

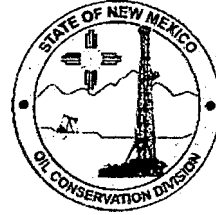
State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Sarah Cottrell Propst
Cabinet Secretary

Todd E. Leahy, JD, PhD
Deputy Secretary

Adrienne Sandoval, Division Director
Oil Conservation Division



3/31/2020 **Operator Notice Regarding
C-104 Denial and Request for Information**

OCD is providing notice to operators that it will deny your C-104 – *Request for Allowable and Authorization to Transport* if it fails to provide complete and accurate information, including:

30-015-45877

****Test Allowable, New Well and Recompleted Well **Amend C-104**

- ☐ C-103 (or BLM equivalent) for all casing strings
 - ☐ Spud Notice
 - ☐ Surface Casing
 - ☐ Intermediate Casing (if applicable)
 - ☐ Additional Intermediate Casing (if applicable)
 - ☐ Production Casing or Liner

☐ Applicable Order (NSL, NSP, Other _____)

☐ Deviation Survey for Vertical Wells

XX Directional Survey **Certified**

XX C-102 (As-Drilled Plat for Horizontal Well) **Certified**

New Well and Recompleted Well Only **N/A**

- ☐ C-103 Completion Sundry (or BLM equivalent)
- ☐ C-105 Completion Report (or BLM equivalent)
- ☐ All Logs Run on Well

The sale or transport of product without an approved C-104 violates the Oil and Gas Act and the implementing rules, including 19.15.7.15 and 19.15.16.19 NMAC. If OCD determines that your C-104 is incomplete or inaccurate, it will give you notice to resubmit your C-104 within 30 days. Failure to comply with this notice may result in enforcement action.

If you have any questions, please contact the local OCD District Office.

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., 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

RECEIVED

Form C-104
Revised August 1, 2011

Oil Conservation Division

1220 South St. Francis Dr.

Santa Fe, NM 87505

FEB 10 2020

Submit one copy to appropriate District Office

EMNRD-OCD ARTESIA

AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

¹ Operator name and Address CHISHOLM ENERGY OPERATING, LLC 801 CHERRY STREET, SUITE 1200-UNIT 20 FORT WORTH, TX 76102		² OGRID Number 372137
		³ Reason for Filing Code/ Effective Date RT-02/06/2020
⁴ API Number 30 - 015-45877	⁵ Pool Name PURPLE SAGE; WOLFCAMP	⁶ Pool Code 98220
⁷ Property Code	⁸ Property Name ASTEROID 20-29 FED COM WCA	⁹ Well Number 2H

II. 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
B	20	23S	26E		120	NORTH	1360	EAST	EDDY

¹¹ Bottom Hole Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	29	23S	26E		330	SOUTH	897	EAST	EDDY

¹² Lse Code F	¹³ Producing Method Code F	¹⁴ Gas Connection Date	¹⁵ C-129 Permit Number	¹⁶ C-129 Effective Date	¹⁷ C-129 Expiration Date
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III. Oil and Gas Transporters

¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ O/G/W
371960	LUCID ENERGY DELAWARE, LLC	G
35246	SHELL TRADING US COMPANY	O

IV. Well Completion Data

²¹ Spud Date 11/21/2019	²² Ready Date 02/06/2020	²³ TD 18519'MD/8695'TVD	²⁴ PBDT 18497'MD/8695'TVD	²⁵ Perforations 18460'-8830'	²⁶ DHC, MC
²⁷ Hole Size	²⁸ Casing & Tubing Size	²⁹ Depth Set	³⁰ Sacks Cement		
17.5"	13.375", 48#, J-55	4562'	465		
12.25"	9.625", 36#, J-55	1930'	790		
8.75"	5.5", 20# P-110	18497'	2600		

V. Well Test Data

³¹ Date New Oil	³² Gas Delivery Date	³³ Test Date	³⁴ Test Length	³⁵ Tbg. Pressure	³⁶ Csg. Pressure
³⁷ Choke Size	³⁸ Oil	³⁹ Water	⁴⁰ Gas		⁴¹ Test Method

⁴² 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:

Jennifer Elrod

Printed name:

JENNIFER ELROD

Title:

SR. REGULATORY ANALYST

E-mail Address:

JELROD@CHISHOLMENERY.COM

Date:

02/06/2020

Phone:

817-953-3728

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

Denied

RECEIVED

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

FEB 10 2020

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

EMNRD-OCD ARTESIA

☒ AMENDED REPORT
AS DRILLED *

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-45877	² Pool Code 98220	³ Pool Name PURPLE SAGE; WOLFCAMP
⁴ Property Code	⁵ Property Name ASTEROID 20-29 FED COM WCA	⁶ Well Number 2H
⁷ OGRID No. 372137	⁸ Operator Name CHISHOLM ENERGY OPERATING, LLC	⁹ Elevation 3367

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
B	20	23S	26E		120	NORTH	1360	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
P	29	23S	26E		330	SOUTH	897	EAST	EDDY

¹² Dedicated Acres 640	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.

