Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on page 2

5. Lease Serial No.
NMNM120374

6. If Indian, Allottee or Tribe Name

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

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

8. Well Name and No.
OMEGA 2308 03 5H

2. Name of Operator
LOGOS OPERATING LLC
Contact: MARIE E FLOREZ
E-Mail: mflorez@logosresourcesllc.com

9. API Well No.
30-045-38180-00-X1

3a. Address
2010 AFTON PLACE
FARMINGTON, NM 87401

3b. Phone No. (include area code)
Ph: 505-787-2218

10. Field and Pool or Exploratory Area
BASIN MANCOS

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 3 T23N R8W SENE 1960FNL 223FEL
36.258172 N Lat, 107.660913 W Lon

11. County or Parish, State
SAN JUAN COUNTY, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original A PD
BP	☐ 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 recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

LOGOS Operating request a change in plans for the following:

Original bottomhole location from 1882' FNL & 0' FEL to new bottomhole location 1878' FNL & 1098' FWL.

Original TD @ 11227' MD 5468' TVD to new TD @ 12305' MD 5438' TVD.

Geology tops have been updated per changes.

Original KOP @ 4649' MD 4606' TVD to new KOP @ 4627' MD 4583' TVD.

Original Landing point @ 5890' MD 5441' TVD to new Landing point @ 5870' MD 5419' TVD.

NMOCD
FEB 25 2020
DISTRICT III

ADHERE TO PREVIOUS NMOCD CONDITIONS OF APPROVAL

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

Electronic Submission #502764 verified by the BLM Well Information System
For LOGOS OPERATING LLC, sent to the Farmington
Committed to AFMSS for processing by JOE KILLINS on 02/24/2020 (20JK0119SE)

Name *(Printed/Typed)* MARIE E FLOREZ — Title REGULATORY SPECIALIST

Signature (Electronic Submission) — Date 02/11/2020

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By JOE KILLINS — Title ENGINEER — Date 02/24/2020

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 Farmington

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

(Instructions on page 2)

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

nmocd

Additional data for EC transaction #502764 that would not fit on the form

32. Additional remarks, continued

Original 7" Casing Intermediate @ 5890' MD to new 5870' MD.
Original 4.5" Casing Production @ 5790' - 11227' to new 5770' - 12305'.

Original 7" Intermediate & 4.5" production cementing bbls and sacks have been updated per casing depth changes.

Attached: New C102 package, Operation and Directional Drill plans.

District I
1625 N. French Drive, Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First Street, 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 Drive, 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 Drive
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011

Submit one copy to Appropriate District Office

[X] AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-045-38180	97232	BASIN MANCOS

4 Property Code	5 Property Name	6 Well Number
327185	OMEGA 2308 03	5H

7 OGRID No.	8 Operator Name	9 Elevation
289408	LOGOS OPERATING, LLC	6908'

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
H	3	23N	8W		1960	NORTH	223	EAST	SAN JUAN

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
E	1	23N	8W		1878	NORTH	1098	WEST	SAN JUAN

12 Dedicated Acres		13 Joint or Infill	14 Consolidation Code	15 Order No.
403.72	W/2 NW/4 - Section 1 N/2 - Section 2			

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.

Tamra Sessions 1/28/20
Signature Date

Tamra Sessions
Printed Name

tsessions@logosresourcesllc.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 Revised: JANUARY 27, 2020
Date of Survey: MAY 4, 2019

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
Certificate Number 15269

SURFACE LOCATION (A)
1960' FNL 223' FEL
SECTION 3, T23N, R8W
LAT: 36.258159 °N
LONG: 107.660303 °W
DATUM: NAD1927

LAT: 36.258172 °N
LONG: 107.660913 °W
DATUM: NAD1983

N73°44.9'E 179.5'

POINT-OF-ENTRY (B)
1910' FNL 50' FEL
SECTION 3, T23N, R8W
LAT: 36.258296 °N
LONG: 107.659718 °W
DATUM: NAD1927

LAT: 36.258308 °N
LONG: 107.660329 °W
DATUM: NAD1983

N89°41.1'E 150.0'

LAST PERFORATION (C)
1909' FNL 100' FWL
SECTION 2, T23N, R8W
LAT: 36.258297 °N
LONG: 107.659209 °W
DATUM: NAD1927

LAT: 36.258310 °N
LONG: 107.659820 °W
DATUM: NAD1983

N89°41.1'E 6185.4'

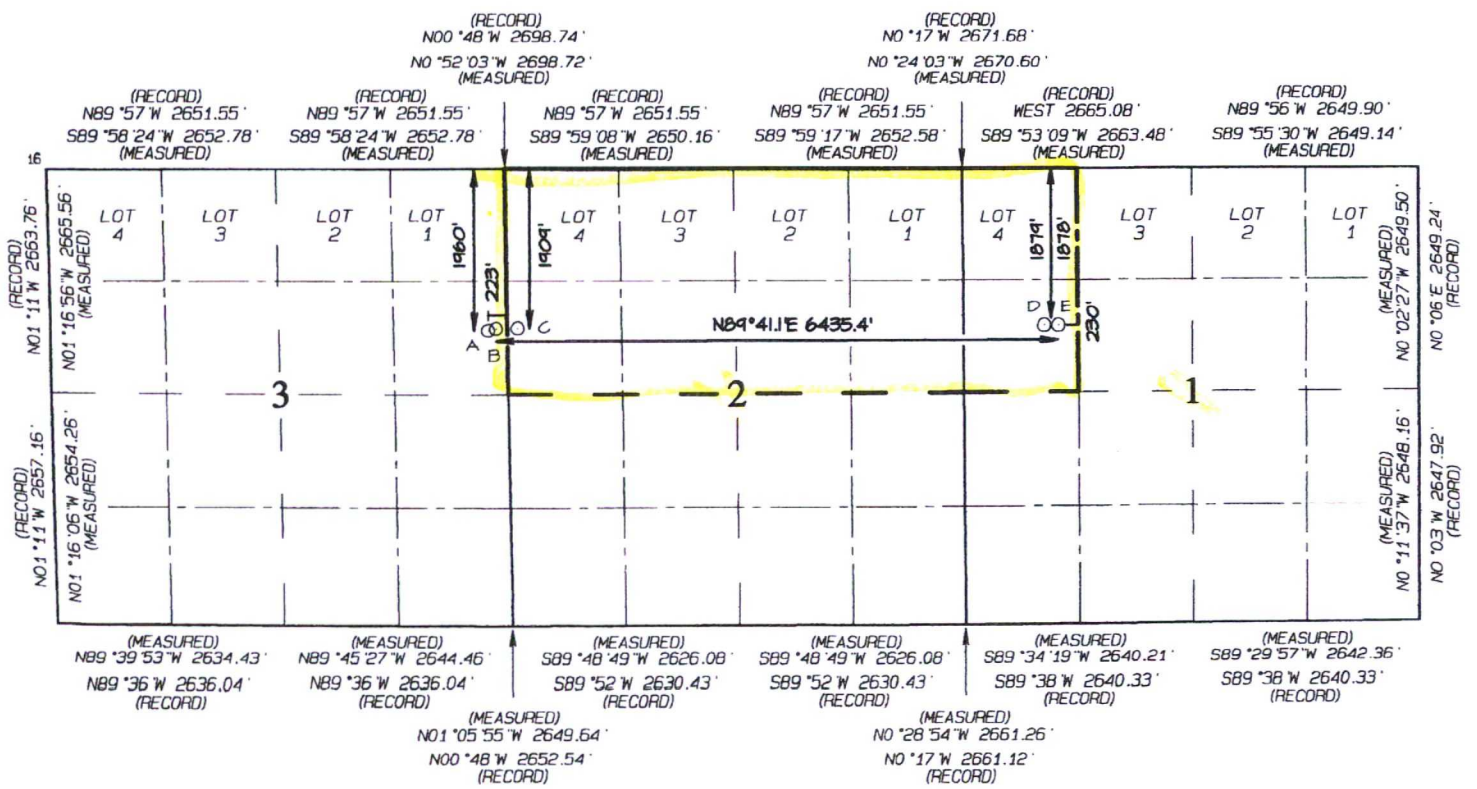
FIRST PERFORATION (D)
1879' FNL 998' FWL
SECTION 1, T23N, R8W
LAT: 36.258358 °N
LONG: 107.638230 °W
DATUM: NAD1927

