

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey, Division Director
Oil Conservation Division



New Mexico Oil Conservation Division approval and conditions
listed below are made in accordance with OCD Rule 19.15.7.11
and are in addition to the actions approved by BLM on the
following 3160-4 or 3160-5 form.

Operator Signature Date: 8/21/14

Well information:

API WELL #	Well Name	Well #	Operator Name	Type	Stat	County	Surf_Owner	UL	Sec	Twp	N/S	Rng	W/E
30-039-31246-00-00	CHACO 2306 8L	200H	WPX ENERGY PRODUCTION, LLC	O	N	Rio Arriba	F	L	8	23	N	6	W

Application Type:

☐ P&A ☐ Drilling/Casing Change ☒ Location Change

☐ Recomplete/DHC (For hydraulic fracturing operations review EPA Underground injection control Guidance #84)

☐ Other:

Hold C104 For

Conditions of Approval: directional survey, as drilled plat, NSL, NSP, DHC

Notify NMOCD 24hrs prior to beginning operations,

NMOCD Approved by Signature

9-2-14
Date

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

AUG 21 2014

FORM APPROVED
OMB No. 1004-0137
Expires: March 31, 2007

SUNDRY NOTICES AND REPORTS ON WELLS
**Do not use this form for proposals to drill or to re-enter an
abandoned well. Use Form 3160-3 (APD) for such proposals.**

5. Lease Serial No.

NMSF-078362- NMSF 078359

6. If Indian, Allottee or Tribe Name

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

NMNM 132829(CA)

8. Well Name and No.

Chaco 2306-08L #200H

9. API Well No.

30-039-31246

10. Field and Pool or Exploratory Area

Lybrook Gallup/Counselors GL DK

11. Country or Parish, State

Rio Arriba County, NM

SUBMIT IN TRIPLICATE - Other instructions on page 2.

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

WPX Energy Production, LLC

3a. Address

PO Box 640 Aztec, NM 87410

3b. Phone No. (include area code)

505-333-1822

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

SHL: 1417' FSL & 241' FWL SEC 8 23N 6W

BHL: 1431' FSL & 761' FWL SEC 7 23N 6W

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	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other <u>SHL change/Realign lateral</u>
	☐ 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 recompletable 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 recompletable 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.)

WPX plans to change the surface hole location and realign the lateral on this well as per attached C-102, operations plan and directional plan. This well will be in Northeast Chaco Communitized Area, NMNM 132829CA.

CONDITIONS OF APPROVAL

Adhere to previously issued stipulations

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

OIL CONS. DIV.
DIST. 3

14. I hereby certify that the foregoing is true and correct.	
Name (Printed/Typed) Heather Riley	Title Regulatory Manager
Signature <i>Heather Riley</i>	Date 8/21/14

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by <i>William Tambekou</i>	<i>Petroleum</i> Title Engineer	Date 8/25/2014
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		Office FFO

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)

NMOCDA

Submit one copy to
Appropriate District Office

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

OIL CONSERVATION DIVISION

1220 South St. Francis Drive
Santa Fe, NM 87505

☐ AMENDED REPORT

RECEIVED

AUG 21 2014

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-31246	*Pool Code 42289 / 13379	*Pool Name LYBROOK GALLUP / COUNSELEORS GALLUP-DAKOTA
*Property Code 313513	*Property Name CHACO 2306-08L	*Well Number 200H
*GRID No. 120782	*Operator Name WPX ENERGY PRODUCTION, LLC	*Elevation 6832'

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
L	8	23N	6W		1417	SOUTH	241	WEST	RIO ARRIBA

¹¹ Bottom Hole Location If Different From Surface

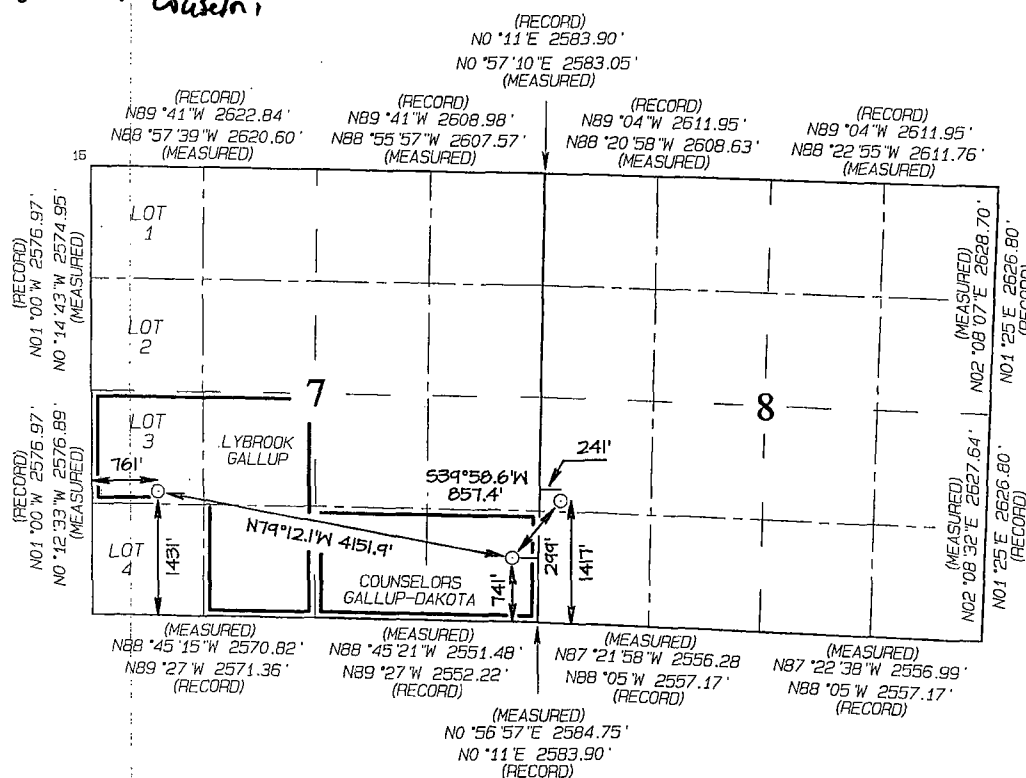
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	7	23N	6W	3	1431	SOUTH	761	WEST	RIO ARriba