	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. <i>Jennifer Elrod</i> 02/06/2020 Signature Date JENNIFER ELROD Printed Name JELROD@CHISHOLMENERGY.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. Date of Survey Signature and Seal of Professional Surveyor: Certificate Number
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Intent ☐ As Drilled ☒

API #
30-015-45877

Operator Name: CHISHOLM ENERGY OPERATING, LLC	Property Name: ASTEROID 20-29 FED COM WCA	Well Number 2H
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Kick Off Point (KOP)

UL B	Section 20	Township 23S	Range 26E	Lot	Feet 134	From N/S NORTH	Feet 888	From E/W EAST	County EDDY
Latitude 32.296521					Longitude -104.309842				NAD 83

First Take Point (FTP)

UL A	Section 20	Township 23S	Range 26E	Lot	Feet 568	From N/S NORTH	Feet 898	From E/W EAST	County EDDY
Latitude 32.295329					Longitude -104.309859				NAD 83

Last Take Point (LTP)

UL P	Section 29	Township 23S	Range 26E	Lot	Feet 39	From N/S SOUTH	Feet 896	From E/W EAST	County EDDY
Latitude 32.268911					Longitude -104.309785				NAD 83

Is this well the defining well for the Horizontal Spacing Unit? ☒

Is this well an infill well? ☐

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #	Operator Name:	Property Name:	Well Number

KZ 06/29/2018

Chisholm Asteroid 20-29 Fed Com WCA 2H MWD Surveys Off to 18519ft MD Survey Geodetic Report (Def Survey)