LAT: 36.258371 °N
LONG: 107.638840 °W
DATUM: NAD1983

N89°41.1'E 100.0'

END-OF-LATERAL (E)
1878' FNL 1098' FWL
SECTION 1, T23N, R8W
LAT: 36.258359 °N
LONG: 107.637891 °W
DATUM: NAD1927

LAT: 36.258372 °N
LONG: 107.638501 °W
DATUM: NAD1983



Surface = Indian

LOGOS Operating, LLC
Operations Plan

Note: This procedure will be adjusted onsite based upon actual conditions

Date:	January 30, 2020	Pool:	Basin Mancos
Well Name:	**Omega 2308 03 5H**	Elevation:	6,908
Surface Location:	Sec 3, T23N, R8W 1960' FNL, 223' FEL (36.258172° N, -107.660913° W – NAD83)	Measured Depth:	12,305
Bottom Hole Location:	Sec 1, T23N, R8W 1878' FNL, 1098' FWL (36.258372° N, -107.638501° W – NAD83)	County:	San Juan

Lease Serial #NMNM 120374

I. GEOLOGY

A. Formation Tops (KB): Estimated top of important geological markers:
SURFACE FORMATION - NACIMIENTO

NAME	MD	TVD	NAME	MD	TVD
OJO ALAMO	1,056	1,056	MENEFEE	3,321	3,296
KIRTLAND	1,268	1,268	*POINT LOOKOUT	4,084	4,048
*FRUITLAND	1,433	1,433	*MANCOS	4,393	4,353
*PICTURED CLIFFS	1,768	1,765	GALLUP	5,250	5,166
CHACRA	2,601	2,586	KICKOFF POINT	4,627	4,583
*CLIFF HOUSE	3,261	3,237	LANDING POINT	5,870	5,419
			TD	12,305	5,438

* indicates depth at which anticipated water, oil, gas or other mineral bearing formations are expected to be encountered.

B. **MUD LOGGING PROGRAM:** Mudlogger on location from KOP to TD.

C. **LOGGING PROGRAM:** LWD GR from surface casing to TD.

D. **NATURAL GAUGES:** Gauge any noticeable increases in gas flow. Record all gauges in Tour book and on morning reports.

II. DRILLING

A. **MUD PROGRAM:** LSND mud (WBM) will be used to drill the 12-1/4" Surface hole, the 8 ¾" Directional Vertical hole, and the curve portion of the wellbore. A LSND (WBM) or (OBM) will be used to drill the lateral portion of well. Treat for lost circulation as necessary. Obtain 100% returns prior to cementing. Notify Engineering of any mud losses.

Above ground steel pits will be used for fluid and cuttings while drilling. In the unlikely event that a tank develops a leak, upon immediate visual discovery, the fluid would be transferred to another tank and contaminated soil would be removed and disposed. Any leaks, spills or other undesirable events will be reported in accordance with BLM NTL 3A. Rig crews will monitor the tanks at all times.

B. **BOP TESTING:** While drill pipe is in use, the pipe rams and the blind rams will be function tested once each trip. The BOPE will be tested to **250 psi (Low) for 5 minutes** and **1500 psi (High) for 10 minutes.** Pressure test surface casing to **600 psi for 30 minutes** and intermediate casing to **1500 psi for 30 minutes.** Utilize a BOPE Testing Unit with a recording chart and appropriate test plug for testing. The drum brakes will be inspected and tested each tour. **All tests and inspections will be recorded and logged with time and results.**

III. MATERIALS

A. CASING EQUIPMENT:

CASING TYPE	OH SIZE (IN)	DEPTH (MD)	CSG SIZE	WEIGHT	GRADE	CONN
SURFACE	12.25"	320' or greater	9.625"	36 LBS	J-55 or equiv	LTC or STC
INTERMEDIATE	8.75"	5,870'	7"	23 LBS	J-55 or equiv	LTC
PRODUCTION	6.125"	5,770' – 12,305'	4.5"	11.6 LBS	P-110 or equiv	LTC or BTC
TIE BACK	6.125"	Surf. – 5,770'	4.5"	11.6 LBS	P-110 or equiv	LTC or BTC

NOTE: All casing depths are approximate and will be based on drilling conditions +/- 50'. Weights, grades and connections will be based on availability and may vary but will be equivalent or greater.

B. FLOAT EQUIPMENT:

1. SURFACE CASING: 9-5/8" notched regular pattern guide shoe. Run (1) standard centralizer on each of the bottom (4) joints of Surface Casing.
2. INTERMEDIATE CASING: 7" cement nose guide shoe with a self-fill insert float. Place float collar one joint above the shoe. Install (1) centralizer on each of the bottom (3) joints and one standard centralizer every (3) joints to 2,500 ft. Run (1) centralizer at 2,500 ft., 2,300ft., 2,000ft., 1,500 ft., and 1,000 ft. Optional use of DV Tool will be considered if losses while drilling are encountered. See note below.
3. PRODUCTION LINER: Run 4-1/2" Liner with cement nose guide Float Shoe+ 2jts. of 4-1/2" casing+ Landing Collar+ 4-1/2" pup joint+ 1 RSI (Sliding Sleeve). Centralizer program will be determined by wellbore condition. Set seals on Liner Hanger. Liner to be pressure tested during completion operations.

