14-1083

HOBBS OCD Hobbs

Form 3160-3
(March 2012)

R-111-POTASH

JUN 10 2015

RECEIVED

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

5. Lease Serial No.
NMNM087274/NMNM086168

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

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

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No. (313044)
Topaz 30 Federal Com #2H

2. Name of Operator BC Operating, Inc (160825)

9. API Well No.
30-025-42625

3a. Address P.O. Box 50820
Midland, Texas 79710

3b. Phone No. *(include area code)*
432-684-9696

10. Field and Pool, or Exploratory (97895)
WC-025 G-08 S213304D; Bone Spring

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface 240' FNL & 1980' FWL of Unit Letter 'C', Section 31, T-20S, R-34E
At proposed prod. zone 240' FNL & 1980' FWL of Unit Letter 'C', Section 30, T-20S, R-34E

11. Sec., T. R. M. or Blk. and Survey or Area
Section 31, T-20S, R34E
Section 30, T-20S, R-34E

14. Distance in miles and direction from nearest town or post office*
28 miles Southwest of Hobbs

12. County or Parish
Lea

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of acres in lease	17. Spacing Unit dedicated to this well
240'	640	160

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. on file
1016'	16,185' MD/11,150' TVD	NM2572

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3695' GL	02/01/2015	45 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
Pam Stevens	Pam Stevens	01/05/2015

Title
Regulatory Analyst

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
Steve Caffey		JUN 2 2015

Title	Office
FIELD MANAGER	CARLSBAD FIELD OFFICE

Application approval 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.
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

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.

(Continued on page 2)

*(Instructions on page 2)

Capitan Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

KR 06/10/15

COPY

Approval Subject to General Requirements
& Special Stipulations Attached

JUN 11 2015

1. Geologic Formations

TVD of target	11150	Pilot hole depth	None
MD at TD:	16185	Deepest expected fresh water:	485

Reef

Formation	Depth (TVD) from KB)	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Alluvium	Surface	Water	
Rustler	1500	Water	
Top of Salt	1800	Salt	
Tansill	3200		
Capitan	3575	Water	
Delaware Sands	5700	Oil/Gas	
Bone Spring Lime	8600	Oil/Gas	
First BS Sand	9700	Oil/Gas	
Second Carbonate	10000	Oil/Gas	
Second BS Sand	10250	Oil/Gas	
Third Carbonate	10650	Oil/Gas	
Third BS Sand	11000	Target Zone	
Wolfcamp	11350		
TD Pilot Hole	12000	No Pilot Hole Planned	

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

2. Casing Program

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
16"	0	~~1500~~ 1615	13.375"	54.5	J55	STC	1.58	1.01	6.29
12.25"	0	~~5200~~ 5475	9.625"	40	N80	LTC	1.14	1.12	3.54
8.75"	0	16185	5.5"	17	P110 HC	SEMI BUTT	1.53	2.06	3.00
						BLM Minimum Safety Factor	1.125	1	1.6 Dry 1.8 Wet

See Comm

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
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	Y
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate 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?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	N
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	Y
If yes, are the first three strings cemented to surface?	Y
Is 2nd string set 100' to 600' below the base of salt?	Y
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(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?	

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/ sk	500# Comp. Strength (hours)	Slurry Description
Surf.	640	13.5	1.73	9.1	10	Lead: Class C + 4.0% Bentonite + 1% CaCl2 + 0.25 lb/sk Cello-Flake
	260	14.8	1.35	6.3	8	Tail: Class C + 2% CaCl2 + 0.25 lb/sk Cello-Flake
Inter.	1530	12.6	2.01	11	15	Lead: Class C 35/65 + 0.25 lb/sk Cello-Flake + 6% Bentonite + 6% salt (BWOW)
	280	14.8	1.33	6.3	11	Tail: Class C + 0.15% R-20
Prod.	1820	11.8	2.39	14	22	Lead: 50/50 Class H + 10% Bentonite + 0.4% R-20 + 0.25 lb/sk Cello-Flake + 3% salt (BWOW)
	720	14.2	2.57	11	25	Tail: 50/50 Class H + 100% CACO3 + 0.5% FL-16 + 0.1% CD-37 + 0.3% R-20 + 4% Bentonite + 0.5% TSM-1 + 0.2% AS-3 + 5% salt (BWOW)
						Prod. CMT Acid Soluble Blend