Report Date: December 11, 2019 - 11:37 AM
 Client: Chisholm
 Field: NM Eddy County (NAD 83)
 Structure / Slot: Chisholm Asteroid 20-29 WCA 2H / New Slot
 Well: Asteroid 20-29 Fed Com WCA 2H
 Borehole: Asteroid 20-29 Fed Com WCA 2H
 UWI / API#: Unknown / Unknown
 Survey Name: Chisholm Asteroid 20-29 Fed Com WCA 2H MWD Surveys Off to 18519ft MD
 Survey Date: November 14, 2019
 Tort / AHD / DDI / ERD Ratio: 356.430' / 10622.192 ft / 6.905' / 1.219
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 17' 47.60854" W 104° 18' 40.93207"
 Location Grid N/E Y/X: N 471621.060 ftUS, E 548123.860 ftUS
 CRS Grid Convergence Angle: 0.0117°
 Grid Scale Factor: 0.99990914
 Version / Patch: 2.10.787.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 179.840° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB
 TVD Reference Elevation: 3417.700 ft above MSL
 Seabed / Ground Elevation: 3386.700 ft above MSL
 Magnetic Declination: 7.244°
 Total Gravity Field Strength: 998.4604 mgn (9.80665 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 47800.369 nT
 Magnetic Dip Angle: 59.915°
 Declination Date: November 14, 2019
 Magnetic Declination Model: HDGM 2019
 North Reference: Grid North
 Grid Convergence Used: 0.0117°
 Total Corr Mag North->Grid: 7.2320°
 North: Well Head
 Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	471621.06	548123.86	N 32 17 47.61	W 104 18 40.93
First SLB MWD Survey	159.00	0.61	232.19	159.00	0.52	-0.52	-0.67	0.38	471620.54	548123.19	N 32 17 47.60	W 104 18 40.94
	191.00	0.58	228.30	191.00	0.73	-0.73	-0.92	0.16	471620.33	548122.94	N 32 17 47.60	W 104 18 40.94
	286.00	0.13	336.53	285.99	0.95	-0.95	-1.33	0.67	471620.11	548122.53	N 32 17 47.60	W 104 18 40.95
	382.00	0.29	265.27	381.99	0.87	-0.87	-1.61	0.29	471620.19	548122.25	N 32 17 47.60	W 104 18 40.95
	392.00	0.28	279.38	391.99	0.87	-0.87	-1.66	0.71	471620.19	548122.20	N 32 17 47.60	W 104 18 40.95
	529.00	0.83	279.05	528.99	0.65	-0.66	-2.97	0.40	471620.40	548120.89	N 32 17 47.60	W 104 18 40.97
	624.00	0.95	271.95	623.97	0.51	-0.52	-4.44	0.17	471620.54	548119.42	N 32 17 47.60	W 104 18 40.98
	711.00	0.99	268.70	710.96	0.50	-0.52	-5.91	0.08	471620.54	548117.95	N 32 17 47.60	W 104 18 41.00
	806.00	0.56	263.43	805.95	0.57	-0.59	-7.19	0.46	471620.47	548116.67	N 32 17 47.60	W 104 18 41.02
	900.00	1.78	100.14	899.94	0.88	-0.90	-6.21	2.47	471620.16	548117.65	N 32 17 47.60	W 104 18 41.00
	995.00	2.15	100.55	994.89	1.48	-1.48	-3.01	0.39	471619.58	548120.85	N 32 17 47.59	W 104 18 40.97
	1090.00	2.44	106.06	1089.81	2.37	-2.37	0.69	0.38	471618.69	548124.55	N 32 17 47.59	W 104 18 40.92
	1184.00	3.23	112.49	1183.69	3.95	-3.94	5.06	0.90	471617.12	548128.92	N 32 17 47.57	W 104 18 40.87
	1279.00	3.15	111.86	1278.55	5.96	-5.93	9.95	0.09	471615.13	548133.81	N 32 17 47.55	W 104 18 40.82
	1374.00	1.02	104.51	1373.48	7.15	-7.12	13.20	2.26	471613.94	548137.05	N 32 17 47.54	W 104 18 40.78
	1468.00	0.57	84.59	1467.47	7.32	-7.28	14.47	0.55	471613.78	548138.33	N 32 17 47.54	W 104 18 40.76
	1564.00	1.06	149.22	1563.46	8.04	-8.00	15.40	1.00	471613.06	548139.26	N 32 17 47.53	W 104 18 40.75
	1658.00	0.55	51.43	1657.45	8.51	-8.47	16.20	1.34	471612.60	548140.06	N 32 17 47.52	W 104 18 40.74
	1754.00	0.73	43.30	1753.45	7.78	-7.73	16.98	0.21	471613.33	548140.84	N 32 17 47.53	W 104 18 40.73
	1849.00	0.73	36.79	1848.44	6.86	-6.81	17.76	0.09	471614.25	548141.61	N 32 17 47.54	W 104 18 40.73
	1885.00	0.66	39.91	1884.44	6.52	-6.47	18.03	0.22	471614.60	548141.88	N 32 17 47.54	W 104 18 40.72
	2031.00	0.68	72.76	2030.43	5.82	-5.56	19.39	0.26	471615.50	548143.25	N 32 17 47.55	W 104 18 40.71
	2125.00	2.52	87.01	2124.39	5.35	-5.29	21.99	1.99	471615.77	548145.85	N 32 17 47.56	W 104 18 40.68
	2220.00	2.80	83.43	2219.29	4.99	-4.92	26.38	0.34	471616.14	548150.24	N 32 17 47.56	W 104 18 40.62
	2315.00	2.49	83.23	2314.18	4.49	-4.41	30.73	0.33	471616.85	548154.59	N 32 17 47.56	W 104 18 40.57
	2410.00	3.89	85.25	2409.03	4.00	-3.90	36.00	1.48	471617.16	548159.85	N 32 17 47.57	W 104 18 40.51
	2505.00	3.59	81.60	2503.83	3.31	-3.20	42.15	0.40	471617.86	548166.01	N 32 17 47.58	W 104 18 40.44
	2599.00	5.19	95.82	2597.56	3.33	-3.20	49.29	2.05	471617.86	548173.15	N 32 17 47.58	W 104 18 40.36
	2693.00	5.37	95.86	2691.16	4.24	-4.08	57.90	0.19	471616.98	548181.75	N 32 17 47.57	W 104 18 40.26
	2788.00	7.27	93.29	2785.58	5.07	-4.88	68.32	2.02	471616.18	548192.17	N 32 17 47.56	W 104 18 40.14