NOTE: Use of DV tool would be considered by operator as back up in case we experience heavy losses and are concerned with cement not reaching surface. If major losses are not encountered we will not run DV tool. Optional use of cancelation plugs for DV tools may be used if losses while cementing are not encountered.

C. CEMENTING:

(Note: Volumes may be adjusted onsite due to actual conditions)

1. SURFACE: 5 bbl Fresh Water Spacer, 100 sx (161 cu.ft.) of 14.5 ppg Type 1-11 (Neat G) + 20% Fly Ash cement w/ 7.41 gal/sack mix water ratio @ 1.61 cu ft/sx yield. Calculated @volume+ 30% excess. WOC 12 hours. Test csg to 600 psi. Total Volume: (160cu-ft/100 sx/ Bbls). TOC at Surface.

2. INTERMEDIATE: If deemed necessary, the intermediate casing will be cemented in 1 or 2 stages using DV/STAGE tools in order to reduce cement losses and maximize cement coverage. If losses are not observed a cancelation plug will be pumped and the remaining

cement will be pumped during stage 1.

Stage 1: Spacer #1: 20 bbl (112 cuft) Chemwash. Lead Cement: 221.2 bbls, 637 sks, 12.3 ppg@ 1.95 cuft/sk yield. Tail Cement: 58.2 bbls, 251 sks, 13.5 ppg@ 1.3 cu'ft/sk yield. Displacement: Displace w/ Drilling mud or water. Total Cement: 279.4 bbls/ 888.2 sks / 1568.6 cuft.

3. PRODUCTION LINER: Spacer #1:10 bbl (56.cu-ft) Water Spacer. Spacer #2: 40 bbl 9.5 ppg (224.6 cu-ft) Tuned Spacer Ill. Spacer #3: 10 bbl Water Spacer. Lead Cement: Extencem TM System. Yield 1.36 cuft/sk 13.3 ppg (~611 sx / 148 bbls /830 cuft). Tail Spacer: 40 BBL of MMCR. Displacement: Displace w/ drilling mud or water.

IV. COMPLETION

A. CBL

CBLs and/or Temperature Surveys Will Be Performed as Needed or Required

B. PRESSURE TEST

With frac stack installed on wellhead, pressure test 4-1/2" casing to 4000 psi max, hold at 1500 psi for 30 minutes. Increase pressure to Open RSI sleeves.

C. STIMULATION

Stimulate with sand, water and N2. Isolate stages with flow through frac plugs. Drill out frac plugs and flowback lateral.

D. PRODUCTION TUBING

Run 2-7/8", 6.5#, J-55, EUE tubing

*NOTE: Although this horizontal well may be drilled past the applicable setbacks, an unorthodox location application is not required because the completed interval in this well, as defined by 19.15.16.7 8(1) NMAC, will be entirely within the applicable setbacks. This approach complies with all applicable rules, including 19.15.16.14 A(3) NMAC, 19.15.16.14 8(2) NMAC, 19.15.16.15 8(2)NMAC, and 19.15.16.15. 8(4) NMAC.

LOGOS RESOURCES II, LLC

Company: Logos Operating LLC
Project: San Juan, NM NAD83
Site: Chaco 2308-03 Pad
Well: Omega 2308-03 5H
Wellbore: OH
Design: Plan #4

PROJECT DETAILS: San Juan, NM NAD83

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

Scientific Drilling

Azimuths to True North
Magnetic North: 8.73°

Magnetic Field
Strength: 49433.3nT
Dip Angle: 62.82°
Date: 8/29/2019
Model: HDGM

WELL DETAILS: Omega 2308-03 5H

GL 6908' & RKB 25' @ 6933.00usft (Aztec 1000)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1913318.55	2773924.70	36.2581720	-107.6609130

Plan: Plan #4 (Omega 2308-03 5H/OH)

Created By: Janie Collins Date: 14:13, January 29 2020

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Omega 5H POE	5419.00	49.51	172.18	1913368.36	2774096.79	36.2583080	-107.6603290
Omega 5H BHL	5438.00	73.57	6607.52	1913403.87	2780532.08	36.2583720	-107.6385010
Omega 5H FPerf	5438.00	73.18	6507.57	1913403.31	2780432.14	36.2583710	-107.6388400
Omega 5H LPerf	5419.00	50.24	322.24	1913369.36	2774246.85	36.2583100	-107.6598200