12 Dedicated Acres	200.54 Acres S/2 SE/4, SE/4 SW/4, N/2 SW/4 (7)	13 Joint or Infill	14 Consolidation Code	15 Order No.
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120.54 ac. Lybrook
80 ac. Gauseh,

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

RIO ARRIBA
 OIL CONS. DIV DIST. 3
 AUG 28 2014
 AVE
 ION



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. 11

Signature Heather Riley Date 8/28/14

Printed Name
heather.riley@wpenergy.com
E-mail Address

16 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: JULY 28, 2014
Survey Date: AUGUST 22, 2013

Signature and Seal of Professional Surveyor



JASON C. EDWARDS

Certificate Number 15269

END-OF-LATERAL
1431' FSL 761' FWL
SECTION 7, T23N, R6W
LAT: 36.236250°N
LONG: 107.515675°W
DATUM: NAD1927

LAT: 35.236263°N
LONG: 107.516281°W
DATUM: NAD1983

POINT-OF-ENTRY
741' FSL 299' FEL
SECTION 7, T23N, R5W
LAT: 36.234259°N
LONG: 107.501815°W
DATUM: NAD1927

LAT: 36.234272°N
LONG: 107.502420°W
DATUM: NAD1983

SURFACE LOCATION
1417' FSL 241' FWL
SECTION 8, T23N, R6W
LAT: 36.236083 °N
LONG: 107.499976 °W
DATUM: NAD1927

LAT: 36.236096 °N
LONG: 107.500582 °W
DATUM: NAD1983

EXISTING
ROADWAY

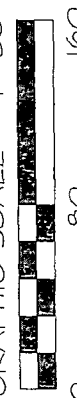


Steel T-Posts have been set to define the Edge of Disturbance limits which are 50' offset from the edge of the staked wellpad.

SURFACE OWNER ~

Bureau of Land Management

GRAPHIC SCALE 1"=80'

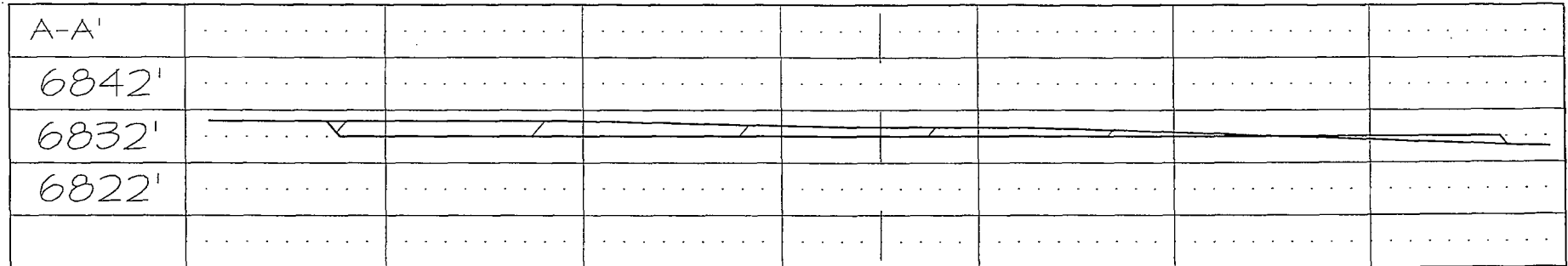


WPX ENERGY PRODUCTION, LLC CHACO 2306-08L #200H
 1417' FSL & 241' FWL, SECTION 8, T23N, R6W, NMPM
 RIO ARriba COUNTY, NEW MEXICO ELEVATION: 6832'

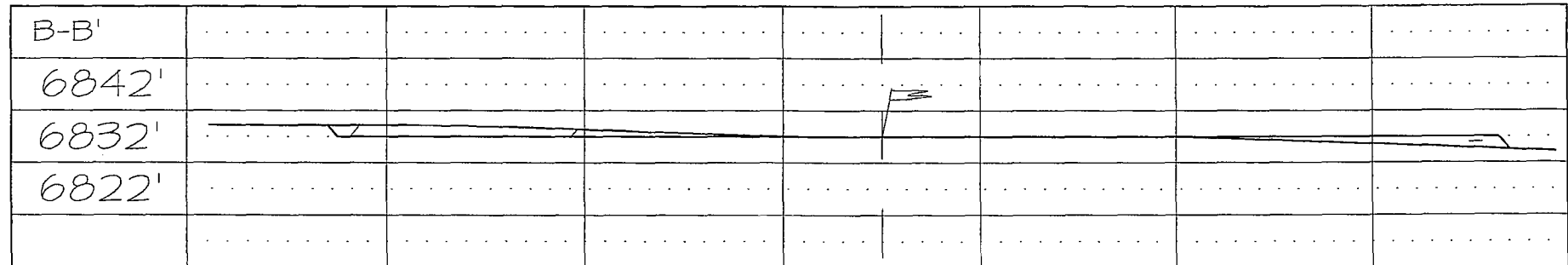
HORIZONTAL SCALE
 1"=40'