	2883.00	7.15	89.31	2879.83	5.37	-5.15	80.23	0.54	471615.91	548204.09	N 32 17 47.56	W 104 18 40.00
	2977.00	6.74	85.45	2973.14	4.90	-4.64	91.58	0.66	471616.42	548215.43	N 32 17 47.56	W 104 18 39.87
	3071.00	5.88	80.70	3066.57	3.71	-3.43	101.83	1.07	471617.63	548225.68	N 32 17 47.57	W 104 18 39.75
	3166.00	5.64	77.99	3161.09	1.98	-1.67	111.20	0.38	471619.39	548235.05	N 32 17 47.59	W 104 18 39.64
	3261.00	5.37	79.07	3255.65	0.19	0.15	120.13	0.30	471621.21	548243.98	N 32 17 47.61	W 104 18 39.53
	3356.00	4.93	79.67	3350.26	-1.36	1.72	128.51	0.47	471622.78	548252.36	N 32 17 47.63	W 104 18 39.43
	3452.00	4.76	81.64	3445.92	-2.66	3.04	136.51	0.25	471624.10	548260.36	N 32 17 47.64	W 104 18 39.34
	3547.00	4.61	84.06	3540.60	-3.61	4.01	144.21	0.26	471625.07	548268.05	N 32 17 47.65	W 104 18 39.25
	3642.00	4.26	83.19	3635.32	-4.40	4.82	151.51	0.38	471625.88	548275.35	N 32 17 47.66	W 104 18 39.17
	3736.00	4.20	82.35	3729.06	-5.25	5.69	158.39	0.09	471626.75	548282.23	N 32 17 47.66	W 104 18 39.09
	3831.00	5.80	91.67	3823.70	-5.55	6.02	166.63	1.88	471627.08	548290.48	N 32 17 47.67	W 104 18 38.99
	3926.00	5.42	88.07	3918.25	-5.54	6.03	175.92	0.55	471627.09	548299.76	N 32 17 47.67	W 104 18 38.88
	4021.00	7.07	88.90	4012.68	-5.77	6.29	186.25	1.74	471627.35	548310.09	N 32 17 47.67	W 104 18 38.76
	4116.00	6.89	90.93	4106.97	-5.76	6.31	197.79	0.32	471627.37	548321.63	N 32 17 47.67	W 104 18 38.63
	4210.00	7.11	90.82	4200.27	-5.55	6.14	209.24	0.23	471627.20	548333.08	N 32 17 47.67	W 104 18 38.49
	4305.00	6.49	92.99	4294.61	-5.16	5.77	220.48	0.71	471626.83	548344.32	N 32 17 47.67	W 104 18 38.36
	4400.00	5.83	93.71	4389.06	-4.54	5.18	230.66	0.70	471626.24	548354.50	N 32 17 47.66	W 104 18 38.24
	4496.00	5.36	95.44	4484.60	-3.77	4.44	239.99	0.52	471625.50	548363.83	N 32 17 47.65	W 104 18 38.14
	4589.00	4.94	95.75	4577.22	-2.93	3.63	248.30	0.45	471624.89	548372.13	N 32 17 47.64	W 104 18 38.04
	4684.00	6.59	98.73	4671.74	-2.52	3.24	257.82	1.85	471624.30	548381.66	N 32 17 47.64	W 104 18 37.93
	4779.00	6.34	89.15	4766.14	-2.60	3.35	268.52	0.27	471624.41	548392.35	N 32 17 47.64	W 104 18 37.80
	4874.00	6.15	87.88	4860.57	-2.83	3.61	278.85	0.25	471624.67	548402.68	N 32 17 47.64	W 104 18 37.68
	4968.00	5.75	86.70	4954.07	-3.10	3.90	288.58	0.44	471624.96	548412.42	N 32 17 47.65	W 104 18 37.57
	5062.00	5.83	91.77	5047.59	-3.03	3.86	298.06	0.34	471624.92	548421.90	N 32 17 47.65	W 104 18 37.46
	5157.00	5.54	91.44	5142.12	-2.74	3.60	307.47	0.31	471624.66	548431.30	N 32 17 47.64	W 104 18 37.35
	5253.00	4.55	99.78	5237.75	-1.95	2.84	315.86	1.28	471623.90	548439.69	N 32 17 47.64	W 104 18 37.25
	5347.00	5.30	98.05	5331.40	-0.69	1.60	323.83	0.81	471622.66	548447.66	N 32 17 47.62	W 104 18 37.16
	5440.00	4.76	96.95	5424.04	0.40	0.53	331.91	0.59	471621.59	548455.74	N 32 17 47.61	W 104 18 37.07
	5535.00	7.32	80.53	5518.51	-0.09	1.05	341.80	3.22	471622.11	548465.63	N 32 17 47.62	W 104 18 36.95
	5630.00	7.58	77.61	5612.71	-2.40	3.39	353.89	0.48	471624.45	548477.71	N 32 17 47.64	W 104 18 36.81
	5725.00	7.16	79.02	5706.93	-4.84	5.86	365.82	0.48	471626.92	548489.64	N 32 17 47.67	W 104 18 36.67
	5820.00	6.19	81.37	5801.28	-6.70	7.75	376.69	1.06	471628.81	548500.52	N 32 17 47.68	W 104 18 36.54
	5915.00	5.63	80.53	5895.78	-8.21	9.29	386.35	0.60	471630.35	548510.18	N 32 17 47.70	W 104 18 36.43
	6010.00	5.07	81.05	5990.36	-9.61	10.71	395.10	0.59	471631.77	548518.92	N 32 17 47.71	W 104 18 36.33
	6104.00	4.33	81.27	6084.04	-10.77	11.89	402.71	0.79	471632.95	548526.53	N 32 17 47.73	W 104 18 36.24
	6199.00	4.01	79.15	6178.79	-11.92	13.06	409.52	0.37	471634.12	548533.34	N 32 17 47.74	W 104 18 36.16
	6294.00	3.49	80.62	6273.59	-13.00	14.16	415.63	0.56	471635.22	548539.45	N 32 17 47.75	W 104 18 36.09
	6389.00	4.41	82.34	6368.36	-13.94	15.12	422.10	0.98	471636.18	548545.92	N 32 17 47.76	W 104 18 36.01
	6484.00	6.49	94.09	6462.93	-14.02	15.22	431.08	2.47	471636.28	548554.90	N 32 17 47.76	W 104 18 35.91
	6579.00	5.32	94.66	6557.43	-13.27	14.50	440.83	1.23	471635.56	548564.65	N 32 17 47.75	W 104 18 35.80
	6673.00	4.19	99.43	6651.10	-12.34	13.60	448.56	1.28	471634.65	548572.38	N 32 17 47.74	W 104 18 35.71
	6767.00	3.47	102.59	6744.89	-11.14	12.41	454.72	0.80	471633.47	548578.54	N 32 17 47.73	W 104 18 35.63
	6862.00	2.55	109.36	6839.76	-9.80	11.09	459.52	1.04	471632.14	548583.34	N 32 17 47.72	W 104 1