SECTION DETAILS

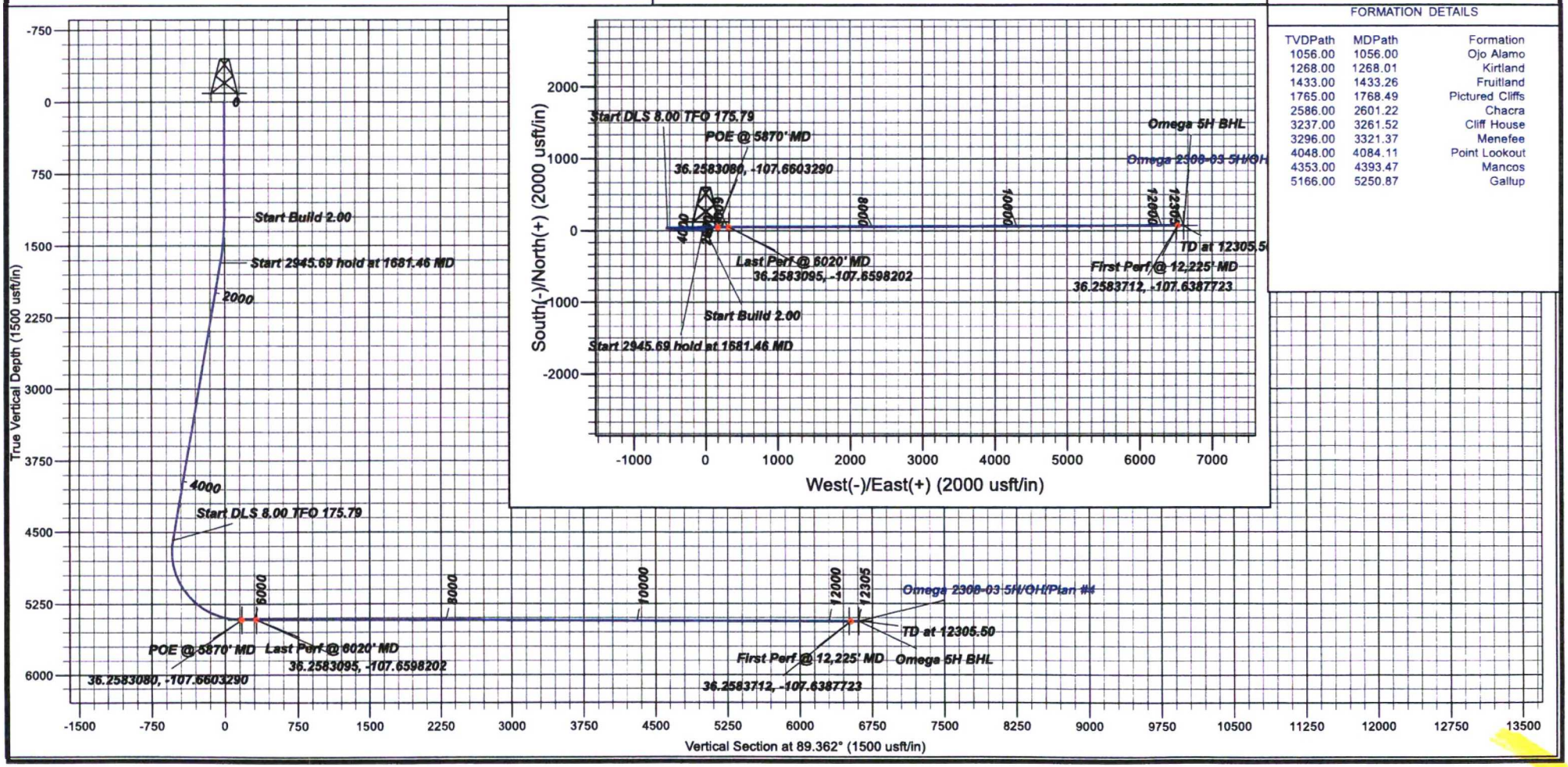
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	
1200.00	0.00	0.000	1200.00	0.00	0.00	0.00	0.00	0.00	
1681.46	9.63	273.941	1679.19	2.77	-40.27	2.00	273.94	-40.23	
4627.15	9.63	273.941	4583.39	36.63	-531.83	0.00	0.00	-531.39	
5870.08	89.83	89.786	5419.00	49.51	172.18	8.00	175.79	172.72	Omega 5H POE
12305.50	89.83	89.786	5438.00	73.57	6607.52	0.00	0.00	6607.93	Omega 5H BHL

CASING DETAILS

No casing data is available

FORMATION DETAILS

TVDPath	MDPath	Formation
1056.00	1056.00	Ojo Alamo
1268.00	1268.01	Kirtland
1433.00	1433.26	Fruitland
1765.00	1768.49	Pictured Cliffs
2586.00	2601.22	Chacra
3237.00	3261.52	Cliff House
3296.00	3321.37	Menefee
4048.00	4084.11	Point Lookout
4353.00	4393.47	Mancos
5166.00	5250.87	Gallup



LOGOS RESOURCES II, LLC

Logos Operating LLC

San Juan, NM NAD83
Chaco 2308-03 Pad
Omega 2308-03 5H

OH

Plan: Plan #4

Standard Planning Report

29 January, 2020

Scientific Drilling

www.scientificdrilling.com

Database:	Grand Junction	**Local Co-ordinate Reference:**	Well Omega 2308-03 5H
Company:	Logos Operating LLC	**TVD Reference:**	GL 6908' & RKB 25' @ 6933.00usft (Aztec 1000)
Project:	San Juan, NM NAD83	**MD Reference:**	GL 6908' & RKB 25' @ 6933.00usft (Aztec 1000)
Site:	Chaco 2308-03 Pad	**North Reference:**	True
Well:	Omega 2308-03 5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #4		

Project	San Juan, NM NAD83		
Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Western Zone		

Site	Chaco 2308-03 Pad				
Site Position:		**Northing:**	1,913,296.34 usft	**Latitude:**	36.2581110
From:	Lat/Long	**Easting:**	2,773,925.33 usft	**Longitude:**	-107.6609110
Position Uncertainty:	0.00 usft	**Slot Radius:**	13.20 in	**Grid Convergence:**	0.10 °

Well	Omega 2308-03 5H				
Well Position	**+N/-S**	22.21 usft	**Northing:**	1,913,318.55 usft	**Latitude:**	36.2581720
	+E/-W	-0.59 usft	**Easting:**	2,773,924.70 usft	**Longitude:**	-107.6609130
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	6,908.00 usft

Wellbore	OH			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	HDGM	8/29/2019	8.73	62.82	49,433.30000000

Design	Plan #4				
Audit Notes:					
Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.00	0.00	0.00	89.362	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,200.00	0.00	0.000	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,681.46	9.63	273.941	1,679.19	2.77	-40.27	2.00	2.00	0.00	273.94	
4,627.15	9.63	273.941	4,583.39	36.63	-531.83	0.00	0.00	0.00	0.00	
5,870.08	89.83	89.786	5,419.00	49.51	172.18	8.00	6.45	14.15	175.79	Omega 5H POE
12,305.50	89.83	89.786	5,438.00	73.57	6,607.52	0.00	0.00	0.00	0.00	Omega 5H BHL