C/L

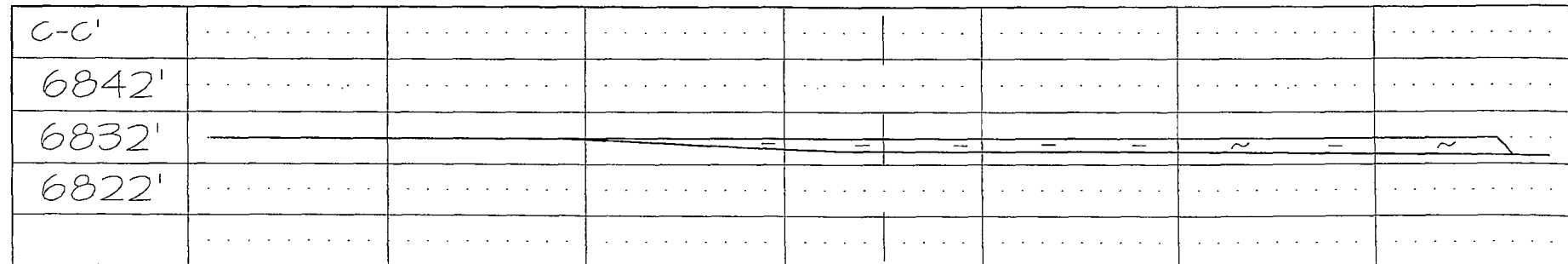
VERTICAL SCALE
 1"=30'



C/L



C/L



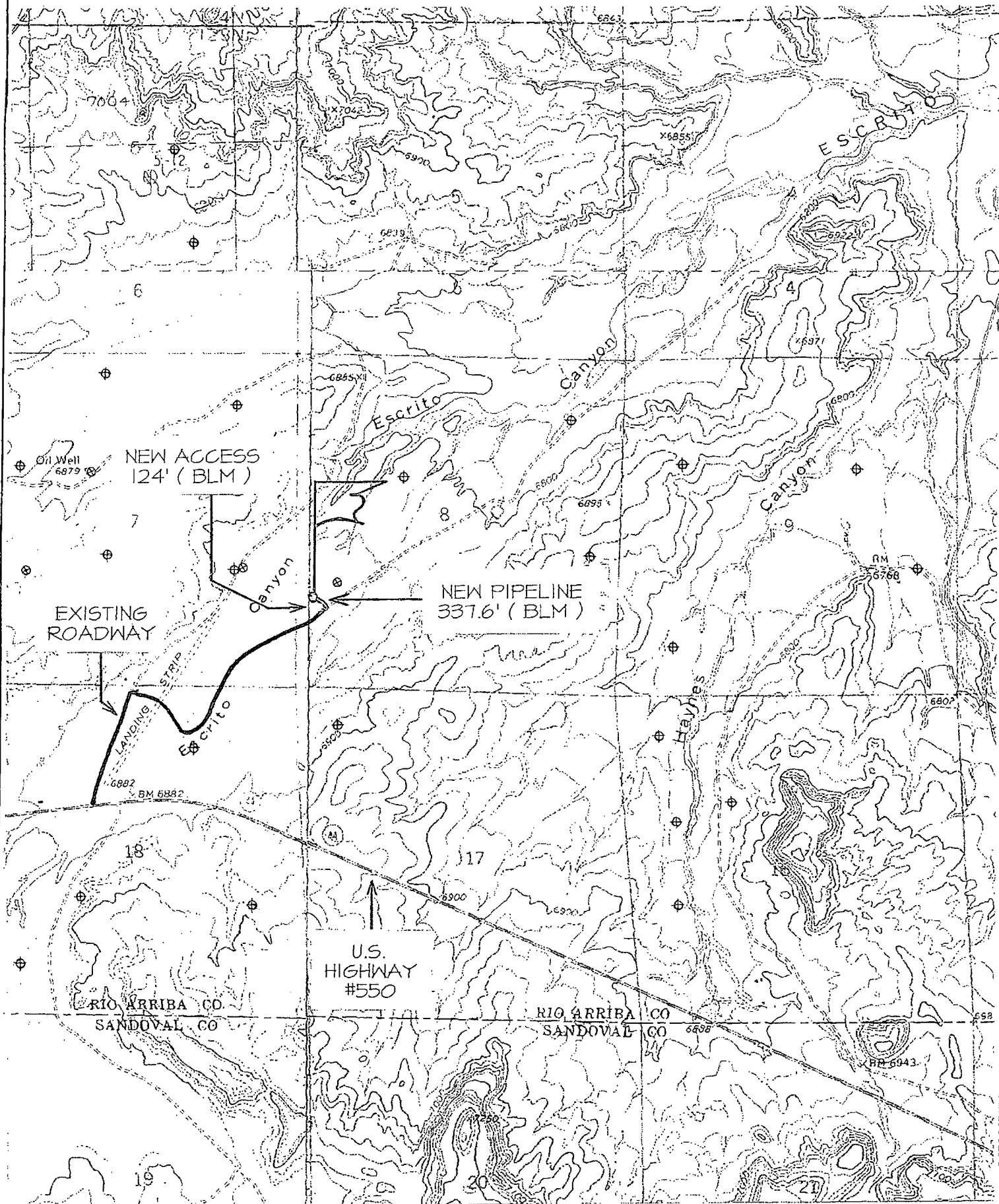
NCE SURVEYS IS NOT LIABLE FOR LOCATION OF UNDERGROUND UTILITIES OR PIPELINES.

CONTRACTOR SHOULD CONTACT ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED UNDERGROUND UTILITIES OR PIPELINES ON WELLPAD AND/OR ACCESS ROAD AT LEAST TWO WORKING DAYS PRIOR TO CONSTRUCTION.

BEFORE ANY CONSTRUCTION BEGINS, CONTRACTOR IS ADVISED TO CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED PIPELINES OR CABLES IN THE AREA OF THE PROJECT

WPX ENERGY PRODUCTION, LLC CHACO 2306-08L #200H

1417' FSL & 241' FWL, SECTION 8, T23N, R6W, N.M.P.M.
RIO ARriba COUNTY, NEW MEXICO



TOPO NAMES: LYBROOK & COUNSELOR

⊕ PRODUCING WELL

⊙ PLUGGED & ABANDONED WELL

WPXENERGY

WPX ENERGY

Operations Plan

(Note: This procedure will be adjusted on site based upon actual conditions)

DATE: 6/18/2014 **FIELD:** Lybrook (Gallup)
WELL NAME: Chaco 2306-08L #200H **SURFACE:** BLM
SH Location: NWSW Sec 8 -23N -06W **ELEVATION:** 6832' GR
BH Location: NWSW Sec 7 -23N -06W **MINERALS:** BLM
Rio Arriba Co, NM
MEASURED DEPTH: 10,117' **LEASE #:** NMSF 078359

