

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

CD Artesia

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**

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMNM0531277
2. Name of Operator MEWBOURNE OIL COMPANY		6. If Indian, Allottee or Tribe Name
3a. Address P O BOX 5270 HOBBS, NM 88241		7. If Unit or CA/Agreement, Name and/or No. 891012406C
3b. Phone No. (include area code) Ph: 575-393-5905		8. Well Name and No. FORTY NINER RIDGE UNIT 105H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 22 T23S R30E SESE 525FSL 666FEL		9. API Well No. 30-015-44219-00-X1
		10. Field and Pool or Exploratory Area FORTY NINER RIDGE
		11. County or Parish, State EDDY 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 Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original APD
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 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.

Mewbourne Oil Company has an approved APD for the above well. Mewbourne requests approval to make the following changes:

- 1) Change SHL to 525' FSL & 445' FEL, Sec 22, T23S, R30E.
- 2) Change BHL to 100' FNL & 330' FEL, Sec 15, T23S, R30E.
- 3) Change 7" x 5 1/2" split production casing to 7" production casing with 4 1/2" cemented liner.
- 4) Change cement to suit new casing.
- 5) Change wellhead to multi-bowl type wellhead.

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

Please see attachments for wellhead schematic, new drilling plan, casing & cement information..

Please contact Andy Taylor with any questions.

PC 9-11-17
Accepted for record - NMOCD

NM OIL CONSERVATION

ARTESIA DISTRICT

SEP 08 2017

14. I hereby certify that the foregoing is true and correct. Electronic Submission #379827 verified by the BLM Well Information System For MEWBOURNE OIL COMPANY, sent to the Carlsbad Committed to AFMSS for processing by DEBORAH MCKINNEY on 07/20/2017 (17DLM2131SE)		RECEIVED
Name (Printed/Typed) ANDREW TAYLOR	Title ENGINEER	
Signature (Electronic Submission)	Date 06/26/2017	

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By ZOTIA STEVENS Title PETROLEUM ENGINEER Date 08/30/2017

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.

PLEASE PROVIDE C102

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person to make any false, fictitious or fraudulent statements or representations as to any matter within

by of the United

(Instructions on page 2)

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

R-111-P: 3 strings circ, a casing seal test of 600psi(hydr) for the surface and 1000 for intermediate, <100psi drop in 30min. High Cave Karst: two casing strings, both to circulate cement to surface.

13 3/8 Segment	surface csg in a #/ft	Grade	17 1/2 inch hole. Coupling	Joint	Design Factors		SURFACE		
"A"	48.00	H 40	ST&C	15.78	Collapse	Burst	Length	Weight	
"B"							425	20,400	
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,026				Tail Cmt	does	circ to sfc.	Totals:	425 20,400	
<u>Comparison of Proposed to Minimum Required Cement Volumes</u>									
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd	Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE	Hole-Cplg
17 1/2	0.6946	360	607	350	74	8.80	1108	2M	1.56

Burst Frac Gradient(s) for Segment(s) A, B = , b All > 0.70, OK.

9 5/8 Segment	casing inside the #/ft	Grade	13 3/8 Coupling	Joint	Design Factors		INTERMEDIATE		
"A"	36.00	J 55	ST&C	2.94	Collapse	Burst	Length	Weight	
"B"	40.00	J 55	LT&C	52.63	2.01	0.83	247	9,880	
w/8.4#/g mud, 30min Sfc Csg Test psig:						Totals:		3,700	134,188
The cement volume(s) are intended to achieve a top of				0	ft from surface or a		425	overlap.	
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
12 1/4	0.3132	760	1455	1204	21	10.00	2627	3M	0.81

Burst Frac Gradient(s) for Segment(s): A, B, C, D = 1.02, 1.07, c, d All > 0.70, OK. B section has to be 1/3 full to pass safety factor

