	153.64	8487.62	-183.34	183.91	-31.28	738389.2	467059.1 32°16'56.6 103°41'44..	0.19
8588	0.4	182.91	8582.62	-182.78	183.35	-31.18	738389.3	467058.5 32°16'56.6 103°41'44..	0.21
8671	0.4	202.42	8665.62	-182.22	182.79	-31.31	738389.2	467058 32°16'56.6 103°41'44..	0.16
8724	0.48	244.44	8718.62	-181.95	182.52	-31.58	738388.9	467057.7 32°16'56.6 103°41'44..	0.61
8756	2.32	211.14	8750.61	-181.33	181.91	-32.04	738388.5	467057.1 32°16'56.6 103°41'44..	6.05
8787	5.8	205.8	8781.53	-179.36	179.96	-33.04	738387.5	467055.2 32°16'56.6 103°41'44..	11.28
8818	9.21	204.33	8812.26	-175.66	176.29	-34.75	738385.8	467051.5 32°16'56.6 103°41'44..	11.02
8850	11.96	207.02	8843.71	-170.33	171	-37.31	738383.2	467046.2 32°16'56.5 103°41'44..	8.73
8882	15.23	206.82	8874.81	-163.57	164.3	-40.71	738379.8	467039.5 32°16'56.4 103°41'44..	10.22
8913	18.2	205.51	8904.5	-155.5	156.29	-44.64	738375.9	467031.5 32°16'56.4 103°41'44..	9.66
8944	21.53	203.47	8933.65	-145.83	146.7	-48.99	738371.5	467021.9 32°16'56.3 103°41'44..	10.97
8976	24.54	201.03	8963.09	-134.16	135.11	-53.71	738366.8	467010.3 32°16'56.1 103°41'44..	9.87
9008	27.68	198.56	8991.82	-120.83	121.86	-58.46	738362	466997.1 32°16'56.0 103°41'44..	10.38
9039	30.46	194.09	9018.92	-106.31	107.41	-62.67	738357.8	466982.6 32°16'55.9 103°41'44..	11.37
9070	33.16	191.24	9045.26	-90.31	91.47	-66.24	738354.3	466966.7 32°16'55.7 103°41'44..	9.96
9101	35.62	189.17	9070.84	-73.02	74.24	-69.33	738351.2	466949.4 32°16'55.5 103°41'44..	8.79
9132	37.68	187.12	9095.71	-54.66	55.92	-71.94	738348.6	466931.1 32°16'55.4 103°41'45..	7.73
9163	39.7	184.75	9119.91	-35.36	36.65	-73.94	738346.6	466911.9 32°16'55.2 103°41'45..	8.08
9195	41.78	181.69	9144.16	-14.5	15.8	-75.1	738345.4	466891 32°16'55.0 103°41'45..	9.01
9226	43.41	180.83	9166.98	6.48	-5.17	-75.56	738345	466870 32°16'54.8 103°41'45..	5.58
9258	45.71	180.57	9189.78	28.93	-27.62	-75.83	738344.7	466847.6 32°16'54.5 103°41'45..	7.21
9289	48.25	181.58	9210.93	51.59	-50.28	-76.26	738344.3	466824.9 32°16'54.3 103°41'45..	8.53
9321	50.62	182.41	9231.73	75.9	-74.57	-77.11	738343.4	466800.6 32°16'54.1 103°41'45..	7.66
9352	52.21	182.2	9251.07	100.12	-98.78	-78.08	738342.4	466776.4 32°16'53.8 103°41'45..	5.16
9384	54.5	181.89	9270.17	125.79	-124.44	-79	738341.5	466750.8 32°16'53.6 103°41'45..	7.2
9415	57.75	181.36	9287.44	151.52	-150.16	-79.72	738340.8	466725 32°16'53.3 103°41'45..	10.58
9447	60.57	180.62	9303.84	179	-177.63	-80.2	738340.3	466697.6 32°16'53.1 103°41'45..	9.03