I. **GEOLOGY:** Surface formation – San Jose

A. **FORMATION TOPS:** (KB)

Name	MD	TVD	Name	MD	TVD
Ojo Alamo	1313	1305	Point Lookout	4243	4177
Kirtland	1630	1616	Mancos	4467	4396
Picture Cliffs	1926	1906	Kickoff Point	4840	4762
Lewis	2041	2019	Top Target	5629	5398
Chacra	2373	2344	Landing Point	5965	5483
Cliff House	3474	3423	Base Target	5965	5483
Menefee	3518	3466			
			TD	10117	5411

- B. **MUD LOGGING PROGRAM:** Mudlogger on location from surface csg 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 3/4" 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.
- B. **BOP TESTING:** While drill pipe is in use, the pipe rams and the blind rams will be function tested once each trip. The anticipated reservoir is expected to be less than 1300 psi, so 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 in the tour book as to time and results.**

NOTE: Vertical portion of the well (8-3/4 in.) will be directionally drilled as per attached Directional Plan to +/- 4837 (MD) / 4,766' (TVD). Curve portion of wellbore will be drilled and landed at +/- 90 deg. at +/- 5,965' (MD) / 5,483' (TVD). 7 in. csg will be set at this point. A 6-1/8" Lateral will be drilled as per the attached Directional Plan to +/- 10,117' (MD) / 5,411' (TVD). Will run 4-1/2 in. Production Liner from +/- 5,815 ft. to TD and cemented. Liner will be tied back to surface w / 4-1/2" Casing for stimulation / testing, then removed from the well.

III. MATERIALS

A. CASING PROGRAM:

CASING TYPE	OH SIZE (IN)	DEPTH (MD) (FT)	CASING SIZE (IN)	WEIGHT(LB)	GRADE
Surface	12.25"	400'+	9.625"	36#	J-55
Intermediate	8.75"	5,965'	7"	23#	K-55
Prod. Liner	6.125"	5,815' - 10,117'	4-1/2"	11.6#	N-80
Tie-Back String	N/A	Surf. - 5823'	4-1/2"	11.6#	N-80

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 2,700 ft., 2,500 ft., 2,300ft., 2,000ft., 1,500 ft., and 1,000 ft.
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 + (2) RSI (Sliding Sleeves) positioned inside the 330ft Hard line. Centralizer program will be determined by Wellbore condition and when Lateral is evaluated by Geoscientists and Reservoir Engineers. Set seals on Liner Hanger. Test TOL to 1500 psi for 15 minutes.
4. TIE-BACK CASING: None

C. CEMENTING:

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

1. SURFACE: 10 bbl Fr Water Spacer + 190 sx (222.3 cu.ft.) of "Premium Cement" + 2% Calcium Chloride Cement + 0.125# pps of Poly-E-Flake, 15.8 #/gal (1.17 cu ft./sk, Vol 39.58 Bbls.). The 100% excess should circulate cement to the surface. WOC 12 hours. Test csg to 600psi. Total Volume: (222.3 cu-ft/190 sx/39.6 Bbls). TOC at Surface.
2. INTERMEDIATE: 20 bbl (112 cu-ft) Mud Flush III spacer + Lead: 850 sx Foamed 50/50 Poz Cement. 13.0 ppg + 0.1% Halad 766 + 0.2% Versaset + 1.5% Chem-Foamer 760 (Yield :1.43 cu-ft/ sk. / Vol: 1216 cu-ft / 216.5 Bbls.) + TAIL: 100 sx 13.5 #/gal. + 0.2% Versaset + 0.15% HALAD-766 (Yield: 1.28 cu-ft / sk / Vol: 128 cu-ft / 22.8 Bbls.). + Fresh Water Displacement (1,362 cu-ft / +/- 242 Bbls) + 100 sx Top-Out Cement Premium: Yield: (1.17 cu-ft/ sk / (Vol: 117 cu-ft / 20.8 Bbls). Test Casing to 1500 PSI for 30 minutes. Total Cement Volume: (1050 sx / 1461 cu-ft / 260 bbls). Mix with +/- 84,000 SCF Nitrogen. TOC at surface.
3. PRODUCTION LINER: **STAGE 1**:10 bbl (56.cu-ft) Fr Water Spacer. **STAGE 2**:40 bbl 9.5 ppg (224.6 cu-ft) Tuned Spacer III + 0.5 gal/bbl Musol + 38.75 ppb Barite + 0.5 gal/bbl SEM-7. **STAGE 3**: 10 bbl Fr Water Spacer. **STAGE 4: Lead Cement**: 50 / 50 Poz Premium + 0.2% Versaset + 0.2% Halad -766, Yield 1.43 cu ft/sk, 13.0 ppg, (10 sx / 14.3 cu ft. / 2.5 bbls). **STAGE 5**: 200 sx. Foamed Lead Cement: 50 / 50 Poz Standard + 0.2% Versaset + 0.2% HALAD-766 + 1.5% Chem-Foamer 760. Yield 1.97 cu-ft/sk. 13.0 ppg (200 sx / 394 cu-ft. / 70.2 bbls.). **STAGE 6**: Tail Cement : 100 sx. 50/50 Poz Standard + 0.2% Versaset + 0.05% HALAD-766 + .05% SA-1015, Weight: 13.5 ppg (100 sx / Yield 1.28 cu ft/sk. / 128 cu ft. / 22.8 bbls) **STAGE 7**: Displace w/ +/- 137 bbl Fr Water. Total Cement (536.3 cu ft / 95.5 bbls). Mix Foamed Cement w/ +/- 75,000 SCF Nitrogen. Est. TOC +/- 5,515 ft.