7	casing inside the	9 5/8	<u>Design Factors</u>				<u>PRODUCTION</u>		
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	Weight	
"A"	26.00	HCP 110	LT&C	2.80	13.18	2.1	1,199	31,174	
"B"	26.00	HCP 110	LT&C	1.98	1.53	2.1	8,114	210,964	
"C"	17.00	p 110	BUTT	110.34	1.58	2.24	750	12,750	
"D"	17.00	p 110		=	1.58	2.24,	-161	-2,737	
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,500						Totals:	9,902	252,151	
B	would be:			3 21	1.70	if it were a vertical wellbore.			
No Pilot Hole Planned		MTD	Max VTD	Csg VD	Curve KOP	Dogleg°	Severity:	MEOC	
		9902	9604	9604	9100	90	11	9901.5	
The cement volume(s) are intended to achieve a top of				0	ft from surface or a		3700	overlap.	
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
8 3/4	0.1503	780	1278	1553	-18	9.50	2627	3M	1.35

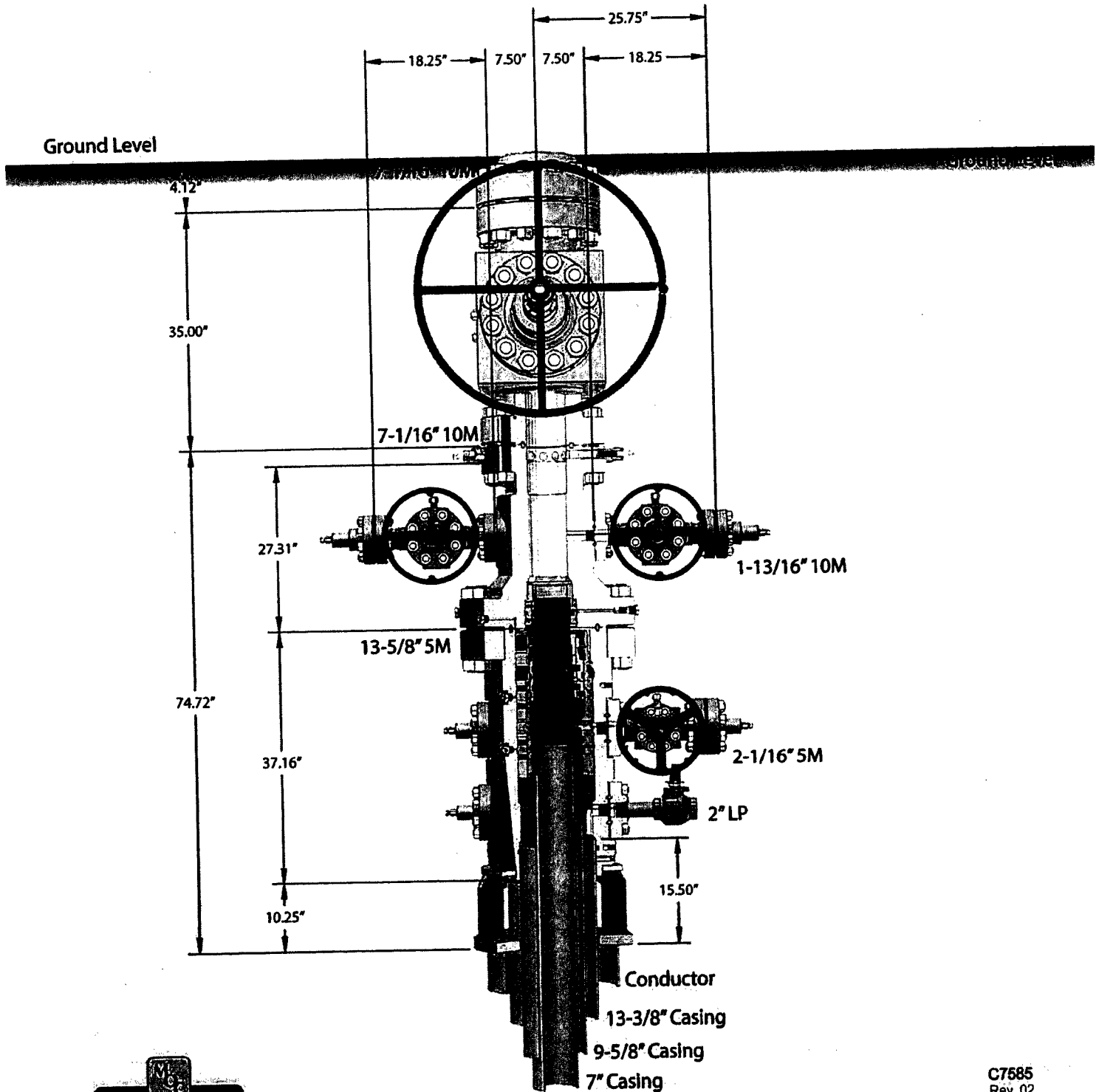
4 1/2 Segment	Liner w/top @ #/ft	Grade	9100 Coupling	Joint	Design Factors		LINER		
"A"	13.50	P 110	LT&C	1.90	Collapse	Burst	Length	Weight	
"B"	13.50	P 110	LT&C	2.84	2.25	2.62	802	10,820	
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,113							9,474	127,892	
Segment Design Factors would be:						Totals:	10,275	138,713	
				2.61	2.25	if it were a vertical wellbore.			
No Pilot Hole Planned			MTD	Max VTD	Csg VD	Curve KOP	Dogleg°	Severity°	MEOC
			19375	9604	9604	9100	90	11	9901.5
The cement volume(s) are intended to achieve a top of				9100	ft from surface or a		802	overlap.	
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
6 1/8	0.0942	420	1247	975	28	9.50			0.56