9478	62.22	180.08	9318.69	206.21	-204.85	-80.36	738340.1	466670.4	32°16'52.8	103°41'45.	5.54
9510	64.36	179.24	9333.07	234.79	-233.43	-80.19	738340.3	466641.8	32°16'52.5	103°41'45.	7.09
9542	66.82	178.36	9346.29	263.9	-262.56	-79.58	738340.9	466612.7	32°16'52.2	103°41'45.	8.08
9573	69.38	178.35	9357.85	292.63	-291.31	-78.75	738341.8	466583.9	32°16'51.9	103°41'45.	8.26
9604	72.61	179.1	9367.95	321.91	-320.61	-78.1	738342.4	466554.6	32°16'51.6	103°41'45.	10.67
9636	76.3	180.04	9376.52	352.73	-351.43	-77.87	738342.6	466523.8	32°16'51.3	103°41'45.	11.87
9737	83.73	180.04	9394.02	452.11	-450.83	-77.94	738342.6	466424.4	32°16'50.3	103°41'45.	7.36
9769	86.51	180.51	9396.74	483.99	-482.71	-78.1	738342.4	466392.5	32°16'50.0	103°41'45.	8.81
9832	89.17	180.24	9399.12	546.94	-545.66	-78.51	738342	466329.6	32°16'49.4	103°41'45.	4.24
9927	88.33	180.02	9401.19	641.9	-640.64	-78.72	738341.8	466234.6	32°16'48.5	103°41'45.	0.91
10022	89.32	180.24	9403.14	736.87	-735.61	-78.94	738341.6	466139.6	32°16'47.5	103°41'45.	1.07
10116	89.54	180.68	9404.07	830.86	-829.61	-79.69	738340.8	466045.6	32°16'46.6	103°41'45.	0.52
10211	88.95	179.79	9405.33	925.85	-924.6	-80.08	738340.4	465950.7	32°16'45.7	103°41'45.	1.12
10305	93.79	180.18	9403.08	1019.78	-1018.54	-80.06	738340.5	465856.7	32°16'44.7	103°41'45.	5.17
10401	91.51	179.71	9398.64	1115.65	-1114.43	-79.97	738340.5	465760.8	32°16'43.8	103°41'45.	2.42
10495	92.35	180.22	9395.48	1209.58	-1208.38	-79.91	738340.6	465666.9	32°16'42.9	103°41'45.	1.05
10591	89.94	180	9393.56	1305.54	-1304.35	-80.09	738340.4	465570.9	32°16'41.9	103°41'45.	2.52
10685	90.37	179.85	9393.3	1399.53	-1398.35	-79.97	738340.5	465476.9	32°16'41.0	103°41'45.	0.48
10780	89.38	180.08	9393.51	1494.51	-1493.35	-79.91	738340.6	465381.9	32°16'40.0	103°41'45.	1.07
10875	88	180.15	9395.68	1589.47	-1588.32	-80.1	738340.4	465287	32°16'39.1	103°41'45.	1.45
10970	86.54	179.99	9400.21	1684.35	-1683.21	-80.22	738340.3	465192.1	32°16'38.2	103°41'45.	1.55
11065	87.25	179.99	9405.35	1779.19	-1778.07	-80.2	738340.3	465097.2	32°16'37.2	103°41'45.	0.75
11160	88.21	179.62	9409.12	1874.1	-1872.99	-79.88	738340.6	465002.3	32°16'36.3	103°41'45.	1.08
11255	89.17	179	9411.29	1969.03	-1967.96	-78.73	738341.8	464907.3	32°16'35.3	103°41'45.	1.2
11350	89.97	178.62	9412	2063.96	-2062.94	-76.76	738343.7	464812.4	32°16'34.4	103°41'45.	0.93
11444	90.09	179.26	9411.95	2157.9	-2156.92	-75.02	738345.5	464718.4	32°16'33.5	103°41'45.	0.69
11539	89.11	178.8	9412.61	2252.84	-2251.9	-73.41	738347.1	464623.4	32°16'32.5	103°41'45.	1.14
11634	90.12	177.94	9413.25	2347.73	-2346.86	-70.71	738349.8	464528.5	32°16'31.6	103°41'45.	1.4
11728	89.17	177.85	9413.84	2441.59	-2440.79	-67.26	738353.2	464434.5	32°16'30.7	103°41'45.	1.02
11823	90.25	178.37	9414.32	2536.47	-2535.74	-64.13	738356.4	464339.6	32°16'29.7	103°41'45.	1.26
11918	87.84	179.72	9415.9	2631.39	-2630.7	-62.54	738358	464244.6	32°16'28.8	103°41'45.	2.91
12013	89.88	179.55	9417.79	2726.34	-2725.68	-61.94	738358.6	464149.7	32°16'27.8	103°41'45.	2.15
12107	88.89	178.74	9418.8	2820.29	-2819.66	-60.53	738360	464055.7	32°16'26.9	103°41'45.	1.36
12202	90.37	177.87	9419.41	2915.18	-2914.61	-57.72	738362.8	463960.7	32°16'26.0	103°41'45.	1.81