DV tool depth(s), if used, will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
Surface	0'	100%
Intermediate	0'	100%
Production	0'	50%

Include Pilot Hole Cementing specs:

Pilot hole depth <u>None planned. Contingency below</u>

KOP <u>10577</u>

Plug top	Plug Bottom	% Excess	No. Sacks	Wt. lb/gal	Yld ft3/sack	Water gal/sk	Slurry Description and Cement Type
10500	11050	18	230	~~15.6~~	~~1.18~~	5	~~Class H + 0.3% R-20~~
~~11300~~ 11,190	11400	~~40~~	50	15.6	1.18	5	Class H + 0.3% R-20
~~11780~~	12000	15	90	15.6	1.18	5	Class H + 0.3% R-20

Not approved for pilot hole. 5M System will be required for Wolfcamp.

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
16"	20"	2M	Annular	x	50% of working pressure
			Blind Ram		2M
			Pipe Ram		
			Double Ram		
			Other*		
12-1/4"	13-5/8"	2M	Annular	x	50% testing pressure
			Blind Ram		2M
			Pipe Ram		
			Double Ram		
			Other *		
8-3/4"	11"	3M	Annular	X	50% testing pressure
			Blind Ram	X	3M
			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.

X	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?
N	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.	

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. shoe	FW Gel	8.5-9.2	28-34	N/C
Surf csg	Int shoe	Brine	9.6-10	28-34	N/C
Int shoe	TD	Cut Brine/EVO	8.4-8.9	28-34	<15

See COA

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?	PVT/Pason/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing.	
N	Will run GR/CNL fromTD 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
	Resistivity	Int. shoe to KOP
	Density	Int. shoe to KOP
	CBL	Production casing
X	Mud log	Intermediate shoe to TD
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	3900 psi
Abnormal Temperature	Yes/No

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

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.	
	H2S is present
X	H2S Plan attached

8. Other facets of operation

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

Attachments
_X_ Directional Plan
_X_ Other, describe

- Improved 5.5" casing thread design example
- 20" annular
- 13-5/8" annular
- 11" BOPE
- Flexible hose specs and test chart