Capitan Reef est top XXXX.

CAMERON

A Schlumberger Company

13-5/8" MN-DS Wellhead System



C7585
Rev. 02

NOTE: All dimensions on this drawing are estimated measurements and should be evaluated by engineering.

Lapping flange 57" conductor cut-off
79

Mewbourne Oil Company, Forty Niner Ridge Unit #105H

Sec 22, T23S, R30E

SL: 525' FSL & 445' FEL, Sec 22

BHL: 100' FNL & 330' FEL, Sec 15

1. Geologic Formations

TVD of target	9604'	Pilot hole depth	NA
MD at TD:	19375'	Deepest expected fresh water:	300'

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface		
Rustler			
Top of Salt	472	Salt	
Castile	2291		
Base of Salt	3549		
Yates		Oil	
Lamar	3776		
Cherry Canyon	4704		
Manzanita Marker	4874		
Brushy Canyon	5994		
Bone Spring	7649	Oil/Gas	
1 st Bone Spring Sand	8649		
2 nd Bone Spring Sand	9504	Target Zone	
3 rd Bone Spring Sand			
Abo			
Wolfcamp		Will Not Penetrate	
Devonian			
Fusselman			
Ellenburger			
Granite Wash			

*H₂S, water flows, loss of circulation, abnormal pressures, etc.

Mewbourne Oil Company, Forty Niner Ridge Unit #105H

Sec 22, T23S, R30E

SL: 525' FSL & 445' FEL, Sec 22

BHL: 100' FNL & 330' FEL, Sec 15

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
	From	To							
17.5"	0'	425'	13.375"	48	H40	STC	3.87	8.70	15.78
12.25"	0'	3453'	9.625"	36	J55	LTC	1.13	1.96	3.38
12.25"	3453'	3700'	9.625"	40	J55	LTC	1.34	2.05	52.63
8.75"	0'	9902'	7"	26	HCP110	LTC	1.65	2.10	2.49
6.125"	9100'	19375'	4.5"	13.5	P110	LTC	2.14	2.48	2.44
BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet				