IV. COMPLETION

A. CBL

1. Run CCL for perforating.

B. PRESSURE TEST

1. Pressure test 4-1/2" casing to 4500 psi max, hold at 1500 psi for 30 minutes. Increase pressure to Open RSI sleeves.

C. STIMULATION

1. Stimulate with approximately 2,805,000# 20/40 mesh sand and 340,000# 16/30 mesh sand in 619,113 gallons water with 42,696 mscf N₂ for 17 stages.
2. Isolate stages with flow through frac plug.
3. Drill out frac plugs and flowback lateral.

D. RUNNING TUBING

1. Production Tubing: Run 2-7/8", 6.5#, J-55, EUE tubing with a SN on top of bottom joint. Land tubing near Top of Liner point of curve (~5,800' MD).

- Although this horizontal well will 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 B(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 B(2) NMAC, 19.15.16.15 B(2) NMAC, and 19.15.16.15 B(4) NMAC.

NOTE:

Installation of RSI sleeves at Toe of Lateral.

Proposed Operations:

A 4-1/2" 11.6# N-80 Liner will be run to TD and landed +/- 150 ft. into the 7" 23# K-55 Intermediate casing (set at 5,965 ft. MD) with a Liner Hanger and pack-off assembly then cemented to +/- 300 ft above the liner hanger. TOL will be +/- 5,815 ft. (MD) +/- 78 degree angle. TOC: +/- 5,515 ft. (MD).

After cementing and TOL clean up operations are complete, the TOL will be tested to 1500 psi (per BLM).

A 4-1/2" 11.6# N-80 tie-back string with seal assembly will be run and stung into the PBR of the liner hanger, tested to 1500 PSI and hung off at the surface.

The Drilling Rig will be rigged down at this point and Completion operations will begin. After Stimulation and Testing operations are complete the 4-1/2" tie-back string will be removed from the well.

Note: Changes to formation tops, casing landing points, well TD and Directional Plan.



Chaco 2306-08L #200H R1 mdv 21Jul14 Proposal Geodetic Report

(Def Plan)