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	7241.00	1.51	148.50	7218.56	-3.54	4.85	469.47	0.42	471625.91	548593.29	N 32 17 47.66 W 104 18 35.46	
	7335.00	1.74	168.96	7312.52	-1.08	2.39	470.39	0.66	471623.45	548594.21	N 32 17 47.63 W 104 18 35.45	
	7429.00	1.48	203.81	7406.49	1.43	-0.12	470.17	1.06	471620.94	548593.99	N 32 17 47.61 W 104 18 35.45	
	7524.00	0.96	249.41	7501.47	2.83	-1.52	468.93	1.12	471619.54	548592.75	N 32 17 47.59 W 104 18 35.47	
	7619.00	0.85	190.93	7596.46	3.80	-2.49	468.05	0.94	471618.57	548591.87	N 32 17 47.58 W 104 18 35.48	
	7713.00	1.85	141.88	7690.43	5.68	-4.37	468.86	1.54	471616.69	548592.68	N 32 17 47.56 W 104 18 35.47	
	7808.00	2.26	158.25	7785.37	8.63	-7.32	470.50	0.75	471613.74	548594.32	N 32 17 47.54 W 104 18 35.45	
	7903.00	0.56	185.78	7880.34	10.84	-9.52	471.15	1.88	471611.54	548594.96	N 32 17 47.51 W 104 18 35.44	
	7998.00	0.65	167.52	7975.34	11.82	-10.51	471.22	0.22	471610.55	548595.03	N 32 17 47.50 W 104 18 35.44	
	8016.00	0.63	169.93	7993.34	12.02	-10.71	471.26	0.19	471610.36	548595.07	N 32 17 47.50 W 104 18 35.44	
	8040.00	0.88	165.59	8017.33	12.33	-11.01	471.32	1.07	471610.05	548595.14	N 32 17 47.50 W 104 18 35.44	
	8071.00	1.57	163.70	8048.33	12.97	-11.65	471.50	2.23	471609.41	548595.32	N 32 17 47.49 W 104 18 35.44	
	8103.00	5.34	158.82	8080.26	14.78	-13.46	472.16	11.81	471607.60	548595.98	N 32 17 47.47 W 104 18 35.43	
	8135.00	9.17	159.44	8112.00	18.56	-17.24	473.60	11.97	471603.82	548597.41	N 32 17 47.44 W 104 18 35.41	
	8166.00	13.60	166.64	8142.39	24.43	-23.10	475.31	14.98	471597.96	548599.13	N 32 17 47.38 W 104 18 35.39	
	8198.00	16.33	172.61	8173.30	32.56	-31.23	476.76	9.79	471589.84	548600.57	N 32 17 47.30 W 104 18 35.38	
	8230.00	19.38	176.83	8203.76	42.32	-40.99	477.63	10.35	471580.07	548601.45	N 32 17 47.20 W 104 18 35.37	
	8262.00	23.80	180.12	8233.50	54.09	-52.75	477.91	14.32	471568.31	548601.73	N 32 17 47.09 W 104 18 35.36	
	8293.00	27.16	184.10	8261.49	67.40	-66.07	477.39	12.16	471554.99	548601.21	N 32 17 46.95 W 104 18 35.37	
	8325.00	28.05	185.50	8289.84	82.18	-80.85	476.15	3.44	471540.22	548599.96	N 32 17 46.81 W 104 18 35.39	
	8356.00	30.16	183.71	8316.93	97.20	-95.87	474.95	7.36	471525.19	548598.76	N 32 17 46.66 W 104 18 35.40	
	8387.00	34.31	181.83	8343.15	113.71	-112.39	474.16	13.77	471508.68	548597.98	N 32 17 46.50 W 104 18 35.41	
	8419.00	37.38	180.66	8369.08	132.44	-131.12	473.76	9.83	471489.95	548597.58	N 32 17 46.31 W 104 18 35.41	
	8450.00	39.54	180.72	8393.35	151.72	-150.40	473.53	6.97	471470.68	548597.35	N 32 17 46.12 W 104 18 35.42	
	8482.00	43.09	181.08	8417.39	172.84	-171.52	473.20	11.12	471449.56	548597.01	N 32 17 45.91 W 104 18 35.42	
	8514.00	45.48	181.69	8440.29	195.17	-193.85	472.65	7.59	471427.23	548596.47	N 32 17 45.69 W 104 18 35.43	
HL Crossing	8535.00	46.37	181.85	8455.25	210.61	-209.29	472.18	4.16	471411.79	548595.99	N 32 17 45.54 W 104 18 35.43	
	8546.00	46.80	181.93	8462.46	218.23	-216.91	471.92	4.16	471404.17	548595.74	N 32 17 45.46 W 104 18 35.43	
	8577.00	48.80	182.09	8483.29	241.18	-239.86	471.12	6.46	471381.22	548594.93	N 32 17 45.23 W 104 18 35.44	
	8609.00	50.79	182.06	8503.94	265.60	-264.28	470.23	6.22	471356.80	548594.05	N 32 17 44.99 W 104 18 35.45	
	8641.00	52.08	181.56	8523.89	290.60	-289.29	469.44	4.21	471331.79	548593.26	N 32 17 44.75 W 104 18 35.46	
	8673.00	53.78	182.03	8543.18	316.12	-314.81	468.64	5.44	471306.28	548592.46	N 32 17 44.49 W 104 18 35.47	
	8704.00	55.68	181.66	8561.08	341.41	-340.11	467.83	6.21	471280.98	548591.65	N 32 17 44.24 W 104 18 35.48	
	8736.00	57.14	181.00	8578.78	368.06	-366.76	467.21	4.88	471254.34	548591.03	N 32 17 43.98 W 104 18 35.49	
	8768.00	57.95	180.82	8595.96	395.06	-393.75	466.78	2.58	471227.34	548590.60	N 32 17 43.71 W 104 18 35.50	
	8800.00	58.88	179.68	8612.72	422.31	-421.01	466.67	4.20	471200.09	548590.48	N 32 17 43.44 W 104 18 35.50	
	8831.00	61.26	178.67	8628.18	449.17	-447.87	467.05	8.18	471173.23	548590.87	N 32 17 43.18 W 104 18 35.49	
	8863.00	65.19	178.21	8642.60	477.73	-476.43	467.83	12.35	471144.68	548591.65	N 32 17 42.89 W 104 18 35.48	
	8893.00	67.53	178.73	8654.62	505.20	-503.90	468.57	7.96	471117.21	548592.38	N 32 17 42.62 W 104 18 35.47	
	8925.00	70.34	178.80	8666.12	535.06	-533.75	469.21	8.78	471087.36	548593.03	N 32 17 42.33 W 104 18 35.47	
	8957.00	73.70	179.19	8676.00	565.49	-564.18	469.74	10.56	471056.94	548593.56	N 32 17 42.03 W 104 18 35.46	
	8988.00	74.75	179.79	8684.43	595.32	-594.01	470.01	3.87	471027.11	548593.82	N 32 17 41.73 W 104 18 35.46	
	9020.00	77.18	181.00	8692.19	626.36	-625.05	469.79	8.43	470996.07	548593.61	N 32 17 41.42 W 104 18 35.46	
	9052.00	81.17	182.88	8698.20	657.76	-656.45	468.73	13.74	470964.67	548592.54	N 32 17 41.11 W 104 18 35.47	
	9084.00	84.00	183.43	8702.33	689.43	-688.13	466.98	9.01	470932.99	548590.80	N 32 17 40.80 W 104 18 35.49	
	9115.00	88.32	183.42	8704.40	720.30	-719.00	465.13	13.94	470902.13	548588.95	N 32 17 40.49 W 104 18 35.52	
	9147.00	92.24	182.11	8704.25	752.25	-750.96	463.59	12.92	470870.17	548587.40	N 32 17 40.18 W 104 18 35.53	
	9177.00	93.25	181.71	8702.81	782.19	-780.90	462.59	3.62	470840.23	548586.41	N 32 17 39.88 W 104 18 35.54	
	9209.00	93.36	181.60	8700.97	814.12	-812.84	461.67	0.49	470808.30	548585.48	N 32 17 39.56 W 104 18 35.56	
	9242.00	92.19	181.80	8699.37	847.07	-845.78	460.69	3.60	470775.35	548584.51	N 32 17 39.24 W 104 18 35.57	
	9271.00	91.63	181.55	8698.40	876.04	-874.76	459.84	2.11	470746.39	548583.66	N 32 17 38.95 W 104 18 35.58	
	9334.00	91.35	179.99	8696.76	939.00	-937.73	458.99	2.51	470683.42	548582.81	N 32 17 38.33 W 104 18 35.59	
	9366.00	91.91	179.74	8695.85	970.99	-969.71	459.07	1.92	470651.44	548582.89	N 32 17 38.01 W 104 18 35.59	
	9397.00	92.35	179.38	8694.70	1001.97	-1000.69	459.31	1.83	470620.46	548583.13	N 32 17 37.71 W 104 18 35.58	
	9429.00	92.64	179.86	8693.31	1033.94	-1032.66	459.52	1.75	470588.50	548583.34	N 32 17 37.39 W 104 18 35.58	
	9461.00	90.67	180.41	8692.38	1065.92	-1064.64	459.44	6.39	470556.51	548583.26	N 32 17 37.07 W 104 18 35.58	
	9529.00	89.14	182.57	8692.50	1133.89	-1132.62	457.68	3.89	470488.55	548581.49	N 32 17 36.40 W 104 18 35.60	
	9624.00	90.17	184.66	8693.07	1228.67	-1227.42	451.69	2.45	470393.76	548575.51	N 32 17 35.46 W 104 18 35.67	
	9719.00	91.26	183.01	8691.88	1323.43	-1322.19	445.33	2.08	470298.99	548569.15	N 32 17 34.52 W 104 18 35.75	
	9813.00	91.29	181.87	8689.79	1417.31	-1416.08	441.33	1.21	470205.11	548565.15	N 32 17 33.60 W 104 18 35.79	
	9908.00	90.97	179.83	8687.92	1512.27	-1511.05	439.92	2.17	470110.15	548563.74	N 32 17 32.66 W 104 18 35.81	
	10003.00	91.32	176.71	8686.02	1607.21	-1605.98	442.79	3.30	470015.23	548566.61	N 32 17 31.72 W 104 18 35.78	
	10098.00	90.69	179.07	8684.35	1702.13	-1700.89	446.29	2.57	469920.33	548570.11	N 32 17 30.78 W 104 18 35.74	
	10193.00	90.32	177.63	8683.51	1797.09	-1795.84	449.02	1.56	469825.38	548572.84	N 32 17 29.84 W 104 18 35.71	
	10288.00	89.91	177.90	8683.32	1892.03	-1890.77	452.73	0.52	469730.47	548576.55	N 32 17 28.90 W 104 18 35.66	
	10382.00	88.68	179.98	8684.48	1986.00	-1984.74	454.47	2.57	469636.50	548578.28	N 32 17 27.97 W 104 18 35.64	
	10477.00	89.23	180.87	8686.21	2080.98	-2079.72	453.76	1.10	469541.53	548577.58	N 32 17 27.03 W 104 18 35.65	
	10572.00	88.42	180.62	8688.16	2175.95	-2174.69	452.53	0.89	469446.57	548576.35	N 32 17 26.09 W 104 18 35.67	
	10667.00	88.65	179.34	8690.59	2270.91	-2269.66	452.56	1.37	469351.61	548575.38	N 32 17 25.15 W 104 18 35.67	
	10761.00	88.83	182.61	8692.66	2364.86	-2363.61	450.96	3.48	469257.67	548574.78	N 32 17 24.22 W 104 18 35.68	
	10856.00	89.60	181.55	8693.96	2459.78	-2458.54	447.51	1.38	469162.75	548573.33	N 32 17 23.28 W 104 18 35.72	
	10950.00	89.43	180.61	8694.75	2553.75	-2552.52	445.74	1.02	469068.78	548569.56	N 32 17 22.35 W 104 18 35.75	
	11045.00	88.83	181.18	8695.37	2648.73	-2647.50	444.26	0.73	468973.81	548568.08	N 32 17 21.41 W 104 18 35.76	
	11139.00	89.57	180.31	8696.12	2742.72	-2741.49	443.04	0.97	468879.82	548566.86	N 32 17 20.48 W 104 18 35.78	
	11233.00	90.03	182.03	8696.19	2836.69	-2835.47	441.12	3.87	468785.86	548564.94	N 32 17 19.55 W 104 18 35.80	
	11327.00	90.40	178.41	8695.84	2930.67	-2929.45	440.76	3.87	468691.88	548564.58	N 32 17 18.62 W 104 18 35.80	
	11421.00	89.68	175.67	8695.77	3024.55	-3023.31	445.61	3.01	468598.03	54856		