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Must have table for contingency casing

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	Y
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing?	Y
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	Y
If yes, are there two strings cemented to surface?	Y
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Mewbourne Oil Company, Forty Niner Ridge Unit #105H
Sec 22, T23S, R30E
SL: 525' FSL & 445' FEL, Sec 22
BHL: 100' FNL & 330' FEL, Sec 15

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H₂O gal/ sk	500# Comp. Strength (hours)	Slurry Description
Surf.	160	14.8	2.12	6.3	8	Lead: Class C + Salt + Gel + Extender + LCM
	200	14.8	1.34	6.3	8	Tail: Class C + Retarder
Inter.	580	12.5	2.12	11	10	Lead: Class C + Salt + Gel + Extender + LCM
	200	14.8	1.34	6.3	8	Tail: Class C + Retarder
Prod	380	12.5	2.12	11	9	Lead: Class C + Gel + Retarder + Defoamer + Extender
	400	15.6	1.18	5.2	10	Tail: Class H + Retarder + Fluid Loss + Defoamer
Liner	420	11.2	2.97	17	16	Class C + Salt + Gel + Fluid Loss + Retarder + Dispersant + Defoamer + Anti-Settling Agent

A copy of cement test will be available on location at time of cement job providing pump times & compressive strengths.

Casing String	TOC	% Excess
Surface	0'	100%
Intermediate	0'	25%
Production	3200'	25%
Liner	9100'	25%

Mewbourne Oil Company, Forty Niner Ridge Unit #105H
Sec 22, T23S, R30E
SL: 525' FSL & 445' FEL, Sec 22
BHL: 100' FNL & 330' FEL, Sec 15

4. Pressure Control Equipment

Variance: None

BOP installed and tested before drilling which hole?	Size?	System Rated WP	Type	✓	Tested to:
12-1/4"	13-5/8"	5M	Annular	X	2500#
			Blind Ram	X	5000#
			Pipe Ram	X	
			Double Ram		
			Other*		

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

X	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
N	Are anchors required by manufacturer?
Y	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. Provide description here: See attached schematic.

Mewbourne Oil Company, Forty Niner Ridge Unit #105H

Sec 22, T23S, R30E

SL: 525' FSL & 445' FEL, Sec 22

BHL: 100' FNL & 330' FEL, Sec 15

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	425	FW Gel	8.6-8.8	28-34	N/C
425	3700	Saturated Brine	10.0	28-34	N/C
3700	9100	Cut Brine	8.6-9.5	28-34	N/C
9100	19375	OBM	8.6-9.5	30-40	<10cc

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	Visual Monitoring
---	-------------------

6. Logging and Testing Procedures

Logging, Coring and Testing.	
X	Will run GR/CNL from KOP (9100') to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned		Interval
X	Gamma Ray	9100' (KOP) to TD
	Density	
	CBL	
	Mud log	
	PEX	

Mewbourne Oil Company, Forty Niner Ridge Unit #105H
Sec 22, T23S, R30E
SL: 525' FSL & 445' FEL, Sec 22
BHL: 100' FNL & 330' FEL, Sec 15

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	4994 psi
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers in surface hole.

Hydrogen Sulfide (H₂S) monitors will be installed prior to drilling out the surface shoe. If H₂S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

	H ₂ S is present
X	H ₂ S Plan attached

8. Other facets of operation

Is this a walking operation? If yes, describe.
 Will be pre-setting casing? If yes, describe.

Attachments

___ Directional Plan
 ___ Other, describe

Forty Niner Ridge Unit #105H

Section Lines

BHL: 100' FNL & 330' FEL, Sec15

South(-)/North(+) (2500 usft/in)

Hard Lines

LP: 1025' FSL & 330' FEL

KOP @ 9100'

SL: 525' FSL & 445' FEL, Sec 22

West(-)/East(+) (2500 usft/in)