Report Date: July 21, 2014 - 02:13 PM
Client: WPX Energy
Field: NM, Rio Arriba (NAD 27 CZ)
Structure / Slot: WPX 8-23N-6W (Chaco 2306-08L Pad) / Chaco 2306-08L #200H
Well: Chaco 2306-08L #200H
Borehole: Original Hole
UWI / API#: Unknown / Unknown
Survey Name: Chaco 2306-08L #200H R1 mdv 21Jul14
Survey Date: June 18, 2014
Tort / AHD / DDI / ERD Ratio: 106.986 * / 5638.850 ft / 6.047 / 1.028
Coordinate Reference System: NAD27 New Mexico State Plane, Central Zone, US Feet
Location Lat / Long: N 36° 14' 9.88800", W 107° 29' 59.92800"
Location Grid N/E Y/X: N 1907520.240 ftUS, E 131365.249 ftUS
CRS Grid Convergence Angle: -0.7390 *
Grid Scale Factor: 1.0000555
Version / Patch: 2.7.1043.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 270.769 * (True North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 6846.000 ft above MSL
Seabed / Ground Elevation: 6832.000 ft above MSL
Magnetic Declination: 9.435 *
Total Gravity Field Strength: 998.5056mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 50101.281 nT
Magnetic Dip Angle: 63.020 *
Declination Date: June 18, 2014
Magnetic Declination Model: BGGM 2014
North Reference: True North
Grid Convergence Used: 0.0000 *
Total Corr Mag North->True: 9.4353 *
North:
Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Surface	0.00	0.00	167.80	0.00	0.00	0.00	0.00	N/A	1907520.24	131365.25	N 36 14 9.89	W 107 29 59.93
Build 2°/100'	550.00	0.00	167.80	550.00	0.00	0.00	0.00	0.00	1907520.24	131365.25	N 36 14 9.89	W 107 29 59.93
	600.00	1.00	167.80	600.00	-0.10	-0.43	0.09	2.00	1907519.81	131365.34	N 36 14 9.88	W 107 29 59.93
	700.00	3.00	167.80	699.93	-0.88	-3.84	0.83	2.00	1907516.39	131366.03	N 36 14 9.85	W 107 29 59.92
	800.00	5.00	167.80	799.68	-2.45	-10.66	2.30	2.00	1907509.56	131367.41	N 36 14 9.78	W 107 29 59.90
	900.00	7.00	167.80	899.13	-4.79	-20.87	4.51	2.00	1907499.31	131369.49	N 36 14 9.68	W 107 29 59.87
	1000.00	9.00	167.80	998.15	-7.91	-34.47	7.45	2.00	1907485.67	131372.26	N 36 14 9.55	W 107 29 59.84
Hold 10.88° INC	1093.84	10.88	167.80	1090.58	-11.55	-50.30	10.87	2.00	1907469.80	131375.47	N 36 14 9.39	W 107 29 59.80
Build/Turn	4836.84	10.88	167.80	4766.34	-170.03	-740.65	160.10	0.00	1906777.55	131515.79	N 36 14 2.56	W 107 29 57.97
9°/100'	4900.00	9.42	199.45	4828.56	-169.71	-751.36	159.64	9.00	1906766.85	131515.19	N 36 14 2.46	W 107 29 57.98
	5000.00	13.15	242.87	4926.77	-157.00	-784.29	146.76	9.00	1906754.08	131502.15	N 36 14 2.33	W 107 29 58.14
	5100.00	20.44	261.67	5022.51	-129.65	-772.02	119.30	9.00	1906746.70	131474.59	N 36 14 2.25	W 107 29 58.47
	5200.00	28.69	270.46	5113.41	-88.33	-774.36	77.94	9.00	1906744.89	131433.20	N 36 14 2.23	W 107 29 58.98
	5300.00	37.26	275.51	5197.24	-34.05	-771.26	23.70	9.00	1906748.70	131379.00	N 36 14 2.26	W 107 29 59.64
	5400.00	45.98	278.88	5271.93	31.86	-762.78	-42.10	9.00	1906758.02	131313.32	N 36 14 2.34	W 107 30 0.44
	5500.00	54.78	281.38	5335.65	107.75	-749.14	-117.82	9.00	1906772.64	131237.77	N 36 14 2.48	W 107 30 1.37
Hold 60° INC	5559.18	60.00	282.61	5367.53	156.63	-738.77	-166.56	9.00	1906783.64	131189.17	N 36 14 2.58	W 107 30 1.96
Build/Turn	5619.18	60.00	282.61	5397.53	207.48	-727.43	-217.27	0.00	1906795.64	131138.61	N 36 14 2.69	W 107 30 2.58
9°/100' to	5700.00	67.25	281.93	5433.41	278.39	-712.06	-287.98	9.00	1906811.91	131068.10	N 36 14 2.85	W 107 30 3.44
Landing	5800.00	76.22	281.18	5464.72	371.58	-693.07	-380.92	9.00	1906832.10	130975.40	N 36 14 3.03	W 107 30 4.58
	5900.00	85.19	280.49	5480.88	468.65	-674.55	-477.75	9.00	1906851.88	130878.81	N 36 14 3.22	W 107 30 5.76
Landing Point,	5964.62	90.99	280.06	5483.00	532.32	-663.03	-541.27	9.00	1906864.21	130815.44	N 36 14 3.33	W 107 30 6.53
Hold to TD	6000.00	90.99	280.06	5482.39	567.23	-656.86	-576.10	0.00	1906870.83	130780.69	N 36 14 3.39	W 107 30 6.96
	6100.00	90.99	280.06	5480.85	665.91	-639.40	-674.55	0.00	1906889.56	130682.47	N 36 14 3.56	W 107 30 8.18
	6200.00	90.99	280.06	5478.92	764.58	-621.84	-773.00	0.00	1906908.28	130584.25	N 36 14 3.74	W 107 30 9.36
	6300.00	90.99	280.06	5477.19	863.26	-604.49	-871.45	0.00	1906927.01	130486.03	N 36 14 3.91	W 107 30 10.56
	6400.00	90.99	280.06	5475.45	961.93	-587.03	-969.90	0.00	1906945.74	130387.81	N 36 14 4.08	W 107 30 11.77
	6500.00	90.99	280.06	5473.72	1060.61	-568.57	-1068.35	0.00	1906964.47	130289.59	N 36 14 4.26	W 107 30 12.97
	6600.00	90.99	280.06	5471.98	1159.28	-552.11	-1166.80	0.00	1906983.20	130191.37	N 36 14 4.43	W 107 30 14.17
	6700.00	90.99	280.06	5470.25	1257.95	-534.65	-1265.24	0.00	1907001.92	130093.15	N 36 14 4.60	W 107 30 15.37
	6800.00	90.99	280.06	5468.51	1356.63	-517.19	-1363.69	0.00	1907020.65	129994.93	N 36 14 4.77	W 107 30 16.57
	6900.00	90.99	280.06	5466.78	1455.30	-499.73	-1462.14	0.00	1907039.38	129896.71	N 36 14 4.95	W 107 30 17.77
	7000.00	90.99	280.06	5465.04	1553.98	-482.27	-1560.59	0.00	1907058.11	129798.48	N 36 14 5.12	W 107 30 18.98
	7100.00	90.99	280.06	5463.31	1652.65	-464.81	-1659.04	0.00	1907076.84	129700.26	N 36 14 5.29	W 107 30 20.18
	7200.00	90.99	280.06	5461.57	1751.32	-447.35	-1757.49	0.00	1907095.57	129602.04	N 36 14 5.46	W 107 30 21.38
	7300.00	90.99	280.06	5459.84	1850.00	-429.89	-1855.94	0.00	1907114.30	129503.82	N 36 14 5.64	W 107 30 22.58
	7400.00	90.99	280.06	5458.11	1948.67	-412.43	-1954.38	0.00	1907133.03	129405.60	N 36 14 5.81	W 107 30 23.78
	7500.00	90.99	280.06	5456.37	2047.35	-394.96	-2052.83	0.00	1907151.77	129307.38	N 36 14 5.98	W 107 30 24.98
	7600.00	90.99	280.06	5454.64	2146.02	-377.50	-2151.28	0.00	1907170.50	129209.16	N 36 14 6.15	W 107 30 26.19
	7700.00	90.99	280.06	5452.90	2244.69	-360.04	-2249.73	0.00	1907189.23	129110.94	N 36 14 6.33	W 107 30 27.39
	7800.00	90.99	280.06	5451.17	2343.37	-342.57	-2348.18	0.00	1907207.96	129012.72	N 36 14 6.50	W 107 30 28.59
	7900.00	90.99	280.06	5449.44	2442.04	-325.11	-2446.62	0.00	1907226.70	128914.50	N 36 14 6.67	W 107 30 29.79
	8000.00	90.99	280.06	5447.70	2540.71	-307.65	-2545.07	0.00	1907245.43	128816.28	N 36 14 6.84	W 107 30 30.99
	8100.00	90.99	280.06	5445.97	2639.39	-290.18	-2643.52	0.00	1907264.16	128718.06	N 36 14 7.02	W 107 30 32.19
	8200.00	90.99	280.06	5444.23	2738.06	-272.72	-2741.97	0.00	1907282.90	128619.84	N 36 14 7.19	W 107 30 33.40
	8300.00	90.99	280.06	5442.50	2836.73	-255.25	-2840.42	0.00	1907301.63	128521.63	N 36 14 7.36	W 107 30 34.60
	8400.00	90.99	280.06	5440.76	2935.41	-237.78	-2938.86	0.00	1907320.37	128423.41	N 36 14 7.54	W 107 30 35.80
	8500.00	90.99	280.06	5439.03	3034.08	-220.32	-3037.31	0.00	1907339.10	128325.19	N 36 14 7.71	W 107 30 37.00
	8600.00	90.99	280.06	5437.30	3132.75	-202.85	-3135.76	0.00	1907357.84	128226.97	N 36 14 7.88	W 107 30 38.20
	8700.00	90.99	280.06	5435.56	3231.43	-185.39	-3234.21	0.00	1907376.57	128128.75	N 36 14 8.05	W 107 30 39.40
	8800.00	90.99	280.06	5433.83	3330.10	-167.92	-3332.65	0.00	1907395.31	128030.53	N 36 14 8.23	W 107 30 40.61
	8900.00	90.99	280.06	5432.10	3428.77	-150.45	-3431.10	0.00	1907414.05	127932.31	N 36 14 8.40	W 107 30 41.81
	9000.00	90.99	280.06	5430.36	3527.45	-132.98	-3529.55	0.00	1907432.78	127834.09	N 36 14 8.57	W 107 30 43.01
	9100.00	90.99	280.06	5428.63	3626.12	-115.51	-3628.00	0.00	1907451.52	127735.87	N 36 14 8.74	W 107 30 44.21
	9200.00	90.99	280.06	5426.89	3724.79	-98.05	-3726.44	0.00	1907470.26	127637.65	N 36 14 8.92	W 107 30 45.41
	9300.00	90.99	280.06	5425.16	3823.46	-80.58	-3824.89	0.00	1907489.00	127539.43	N 36 14 9.09	W 107 30 46.61
	9400.00	90.99	280.06	5423.43	3922.14	-63.11	-3923.34	0.00	1907507.74	127441.21	N 36 14 9.26	W 107 30 47.82
	9500.00	90.99	280.06	5421.69	4020.81	-45.64	-4021.78	0.00	1907526.48	127343.00	N 36 14 9.43	W 107 30 49.02
	9600.00	90.99	280.06	5419.96	4119.48	-28.17	-4120.23	0.00	1907545.21	127244.78	N 36 14 9.61	W 107 30 50.22
	9700.00	90.99	280.06	5418.23	4218.15	-10.70	-4218.68	0.00	1907563.95	127146.56	N 36 14 9.78	W 107 30 51.42
	9800.00	90.99	280.06	5416.49	4316.83	6.77	-4317.12	0.00	1907582.69	127048.34	N 36 14 9.95	W 107 30 52.62
	9900.00	90.99	280.06	5414.76	4415.50	24.25	-4415.57	0.00	1907601.44	126950.12	N 36 14 10.12	W 107 30 53.82
	10000.00	90.99	280.06	5413.03	4514.17	41.72	-4514.02	0.00	1907620.18	126851.90	N 36 14 10.30	W 107 30 55.03
	10100.00	90.99	280.06	5411.29	4612.84	59.19	-4612.46	0.00	1907638.92	126753.69	N 36 14 10.47	W 107 30 56.23
Chaco 2306-08L	10116.86	90.99	280.06	5411.00	4629.48	62.14	-4629.06	0.00	1907642.08	126737.12	N 36 14 10.50	W 107 30 56.43
#200H BHL												