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS ("/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	14545.00	90.75	179.87	8702.36	6146.88	-6145.39	468.55	1.43	465476.24	548592.36	N 32 16 46.80 W 104 18 35.49	
	14640.00	90.17	180.20	8701.60	6241.67	-6240.39	468.65	0.83	465381.25	548592.47	N 32 16 45.86 W 104 18 35.49	
	14735.00	90.00	179.27	8701.46	6336.67	-6335.39	469.09	1.00	465286.26	548592.91	N 32 16 44.92 W 104 18 35.48	
	14829.00	90.43	178.34	8701.11	6430.66	-6429.37	471.05	1.09	465192.29	548594.87	N 32 16 43.99 W 104 18 35.46	
	14924.00	89.54	178.42	8701.13	6525.62	-6524.33	473.74	0.94	465097.34	548597.56	N 32 16 43.05 W 104 18 35.43	
	15020.00	90.80	181.44	8700.85	6621.61	-6620.31	473.86	3.41	465001.36	548597.67	N 32 16 42.10 W 104 18 35.43	
	15114.00	90.57	178.21	8699.72	6715.59	-6714.29	474.14	3.44	464907.39	548597.96	N 32 16 41.17 W 104 18 35.43	
	15207.00	89.97	178.30	8699.28	6808.55	-6807.25	476.98	0.65	464814.44	548600.79	N 32 16 40.25 W 104 18 35.39	
	15303.00	90.63	174.91	8698.78	6904.38	-6903.06	482.66	3.60	464718.64	548606.47	N 32 16 39.30 W 104 18 35.33	
	15396.00	88.65	177.79	8699.37	6997.20	-6995.86	488.58	3.76	464625.85	548612.39	N 32 16 38.38 W 104 18 35.26	
	15491.00	88.42	176.29	8701.80	7092.05	-7090.70	493.48	1.60	464531.02	548617.30	N 32 16 37.44 W 104 18 35.20	
	15585.00	87.39	180.37	8705.23	7185.93	-7184.57	496.22	4.47	464437.15	548620.04	N 32 16 36.52 W 104 18 35.17	
	15680.00	89.23	179.67	8708.03	7280.89	-7279.53	496.19	2.07	464342.21	548622.12	N 32 16 35.58 W 104 18 35.15	
	15775.00	90.20	178.61	8708.51	7375.88	-7374.51	497.61	1.51	464247.23	548621.43	N 32 16 34.64 W 104 18 35.15	
	15870.00	87.94	180.55	8710.05	7470.85	-7469.49	498.31	3.13	464152.27	548622.12	N 32 16 33.70 W 104 18 35.15	
	15966.00	90.37	183.03	8711.46	7566.77	-7565.42	495.31	3.62	464056.35	548619.13	N 32 16 32.75 W 104 18 35.18	
	16060.00	88.85	179.92	8712.10	7660.72	-7659.37	492.89	3.68	463962.40	548616.71	N 32 16 31.82 W 104 18 35.21	
	16156.00	88.97	180.17	8713.93	7756.70	-7755.35	492.82	0.29	463866.43	548616.63	N 32 16 30.87 W 104 18 35.21	
	16251.00	89.57	179.51	8715.14	7851.69	-7850.34	493.08	0.94	463771.45	548616.90	N 32 16 29.93 W 104 18 35.21	
	16346.00	89.63	181.83	8715.80	7946.67	-7945.33	491.97	2.44	463676.47	548615.79	N 32 16 28.99 W 104 18 35.22	
	16441.00	89.34	180.52	8716.66	8041.64	-8040.30	490.02	1.41	463581.51	548613.84	N 32 16 28.05 W 104 18 35.24	
	16536.00	90.60	181.06	8716.71	8136.62	-8135.29	488.71	1.44	463486.53	548612.53	N 32 16 27.11 W 104 18 35.26	
	16632.00	91.55	178.84	8714.91	8232.60	-8231.27	488.80	2.51	463390.56	548612.61	N 32 16 26.16 W 104 18 35.26	
	16726.00	89.20	180.76	8714.29	8326.59	-8325.25	489.13	3.23	463296.58	548612.94	N 32 16 25.23 W 104 18 35.26	
	16820.00	91.00	181.42	8714.13	8420.56	-8419.23	487.34	2.04	463202.61	548611.15	N 32 16 24.30 W 104 18 35.28	
	16915.00	89.28	178.88	8713.90	8515.55	-8514.22	487.09	3.23	463107.63	548610.90	N 32 16 23.36 W 104 18 35.28	
	17010.00	91.75	180.99	8713.04	8610.53	-8609.20	487.20	3.42	463012.66	548611.01	N 32 16 22.42 W 104 18 35.28	
	17104.00	91.00	179.29	8710.79	8704.50	-8703.17	486.97	1.98	462918.70	548610.78	N 32 16 21.49 W 104 18 35.28	
	17199.00	92.44	180.95	8707.93	8799.45	-8798.12	486.77	2.31	462823.76	548610.58	N 32 16 20.55 W 104 18 35.28	
	17293.00	91.35	180.25	8704.83	8893.39	-8892.06	485.79	1.38	462729.82	548609.60	N 32 16 19.62 W 104 18 35.30	
	17387.00	91.69	181.88	8702.33	8987.33	-8986.01	484.04	1.77	462635.88	548607.85	N 32 16 18.69 W 104 18 35.32	
	17482.00	91.52	180.55	8699.67	9082.26	-9080.95	482.03	1.41	462540.95	548605.84	N 32 16 17.75 W 104 18 35.34	
	17577.00	91.55	179.90	8697.13	9177.22	-9175.91	481.65	0.68	462446.00	548605.47	N 32 16 16.81 W 104 18 35.34	
	17672.00	91.12	179.60	8694.91	9272.20	-9270.89	482.07	0.55	462351.03	548605.88	N 32 16 15.87 W 104 18 35.34	
	17767.00	91.66	181.63	8692.61	9367.16	-9365.85	481.05	2.21	462256.08	548604.86	N 32 16 14.93 W 104 18 35.35	
	17862.00	89.51	178.49	8691.64	9462.13	-9460.83	480.95	4.01	462161.11	548604.76	N 32 16 13.99 W 104 18 35.35	
	17956.00	91.03	178.58	8691.20	9556.10	-9554.79	483.35	1.62	462067.16	548607.17	N 32 16 13.06 W 104 18 35.33	
	18051.00	90.00	178.90	8690.34	9651.08	-9649.76	485.44	1.14	461972.19	548609.26	N 32 16 12.12 W 104 18 35.30	
	18146.00	90.89	177.61	8689.60	9746.04	-9744.71	488.33	1.65	461877.25	548612.15	N 32 16 11.18 W 104 18 35.27	
	18240.00	88.65	177.78	8689.98	9839.97	-9838.63	492.11	2.39	461783.34	548615.93	N 32 16 10.25 W 104 18 35.22	
	18335.00	87.45	179.85	8693.21	9934.89	-9933.55	494.08	2.52	461688.43	548617.89	N 32 16 9.31 W 104 18 35.20	
Final Survey	18428.00	89.97	181.62	8695.31	10027.84	-10026.51	492.88	3.31	461595.48	548616.70	N 32 16 8.39 W 104 18 35.22	
Projection To Bit	18519.00	89.97	181.62	8695.36	10118.80	-10117.47	490.31	0.00	461504.53	548614.13	N 32 16 7.49 W 104 18 35.25	