Database:	Grand Junction	**Local Co-ordinate Reference:**	Well Omega 2308-03 5H
Company:	Logos Operating LLC	**TVD Reference:**	GL 6908' & RKB 25' @ 6933.00usft (Aztec 1000)
Project:	San Juan, NM NAD83	**MD Reference:**	GL 6908' & RKB 25' @ 6933.00usft (Aztec 1000)
Site:	Chaco 2308-03 Pad	**North Reference:**	True
Well:	Omega 2308-03 5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #4		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.000	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.000	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.000	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.000	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.000	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.000	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.000	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.000	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.000	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	2.00	273.941	1,299.98	0.12	-1.74	-1.74	2.00	2.00	0.00
1,400.00	4.00	273.941	1,399.84	0.48	-6.96	-6.96	2.00	2.00	0.00
1,500.00	6.00	273.941	1,499.45	1.08	-15.66	-15.64	2.00	2.00	0.00
1,600.00	8.00	273.941	1,598.70	1.92	-27.81	-27.79	2.00	2.00	0.00
1,681.46	9.63	273.941	1,679.19	2.77	-40.27	-40.23	2.00	2.00	0.00
1,700.00	9.63	273.941	1,697.48	2.99	-43.36	-43.32	0.00	0.00	0.00
1,800.00	9.63	273.941	1,796.07	4.14	-60.05	-60.00	0.00	0.00	0.00
1,900.00	9.63	273.941	1,894.66	5.29	-76.74	-76.67	0.00	0.00	0.00
2,000.00	9.63	273.941	1,993.25	6.44	-93.42	-93.35	0.00	0.00	0.00
2,100.00	9.63	273.941	2,091.84	7.58	-110.11	-110.02	0.00	0.00	0.00
2,200.00	9.63	273.941	2,190.43	8.73	-126.80	-126.69	0.00	0.00	0.00
2,300.00	9.63	273.941	2,289.02	9.88	-143.49	-143.37	0.00	0.00	0.00
2,400.00	9.63	273.941	2,387.61	11.03	-160.17	-160.04	0.00	0.00	0.00
2,500.00	9.63	273.941	2,486.20	12.18	-176.86	-176.71	0.00	0.00	0.00
2,600.00	9.63	273.941	2,584.80	13.33	-193.55	-193.39	0.00	0.00	0.00
2,700.00	9.63	273.941	2,683.39	14.48	-210.24	-210.06	0.00	0.00	0.00
2,800.00	9.63	273.941	2,781.98	15.63	-226.92	-226.73	0.00	0.00	0.00
2,900.00	9.63	273.941	2,880.57	16.78	-243.61	-243.41	0.00	0.00	0.00
3,000.00	9.63	273.941	2,979.16	17.93	-260.30	-260.08	0.00	0.00	0.00
3,100.00	9.63	273.941	3,077.75	19.08	-276.98	-276.76	0.00	0.00	0.00
3,200.00	9.63	273.941	3,176.34	20.23	-293.67	-293.43	0.00	0.00	0.00
3,300.00	9.63	273.941	3,274.93	21.38	-310.36	-310.10	0.00	0.00	0.00
3,400.00	9.63	273.941	3,373.52	22.53	-327.05	-326.78	0.00	0.00	0.00
3,500.00	9.63	273.941	3,472.12	23.68	-343.73	-343.45	0.00	0.00	0.00
3,600.00	9.63	273.941	3,570.71	24.83	-360.42	-360.12	0.00	0.00	0.00
3,700.00	9.63	273.941	3,669.30	25.98	-377.11	-376.80	0.00	0.00	0.00
3,800.00	9.63	273.941	3,767.89	27.13	-393.80	-393.47	0.00	0.00	0.00
3,900.00	9.63	273.941	3,866.48	28.28	-410.48	-410.14	0.00	0.00	0.00
4,000.00	9.63	273.941	3,965.07	29.43	-427.17	-426.82	0.00	0.00	0.00
4,100.00	9.63	273.941	4,063.66	30.58	-443.86	-443.49	0.00	0.00	0.00
4,200.00	9.63	273.941	4,162.25	31.72	-460.55	-460.17	0.00	0.00	0.00
4,300.00	9.63	273.941	4,260.84	32.87	-477.23	-476.84	0.00	0.00	0.00
4,400.00	9.63	273.941	4,359.44	34.02	-493.92	-493.51	0.00	0.00	0.00
4,500.00	9.63	273.941	4,458.03	35.17	-510.61	-510.19	0.00	0.00	0.00
4,600.00	9.63	273.941	4,556.62	36.32	-527.30	-526.86	0.00	0.00	0.00
4,627.15	9.63	273.941	4,583.39	36.63	-531.83	-531.39	0.00	0.00	0.00
4,700.00	3.84	280.333	4,655.70	37.49	-540.31	-539.86	8.00	-7.95	8.78
4,800.00	4.28	80.345	4,755.61	38.72	-539.93	-539.46	8.00	0.44	160.01
4,900.00	12.24	86.542	4,854.50	39.99	-525.64	-525.16	8.00	7.96	6.20