Survey Type: Def Plan

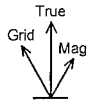
Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (*/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey				
	1	0.000	14.000	1/100.000	30.000	30.000	SLB_MWD-STD-Depth Only	Original Hole / Chaco 2306-08L #200H R1 mdv 21Jul14				
	1	14.000	10116.863	1/100.000	30.000	30.000	SLB_MWD-STD	Original Hole / Chaco 2306-08L #200H R1 mdv 21Jul14				

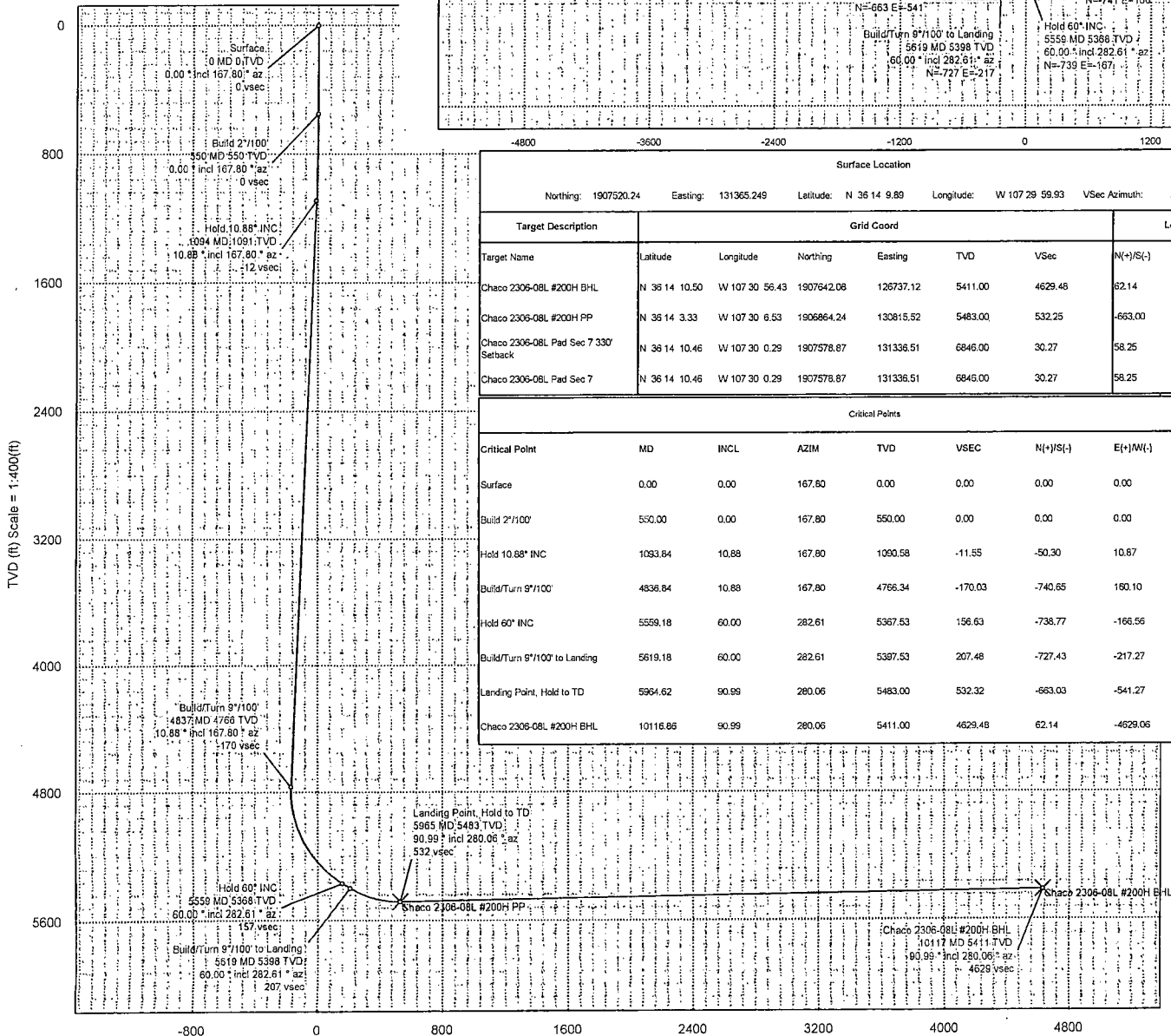
Borehole:	Well:	Field:	Structure:
Original Hole	Chaco 2306-08L #200H	NM, Rio Arriba (NAD 27 CZ)	8-23N-6W (Chaco 2306-08L Pad)