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	31.000	1/98.425	17.500	13.375 NAL_MWD_1.0_DEG-Depth Only	Asteroid 20-29 Fed Com WCA 2H / Chisholm Asteroid 20-29 Fed Com WCA 2H MWD Surveys Off
	1	31.000	31.000	Act Stns	17.500	13.375 NAL_MWD_1.0_DEG-Depth Only	Asteroid 20-29 Fed Com WCA 2H / Chisholm Asteroid 20-29 Fed Com WCA 2H MWD Surveys Off
	1	31.000	452.000	Act Stns	17.500	13.375 NAL_MWD_1.0_DEG	Asteroid 20-29 Fed Com WCA 2H / Chisholm Asteroid 20-29 Fed Com WCA 2H MWD Surveys Off
	1	452.000	1945.000	Act Stns	12.250	9.625 NAL_MWD_1.0_DEG	Asteroid 20-29 Fed Com WCA 2H / Chisholm Asteroid 20-29 Fed Com WCA 2H MWD Surveys Off
	1	1945.000	9509.000	Act Stns	8.750	0.000 NAL_MWD_1.0_DEG	Asteroid 20-29 Fed Com WCA 2H / Chisholm Asteroid 20-29 Fed Com WCA 2H MWD Surveys Off
	1	9509.000	18519.000	Act Stns	8.500	0.000 NAL_MWD_1.0_DEG	Asteroid 20-29 Fed Com WCA 2H / Chisholm Asteroid 20-29 Fed Com WCA 2H MWD Surveys Off