Database:	Grand Junction	**Local Co-ordinate Reference:**	Well Omega 2308-03 5H
Company:	Logos Operating LLC	**TVD Reference:**	GL 6908' & RKB 25' @ 6933.00usft (Aztec 1000)
Project:	San Juan, NM NAD83	**MD Reference:**	GL 6908' & RKB 25' @ 6933.00usft (Aztec 1000)
Site:	Chaco 2308-03 Pad	**North Reference:**	True
Well:	Omega 2308-03 5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #4		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,000.00	20.24	87.878	4,950.43	41.27	-497.72	-497.23	8.00	7.99	1.34
5,100.00	28.23	88.477	5,041.54	42.54	-456.73	-456.23	8.00	8.00	0.60
5,200.00	36.23	88.827	5,126.06	43.78	-403.46	-402.94	8.00	8.00	0.35
5,300.00	44.23	89.065	5,202.35	44.95	-338.93	-338.41	8.00	8.00	0.24
5,400.00	52.23	89.242	5,268.91	46.05	-264.42	-263.89	8.00	8.00	0.18
5,500.00	60.23	89.385	5,324.46	47.04	-181.37	-180.84	8.00	8.00	0.14
5,600.00	68.23	89.507	5,367.90	47.90	-91.40	-90.86	8.00	8.00	0.12
5,700.00	76.23	89.615	5,398.40	48.63	3.75	4.29	8.00	8.00	0.11
5,800.00	84.22	89.717	5,415.37	49.20	102.22	102.76	8.00	8.00	0.10
5,870.08	89.83	89.786	5,419.00	49.51	172.18	172.72	8.00	8.00	0.10
5,900.00	89.83	89.786	5,419.09	49.62	202.09	202.63	0.00	0.00	0.00
6,000.00	89.83	89.786	5,419.38	49.99	302.09	302.63	0.00	0.00	0.00
6,100.00	89.83	89.786	5,419.68	50.37	402.09	402.63	0.00	0.00	0.00
6,200.00	89.83	89.786	5,419.97	50.74	502.09	502.62	0.00	0.00	0.00
6,300.00	89.83	89.786	5,420.27	51.12	602.09	602.62	0.00	0.00	0.00
6,400.00	89.83	89.786	5,420.56	51.49	702.09	702.62	0.00	0.00	0.00
6,500.00	89.83	89.786	5,420.86	51.86	802.09	802.62	0.00	0.00	0.00
6,600.00	89.83	89.786	5,421.16	52.24	902.09	902.61	0.00	0.00	0.00
6,700.00	89.83	89.786	5,421.45	52.61	1,002.09	1,002.61	0.00	0.00	0.00
6,800.00	89.83	89.786	5,421.75	52.98	1,102.08	1,102.61	0.00	0.00	0.00
6,900.00	89.83	89.786	5,422.04	53.36	1,202.08	1,202.60	0.00	0.00	0.00
7,000.00	89.83	89.786	5,422.34	53.73	1,302.08	1,302.60	0.00	0.00	0.00
7,100.00	89.83	89.786	5,422.63	54.11	1,402.08	1,402.60	0.00	0.00	0.00
7,200.00	89.83	89.786	5,422.93	54.48	1,502.08	1,502.59	0.00	0.00	0.00
7,300.00	89.83	89.786	5,423.22	54.85	1,602.08	1,602.59	0.00	0.00	0.00
7,400.00	89.83	89.786	5,423.52	55.23	1,702.08	1,702.59	0.00	0.00	0.00
7,500.00	89.83	89.786	5,423.81	55.60	1,802.08	1,802.58	0.00	0.00	0.00
7,600.00	89.83	89.786	5,424.11	55.98	1,902.08	1,902.58	0.00	0.00	0.00
7,700.00	89.83	89.786	5,424.40	56.35	2,002.07	2,002.58	0.00	0.00	0.00
7,800.00	89.83	89.786	5,424.70	56.72	2,102.07	2,102.57	0.00	0.00	0.00
7,900.00	89.83	89.786	5,424.99	57.10	2,202.07	2,202.57	0.00	0.00	0.00
8,000.00	89.83	89.786	5,425.29	57.47	2,302.07	2,302.57	0.00	0.00	0.00
8,100.00	89.83	89.786	5,425.58	57.85	2,402.07	2,402.56	0.00	0.00	0.00
8,200.00	89.83	89.786	5,425.88	58.22	2,502.07	2,502.56	0.00	0.00	0.00
8,300.00	89.83	89.786	5,426.17	58.59	2,602.07	2,602.56	0.00	0.00	0.00
8,400.00	89.83	89.786	5,426.47	58.97	2,702.07	2,702.56	0.00	0.00	0.00
8,500.00	89.83	89.786	5,426.76	59.34	2,802.07	2,802.55	0.00	0.00	0.00
8,600.00	89.83	89.786	5,427.06	59.71	2,902.06	2,902.55	0.00	0.00	0.00
8,700.00	89.83	89.786	5,427.36	60.09	3,002.06	3,002.55	0.00	0.00	0.00
8,800.00	89.83	89.786	5,427.65	60.46	3,102.06	3,102.54	0.00	0.00	0.00
8,900.00	89.83	89.786	5,427.95	60.84	3,202.06	3,202.54	0.00	0.00	0.00
9,000.00	89.83	89.786	5,428.24	61.21	3,302.06	3,302.54	0.00	0.00	0.00
9,100.00	89.83	89.786	5,428.54	61.58	3,402.06	3,402.53	0.00	0.00	0.00
9,200.00	89.83	89.786	5,428.83	61.96	3,502.06	3,502.53	0.00	0.00	0.00
9,300.00	89.83	89.786	5,429.13	62.33	3,602.06	3,602.53	0.00	0.00	0.00
9,400.00	89.83	89.786	5,429.42	62.71	3,702.05	3,702.52	0.00	0.00	0.00
9,500.00	89.83	89.786	5,429.72	63.08	3,802.05	3,802.52	0.00	0.00	0.00
9,600.00	89.83	89.786	5,430.01	63.45	3,902.05	3,902.52	0.00	0.00	0.00
9,700.00	89.83	89.786	5,430.31	63.83	4,002.05	4,002.51	0.00	0.00	0.00
9,800.00	89.83	89.786	5,430.60	64.20	4,102.05	4,102.51	0.00	0.00	0.00
9,900.00	89.83	89.786	5,430.90	64.57	4,202.05	4,202.51	0.00	0.00	0.00
10,000.00	89.83	89.786	5,431.19	64.95	4,302.05	4,302.50	0.00	0.00	0.00

Database:	Grand Junction	**Local Co-ordinate Reference:**	Well Omega 2308-03 5H
Company:	Logos Operating LLC	**TVD Reference:**	GL 6908' & RKB 25' @ 6933.00usft (Aztec 1000)
Project:	San Juan, NM NAD83	**MD Reference:**	GL 6908' & RKB 25' @ 6933.00usft (Aztec 1000)
Site:	Chaco 2308-03 Pad	**North Reference:**	True
Well:	Omega 2308-03 5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #4		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,100.00	89.83	89.786	5,431.49	65.32	4,402.05	4,402.50	0.00	0.00	0.00
10,200.00	89.83	89.786	5,431.78	65.70	4,502.05	4,502.50	0.00	0.00	0.00
10,300.00	89.83	89.786	5,432.08	66.07	4,602.04	4,602.50	0.00	0.00	0.00
10,400.00	89.83	89.786	5,432.37	66.44	4,702.04	4,702.49	0.00	0.00	0.00
10,500.00	89.83	89.786	5,432.67	66.82	4,802.04	4,802.49	0.00	0.00	0.00
10,600.00	89.83	89.786	5,432.96	67.19	4,902.04	4,902.49	0.00	0.00	0.00
10,700.00	89.83	89.786	5,433.26	67.57	5,002.04	5,002.48	0.00	0.00	0.00
10,800.00	89.83	89.786	5,433.56	67.94	5,102.04	5,102.48	0.00	0.00	0.00
10,900.00	89.83	89.786	5,433.85	68.31	5,202.04	5,202.48	0.00	0.00	0.00
11,000.00	89.83	89.786	5,434.15	68.69	5,302.04	5,302.47	0.00	0.00	0.00
11,100.00	89.83	89.786	5,434.44	69.06	5,402.04	5,402.47	0.00	0.00	0.00
11,200.00	89.83	89.786	5,434.74	69.44	5,502.03	5,502.47	0.00	0.00	0.00
11,300.00	89.83	89.786	5,435.03	69.81	5,602.03	5,602.46	0.00	0.00	0.00
11,400.00	89.83	89.786	5,435.33	70.18	5,702.03	5,702.46	0.00	0.00	0.00
11,500.00	89.83	89.786	5,435.62	70.56	5,802.03	5,802.46	0.00	0.00	0.00
11,600.00	89.83	89.786	5,435.92	70.93	5,902.03	5,902.45	0.00	0.00	0.00
11,700.00	89.83	89.786	5,436.21	71.30	6,002.03	6,002.45	0.00	0.00	0.00
11,800.00	89.83	89.786	5,436.51	71.68	6,102.03	6,102.45	0.00	0.00	0.00
11,900.00	89.83	89.786	5,436.80	72.05	6,202.03	6,202.44	0.00	0.00	0.00
12,000.00	89.83	89.786	5,437.10	72.43	6,302.03	6,302.44	0.00	0.00	0.00
12,100.00	89.83	89.786	5,437.39	72.80	6,402.02	6,402.44	0.00	0.00	0.00
12,200.00	89.83	89.786	5,437.69	73.17	6,502.02	6,502.43	0.00	0.00	0.00
12,300.00	89.83	89.786	5,437.98	73.55	6,602.02	6,602.43	0.00	0.00	0.00
12,305.50	89.83	89.786	5,438.00	73.57	6,607.52	6,607.93	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Omega 5H POE - plan hits target center - Point	0.00	0.000	5,419.00	49.51	172.18	1,913,368.36	2,774,096.79	36.2583080	-107.6603290
Omega 5H LPerf - plan misses target center by 0.47usft at 6020.15usft MD (5419.44 TVD, 50.07 N, 322.24 E) - Point	0.00	0.000	5,419.00	50.24	322.24	1,913,369.36	2,774,246.85	36.2583100	-107.6598200
Omega 5H FPerf - plan misses target center by 0.30usft at 12205.55usft MD (5437.70 TVD, 73.19 N, 6507.57 E) - Point	0.00	0.000	5,438.00	73.18	6,507.57	1,913,403.31	2,780,432.14	36.2583710	-107.6388400
Omega 5H BHL - plan hits target center - Point	0.00	0.000	5,438.00	73.57	6,607.52	1,913,403.88	2,780,532.08	36.2583720	-107.6385010