12297	91.48	178.69	9417.88	3010.05	-3009.56	-54.87	738365.6	463865.8	32°16'25.0	103°41'45.1	1.45
12392	90.65	178.66	9416.11	3104.96	-3104.51	-52.68	738367.8	463770.8	32°16'24.1	103°41'45.1	0.87
12487	91.54	180.84	9414.3	3199.91	-3199.49	-52.26	738368.2	463675.9	32°16'23.1	103°41'45.1	2.48
12581	90.99	180.03	9412.22	3293.88	-3293.46	-52.98	738367.5	463581.9	32°16'22.2	103°41'45.1	1.04
12676	90.19	179.55	9411.24	3388.86	-3388.45	-52.63	738367.9	463486.9	32°16'21.3	103°41'45.1	0.98
12770	89.66	178.8	9411.37	3482.81	-3482.44	-51.27	738369.2	463392.9	32°16'20.3	103°41'45.1	0.98
12865	90.09	179.54	9411.57	3577.76	-3577.43	-49.9	738370.6	463297.9	32°16'19.4	103°41'45.1	0.9
12960	88	179.32	9413.16	3672.71	-3672.41	-48.95	738371.6	463203	32°16'18.5	103°41'44.1	2.21
13055	88.83	180.54	9415.78	3767.65	-3767.37	-48.84	738371.7	463108	32°16'17.5	103°41'45.1	1.55
13150	86.83	179.68	9419.38	3862.57	-3862.3	-49.02	738371.5	463013.1	32°16'16.6	103°41'45.1	2.29
13245	88.74	179.93	9423.05	3957.47	-3957.22	-48.7	738371.8	462918.2	32°16'15.7	103°41'45.1	2.03
13340	91.51	180.78	9422.85	4052.45	-4052.21	-49.29	738371.2	462823.2	32°16'14.7	103°41'45.1	3.05
13435	93.42	182.19	9418.76	4147.35	-4147.08	-51.74	738368.8	462728.3	32°16'13.8	103°41'45.1	2.5
13530	96.02	183.68	9410.94	4241.97	-4241.62	-56.59	738363.9	462633.8	32°16'12.8	103°41'45.1	3.15
13590	97.21	184.03	9404.03	4301.49	-4301.09	-60.6	738359.9	462574.3	32°16'12.2	103°41'45.1	2.07
13640	97.21	184.03	9397.76	4351.03	-4350.57	-64.08	738356.4	462524.8	32°16'11.8	103°41'45.1	0

TARGETS

Name	MD	TVD	North	East	Grid East	Grid North	Latitude	Longitude	Shape	Comment
	[ft]	[ft]	[ft]	[ft]	[US ft]	[US ft]				
No. 38 PBHL		9400	-4623.22	-80.2	738340.3	462252.2	32°16'09.1	103°41'45.1	point	

WELLPATH COMPOSITION Ref Wellbore: No. 38H AWB ST01 Ref Wellpath: No. 38H ST01 AWB

Log Name/	Start MD	End MD	Pos Unc	Model
	[ft]	[ft]		

Xtreme Sur	25	6033.45	ISCWSA MWD, Rev. 2 (Standard)
Xtreme MV	6033.45	8671	ISCWSA MWD, Rev. 2 (Standard)
BHI NaviTr	8671	13590	NaviTrak (Standard)
Projection	13590	13640	Blind Drilling (std)