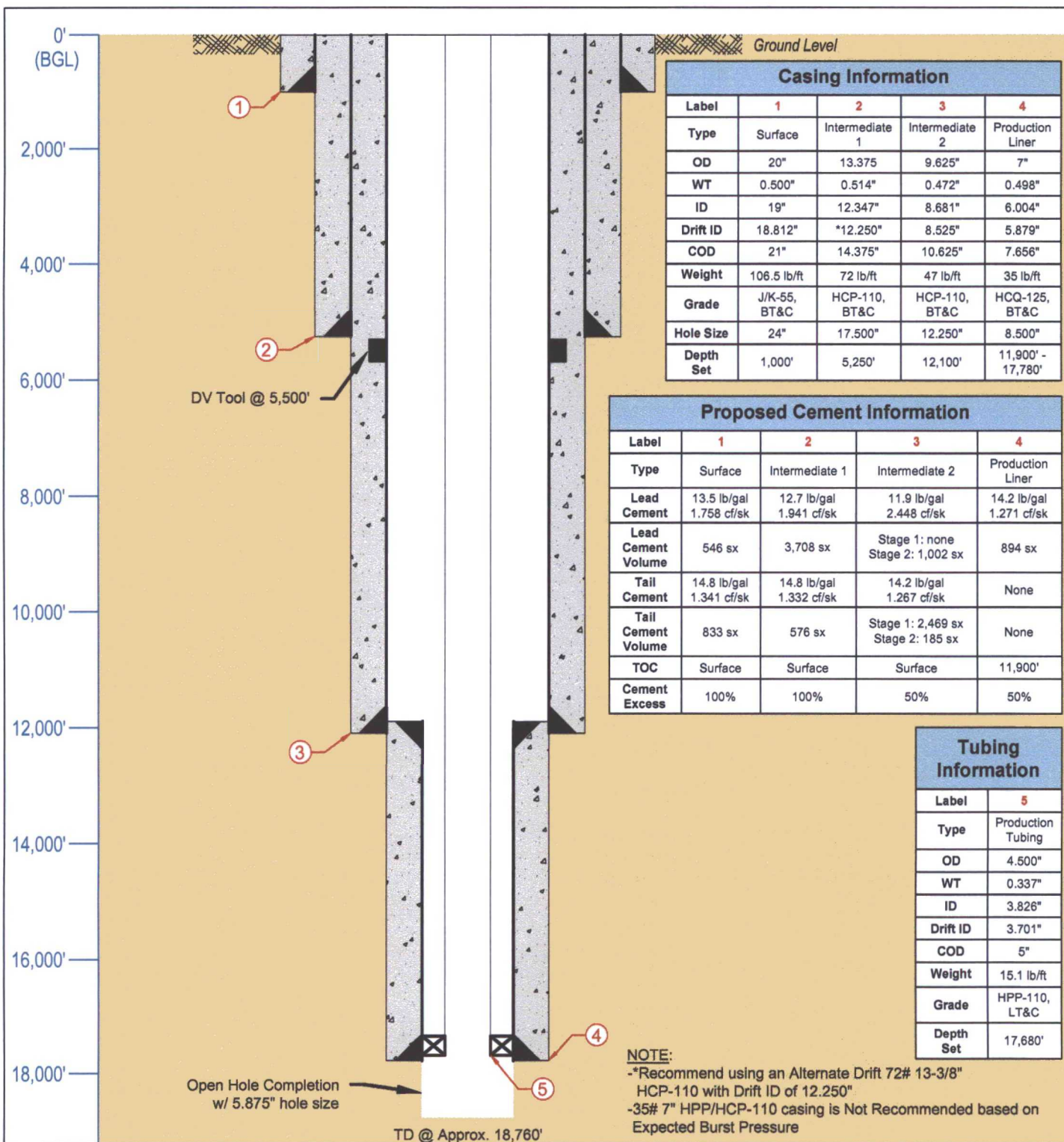




LONQUIST & CO. LLC PETROLEUM ENGINEERS ENERGY ADVISORS AUSTIN HOUSTON  WICHITA CALGARY	OWL SWD Operating, Inc		Dinwiddie SWD No. 1	
	Country: USA	State/Province: New Mexico	County/Parish: Lea	
	Survey/STR: C-11-26S-33E	Site:	Status: To Be Drilled	
	API No.: 30-025-TBD	Field:	Ground Elevation:	
	Texas License F-8952	State ID No.:	Project No:	Date: 3/1/2016
3345 Bee Cave Road, Suite 201 Austin, Texas 78746 Tel: 512.732.9812 Fax: 512.732.9816	Drawn: MMC	Reviewed: SLP	Approved: SLP	
	Rev No: 1	Notes: Devonian completion with 4-1/2" Injection Tubing.		

20	surface csg in a 24		inch hole.		Design Factors			SURFACE	
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	Weight	
"A"	106.50	J 55	BUTT	14.98	1.51	0.83	1,000	106,500	
"B"							0	0	
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,251				Tail Cmt	does not	circ to sfc.	Totals:	1,000	106,500
Comparison of Proposed to Minimum Required Cement Volumes									
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
24	0.9599	1379	2077	1039	100	9.80	1736	2M	1.50

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

13 3/8	casing inside the 20			<u>Design Factors</u>			INTERMEDIATE		
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	Weight
"A"	72.00	HCP 110		BUTT	5.88	1.2	1.18	5,250	378,000
"B"								0	0
w/8.4#/g mud, 30min Sfc Csg Test psig:							Totals:	5,250	378,000
The cement volume(s) are intended to achieve a top of					0	ft from surface or a		1000	overlap.
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	4284	7964	3982	100	10.60	3624	5M	1.56

9 5/8	casing inside the	13 3/8	Design Factors				PRODUCTION		
Segment	#/ft	Grade	Coupling	Body	Collapse	Burst	Length	Weight	
"A"	47.00	HCP 110	BUTT	2.63	1.13	0.79	12,100	568,700	
"B"							0	0	
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,328						Totals:	12,100	568,700	
The cement volume(s) are intended to achieve a top of				0	ft from surface or a		5250	overlap.	
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
12 1/4	0.3132	look ↘	0	3876		10.00	8096	10M	0.81
Setting Depths for D V Tool(s):				5500			sum of sx	Σ CuFt	Σ %excess
% excess cmt by stage:				50	50		3656	5816	50

Class 'H' tail cmt yld > 1.20

MASP is within 10% of 5000psig, need exrta equip?

Burst Frac Gradient(s) for Segment(s): A, B, C, D = 0.78,

Tail cmt

7		Liner w/top @		11900		Design Factors		LINER	
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	Weight
"A"	35.00	HCQ 125		BUTT	1.90	1.23	1.1	5,880	205,800
"B"								0	0
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,495							Totals:	5,880	205,800
The cement volume(s) are intended to achieve a top of					11900	ft from surface or a		200	overlap.
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
8 1/2	0.1268	894	1136	758	50	13.00			0.42

Class 'H' tail cmt yld > 1.20

Capitan Reef est top XXXX.

MASP is within 10% of 5000psig, need exrta equip?