Database:	Grand Junction	**Local Co-ordinate Reference:**	Well Omega 2308-03 5H
Company:	Logos Operating LLC	**TVD Reference:**	GL 6908' & RKB 25' @ 6933.00usft (Aztec 1000)
Project:	San Juan, NM NAD83	**MD Reference:**	GL 6908' & RKB 25' @ 6933.00usft (Aztec 1000)
Site:	Chaco 2308-03 Pad	**North Reference:**	True
Well:	Omega 2308-03 5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #4		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,056.00	1,056.00	Ojo Alamo		0.00	0.000
1,268.01	1,268.00	Kirtland		0.00	0.000
1,433.26	1,433.00	Fruitland		0.00	0.000
1,768.49	1,765.00	Pictured Cliffs		0.00	0.000
2,601.22	2,586.00	Chacra		0.00	0.000
3,261.52	3,237.00	Cliff House		0.00	0.000
3,321.37	3,296.00	Menefee		0.00	0.000
4,084.11	4,048.00	Point Lookout		0.00	0.000
4,393.47	4,353.00	Mancos		0.00	0.000
5,250.87	5,166.00	Gallup		0.00	0.000

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,200.00	1,200.00	0.00	0.00	Start Build 2.00
1,681.46	1,679.19	2.77	-40.27	Start 2945.69 hold at 1681.46 MD
4,627.15	4,583.39	36.63	-531.83	Start DLS 8.00 TFO 175.79
5,870.08	5,419.00	49.51	172.17	36.2583080, -107.6603290
5,870.08	5,419.00	49.51	172.18	POE @ 5870' MD
6,020.08	5,419.44	50.07	322.17	Last Perf @ 6020' MD
6,020.08	5,419.44	50.07	322.17	36.2583095, -107.6598202
12,225.50	5,437.76	73.27	6,527.52	First Perf @ 12,225' MD
12,225.50	5,437.76	73.27	6,527.52	36.2583712, -107.6387723
12,305.50	5,438.00	73.57	6,607.52	TD at 12305.50

LOGOS RESOURCES II, LLC

Logos Operating LLC

San Juan, NM NAD83
Chaco 2308-03 Pad
Omega 2308-03 5H

OH
Plan #4

Anticollision Report

29 January, 2020

Scientific Drilling

www.scientificdrilling.com

Company:	Logos Operating LLC	**Local Co-ordinate Reference:**	Well Omega 2308-03 5H
Project:	San Juan, NM NAD83	**TVD Reference:**	GL 6908' & RKB 25' @ 6933.00usft (Aztec 1000)
Reference Site:	Chaco 2308-03 Pad	**MD Reference:**	GL 6908' & RKB 25' @ 6933.00usft (Aztec 1000)
Site Error:	0.00 usft	**North Reference:**	True
Reference Well:	Omega 2308-03 5H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction
Reference Design:	Plan #4	**Offset TVD Reference:**	Offset Datum

Reference	Plan #4		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum ellipse separation of 1,000.00 usft	**Error Surface:**	Pedal Curve
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 1/29/2020

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	12,305.50	Plan #4 (OH)	MWD+HDGM	OWSG MWD + HDGM

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Chaco 2308-03 Pad						
Chaco 2308-03 3H - OH - Plan #5	1,310.06	1,310.29	21.84	12.90	2.445	CC, ES, SF
Chaco 2308-03E 403H - OH - OH						Out of range
Chaco 23-08-3 #1H - OH - OH	931.55	928.29	49.10	44.21	10.040	CC, ES
Chaco 23-08-3 #1H - OH - OH	1,000.00	995.78	50.33	44.98	9.412	SF
Chaco 23-08-3 #1H - OH - Plan #2	1,068.75	1,066.03	45.79	39.79	7.633	CC, ES
Chaco 23-08-3 #1H - OH - Plan #2	1,100.00	1,096.72	46.15	39.95	7.440	SF
Chaco 23-08-3 #2H - OH - OH	100.00	95.79	105.57	105.33	444.580	CC
Chaco 23-08-3 #2H - OH - OH	466.21	462.02	105.66	103.65	52.671	ES
Chaco 23-08-3 #2H - OH - OH	5,585.15	5,562.92	327.75	292.71	9.354	SF
Chaco 23-08-3 #2H - OH - Plan #2	100.00	95.79	105.57	105.33	444.580	CC
Chaco 23-08-3 #2H - OH - Plan #2	466.21	462.02	105.66	103.65	52.671	ES
Chaco 23-08-3 #2H - OH - Plan #2	5,600.00	5,567.41	330.13	294.44	9.251	SF
Zeus 2308-03 4H - OH - Plan #4	1,200.00	1,200.00	21.86	13.70	2.680	CC, ES
Zeus 2308-03 4H - OH - Plan #4	1,300.00	1,299.30	23.22	14.36	2.621	SF