Borehole:	Well:	Field:	Structure:
Asteroid 20-29 Fed Com WCA 2H	Asteroid 20-29 Fed Com WCA 2H	NM Eddy County (NAD 83)	Chisholm Asteroid 20-29 WCA 2H

Gravity & Magnetic Parameters					Surface Location					NADES New Mexico State Plane, Eastern Zone, US Feet					Miscellaneous									
Model:	HDOM 2019		Dip:	59.915°	Date:	14-Nov-2019				Lat:	N 32 17 47.61		Northing:	471621.061US		Grid Conv:	0.0117°		Spot:	New Slot		TVD Ref:	RKB(3417.7ft above MSL)	
MagDec:	7.244°		FS:	47800.369nT		Gravity FS:	998.46mgm (9.80665 Based)				Lon:	W 104 18 40.93		Easting:	648123.86US		Scale Fact:	0.99990314		Planet:	Chisholm Asteroid 20-29 Fed Com WCA 21 MWD Surveys 0ft to 18519ft MD			

Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
First SLB MWD Survey	159.00	0.61	232.19	159.00	0.52	-0.52	-0.67	0.38
HL Crossing	8535.50	46.37	181.85	8495.25	210.61	-209.29	472.18	4.16
Final Survey	18428.00	89.97	181.62	8695.31	10027.84	-10026.51	492.88	3.31
Projection To B4	18519.00	89.97	181.82	8695.36	10118.80	-10117.47	490.31	0.00