Gravity & Magnetic Parameters	Surface Location	Miscellaneous
Model: BGGM 2014 Dip: 63.02° Date: 18-Jun-2014	NAD27 New Mexico State Plane, Central Zone, US Feet	Slot: Chaco 2306-08L #200H TVD Ref: RKB(6846ft above MSL)
MagDec: 9.435° FS: 50101.281nT Gravity FS: 998.506mgN (9.80665 Based)	Lat: N 36 14 9.89 Northing: 1907520.24ft Grid Conv: -0.739° Lon: W 107 29 59.93 Easting: 131365.249ft Scale Fact: 1.0000555	Plan: Chaco 2306-08L #200H R1 mdy 21Jul14

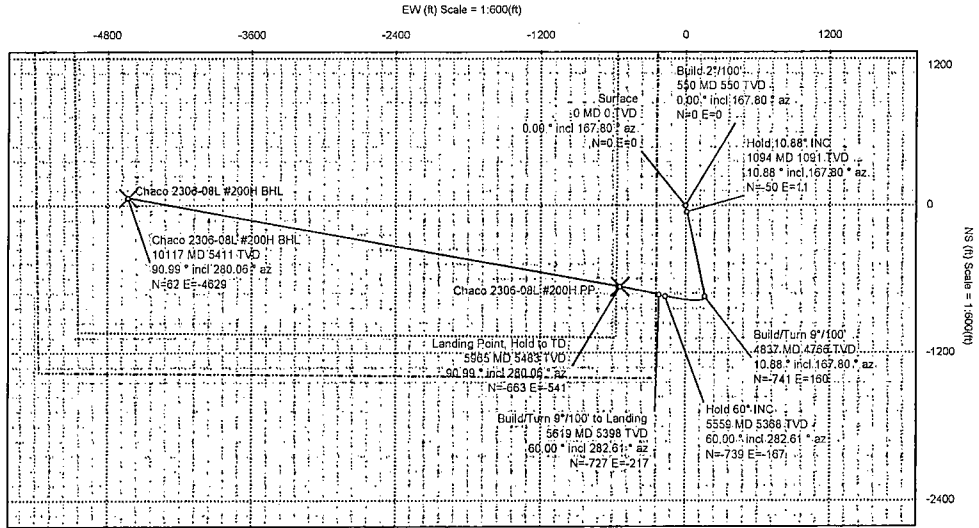
Proposal



True North
Tot Corr (M→T 9.435°)
Mag Dec (9.435°)
Grid Conv (-0.739°)



Vertical Section (ft) Azim = 270.769° Scale = 1:400(ft) Origin = 0N-S, 0E-W



Surface Location								
Northing: 1907520.24			Easting: 131365.249		Latitude: N 36 14 9.89		Longitude: W 107 29 59.93	
					VSec Azimuth: 270.769			
Target Description		Grid Coord					Local Coord	
Target Name	Latitude	Longitude	Northing	Easting	TVD	VSec	N(+)/S(-)	E(+)/W(-)
Chaco 2306-08L #200H BHL	N 36 14 10.50	W 107 30 56.43	1907642.08	126737.12	5411.00	4629.48	62.14	-4629.06
Chaco 2306-08L #200H PP	N 36 14 3.33	W 107 30 6.53	1906864.24	130815.52	5483.00	532.25	-663.00	-541.20
Chaco 2306-08L Pad Sec 7 330' Setback	N 36 14 10.46	W 107 30 0.29	1907578.87	131336.51	6846.00	30.27	58.25	-29.49
Chaco 2306-08L Pad Sec 7	N 36 14 10.46	W 107 30 0.29	1907578.87	131336.51	6846.00	30.27	58.25	-29.49
Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
Surface	0.00	0.00	167.80	0.00	0.00	0.00	0.00	
Build 2 1/100'	550.00	0.00	167.80	550.00	0.00	0.00	0.00	0.00
Hold 10.88° INC	1093.84	10.88	167.80	1090.58	-11.55	-50.30	10.87	2.00
Build/Turn 9 1/100'	4836.84	10.88	167.80	4766.34	-170.03	-740.85	160.10	0.00
Hold 60° INC	5559.18	60.00	282.61	5367.53	156.63	-738.77	-166.56	9.00
Build/Turn 9 1/100' to Landing	5619.18	60.00	282.61	5397.53	207.48	-727.43	-217.27	0.00
Landing Point, Hold to TD	5964.62	90.99	280.06	5483.00	532.32	-663.03	-541.27	9.00
Chaco 2306-08L #200H BHL	10116.86	90.99	280.06	5411.00	4629.48	62.14	-4629.06	0.00