Offset Design Chaco 2308-03 Pad - Chaco 2308-03 3H - OH - Plan #5

Offset Site Error: 0.00 usft
Survey Program: 0-MWD+HDGM
Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	178.48	-22.21	0.59	22.21				
100.00	100.00	100.00	100.00	0.13	0.13	178.48	-22.21	0.59	22.21	21.94	0.27	82.622	
200.00	200.00	200.00	200.00	0.49	0.49	178.48	-22.21	0.59	22.21	21.23	0.99	22.533	
300.00	300.00	300.00	300.00	0.85	0.85	178.48	-22.21	0.59	22.21	20.51	1.70	13.046	
400.00	400.00	400.00	400.00	1.21	1.21	178.48	-22.21	0.59	22.21	19.79	2.42	9.180	
500.00	500.00	500.00	500.00	1.57	1.57	178.48	-22.21	0.59	22.21	19.08	3.14	7.082	
600.00	600.00	600.00	600.00	1.93	1.93	178.48	-22.21	0.59	22.21	18.36	3.85	5.764	
700.00	700.00	700.00	700.00	2.29	2.29	178.48	-22.21	0.59	22.21	17.64	4.57	4.860	
800.00	800.00	800.00	800.00	2.64	2.64	178.48	-22.21	0.59	22.21	16.93	5.29	4.201	
900.00	900.00	900.00	900.00	3.00	3.00	178.48	-22.21	0.59	22.21	16.21	6.00	3.700	
1,000.00	1,000.00	1,000.00	1,000.00	3.36	3.36	178.48	-22.21	0.59	22.21	15.49	6.72	3.305	
1,100.00	1,100.00	1,100.00	1,100.00	3.72	3.72	178.48	-22.21	0.59	22.21	14.78	7.44	2.986	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

LOGOS RESOURCES II, LLC

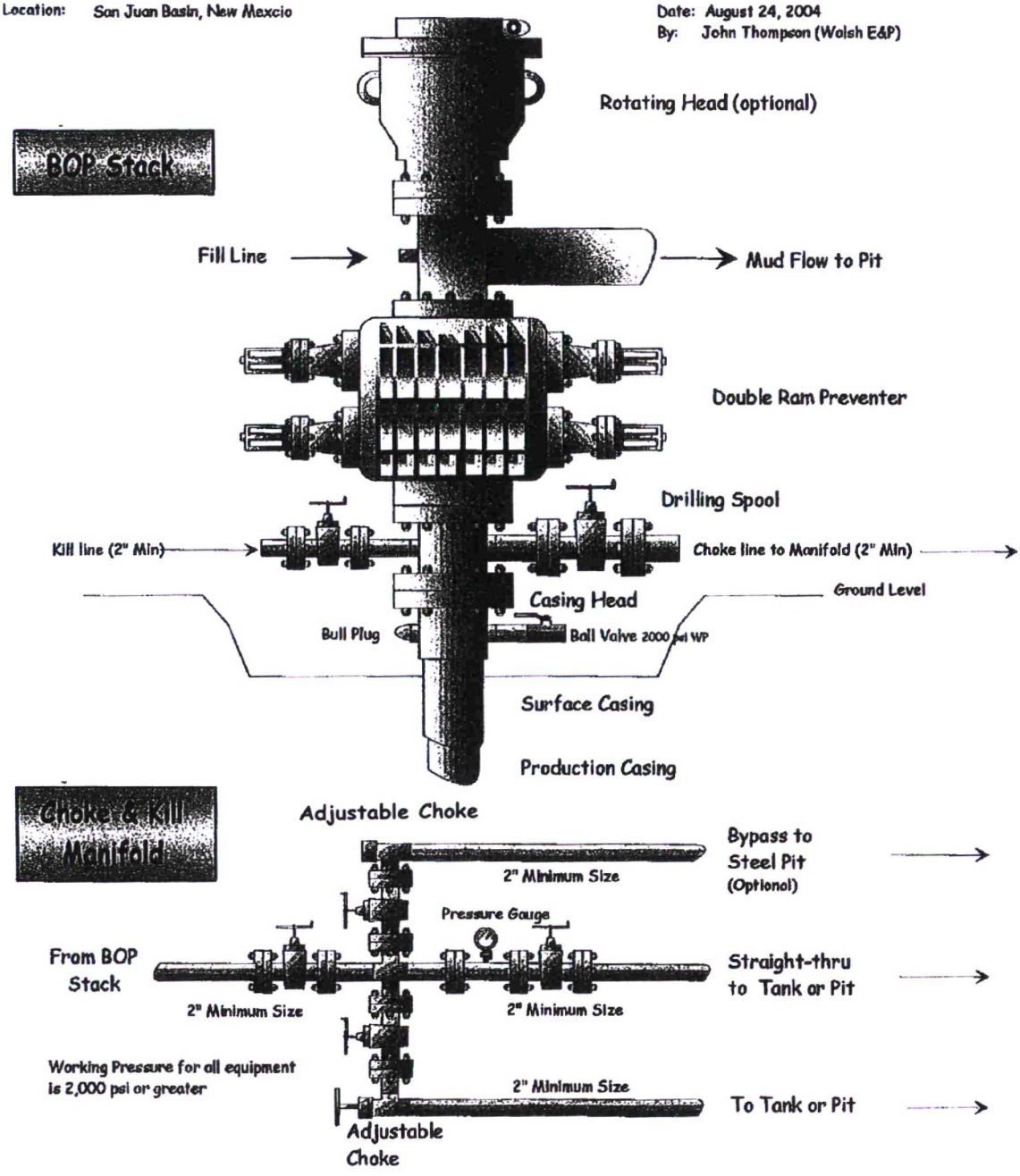
Well Control Equipment Schematic for 2M Service

Attachment to Drilling Technical Program

Typical BOP setup

Location: San Juan Basin, New Mexcio

Date: August 24, 2004
By: John Thompson (Walsh E&P)



Omega 2308 03 5H

Directions from the Intersection of US Hwy 550 & US Hwy 64

in Bloomfield, NM to Logos Operating, LLC Omega 2308 03 #5H

1960' FNL & 223' FEL, Section 3, T23N, R8W, N.M.P.M., San Juan County, NM

Latitude: 36.258172°N Longitude: 107.660913°W Datum: NAD1983

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, @ Farmer's Market travel Southerly on US Hwy 550 for 41.1 miles to Mile Marker 110.6;

Go Left (Northerly) on existing roadway for 0.2 miles to fork in roadway;

Go Right (Easterly) on existing roadway for 0.4 miles to fork in roadway;

Go Left (Easterly) which is straight for 0.4 miles to staked Logos Omega 2308 03 #5H wellpad twinned on existing Logos Chaco 23-08-3 #1H & #2H location.