ULTRA-DQX Product Summary: Pipe and Connection Data

Nominal OD in.	Nominal Weight lb/ft	PE Weight lb/ft	Wall Thickness in.	Nominal ID in.	Drift Dia. in.	Nominal PBA in.	Coupling Critical Section Area in.	Tensile %	Compression %	Makeup Loss in.	Coupling OD in.	Coupling Length in.	J-55 Yield Load lbs.	J-55 Parting Load lbs.	J-55 Optimum Torque ft-lbs.	J-55 Yield Torque ft-lbs.
4 1/2	10.50	10.23	0.224	4.052	3.927	3.009	4.602	100	100	3.772	5.000	7.544	165,600	213,400	2,900	4,600
4 1/2	11.60	11.35	0.250	4.000	3.875	3.338	4.602	100	100	3.772	5.000	7.544	183,600	236,700	3,300	5,300
4 1/2	12.60	12.24	0.271	3.958	3.833	3.600	4.602	100	100	3.772	5.000	7.544	198,000	255,300	3,700	5,900
4 1/2	13.50	13.04	0.290	3.920	3.795	3.836	4.602	100	100	3.772	5.000	7.544	211,000	272,000	4,000	6,400
4 1/2	15.10	14.98	0.337	3.826	3.701	4.407	4.602	100	100	3.772	5.000	7.544	242,400	312,600	4,800	7,600
5	15.00	14.87	0.296	4.408	4.283	4.374	5.841	100	100	4.097	5.563	8.194	240,600	307,900	5,000	8,000
5	18.00	17.93	0.362	4.276	4.151	5.275	5.841	100	100	4.097	5.563	8.194	290,100	371,300	6,400	10,200
5	21.40	21.30	0.437	4.126	4.001	6.264	5.841	93	100	4.097	5.563	8.194	321,200	407,800	7,800	12,500
5	23.20	23.08	0.478	4.044	3.919	6.791	5.841	86	100	4.097	5.563	8.194	321,200	407,800	8,600	13,700
5	24.10	24.03	0.500	4.000	3.875	7.069	5.915	84	100	4.222	5.563	8.444	325,300	412,900	9,000	14,300
5 1/2	15.50	15.35	0.275	4.950	4.825	4.514	6.297	100	100	4.122	6.050	8.244	248,300	315,400	5,200	8,300
5 1/2	17.00	16.87	0.304	4.892	4.767	4.962	6.297	100	100	4.122	6.050	8.244	272,900	346,800	5,900	9,500
5 1/2	20.00	19.81	0.361	4.778	4.653	5.828	6.297	100	100	4.122	6.050	8.244	320,600	407,300	7,400	11,800
5 1/2	23.00	22.54	0.415	4.670	4.545	6.630	6.297	95	100	4.122	6.050	8.244	346,300	438,400	8,600	13,900
6 5/8	20.00	19.49	0.288	6.049	5.924	5.734	10.110	100	100	4.261	7.390	8.522	315,300	394,000	7,800	12,600
6 5/8	23.20	22.19	0.330	5.965	5.840	6.526	10.110	100	100	4.261	7.390	8.522	358,900	448,400	9,400	15,100
6 5/8	24.00	23.58	0.352	5.921	5.796	6.937	10.110	100	100	4.261	7.390	8.522	381,500	476,700	10,200	16,400
6 5/8	24.60	24.21	0.362	5.901	5.776	7.123	10.110	100	100	4.261	7.390	8.522	391,700	489,400	10,600	16,900
6 5/8	28.00	27.65	0.417	5.791	5.666	8.133	10.110	100	100	4.261	7.390	8.522	447,300	558,800	12,600	20,100
6 5/8	29.00	28.57	0.432	5.761	5.636	8.405	10.110	100	100	4.261	7.390	8.522	462,300	577,500	13,100	21,000
6 5/8	32.00	31.20	0.475	5.675	5.550	9.177	10.110	100	100	4.261	7.390	8.522	504,800	630,600	14,600	23,400
7	23.00	22.63	0.317	6.366	6.241	6.655	9.501	100	100	4.461	7.656	8.922	366,100	454,700	9,300	15,000
7	26.00	25.66	0.362	6.276	6.151	7.549	9.501	100	100	4.461	7.656	8.922	415,200	515,800	11,200	17,900
7	29.00	28.72	0.408	6.184	6.059	8.449	9.501	100	100	4.461	7.656	8.922	464,700	577,300	13,100	20,900
7	32.00	31.67	0.453	6.094	5.969	9.317	9.501	100	100	4.461	7.656	8.922	512,500	636,600	14,900	23,800
7	35.00	34.58	0.498	6.004	5.879	10.172	9.501	93	100	4.461	7.656	8.922	522,500	642,700	16,600	26,600
7	38.00	37.26	0.540	5.920	5.795	10.959	9.501	67	100	4.461	7.656	8.922	522,500	642,700	18,200	29,100
7 5/8	26.40	25.56	0.328	6.969	6.844	7.519	13.385	100	100	4.742	8.500	9.485	413,600	508,900	11,000	17,600
7 5/8	29.70	29.04	0.375	6.875	6.750	8.541	13.385	100	100	4.742	8.500	9.485	469,800	578,000	13,300	21,400
7 5/8	33.70	33.04	0.430	6.765	6.640	9.720	13.385	100	100	4.742	8.500	9.485	534,600	657,800	16,000	25,700
7 5/8	35.80	35.56	0.465	6.695	6.570	10.460	13.385	100	100	4.742	8.500	9.485	575,300	707,900	17,700	28,300
7 5/8	39.00	38.05	0.500	6.625	6.500	11.192	13.385	100	100	4.742	8.500	9.485	615,800	757,400	19,300	31,000
7 5/8	42.80	42.39	0.562	6.501	6.376	12.470	13.385	100	100	4.742	8.500	9.485	685,900	844,000	22,200	35,500
7 5/8	45.30	44.67	0.595	6.435	6.310	13.141	13.385	100	100	4.742	8.500	9.485	722,700	889,300	23,700	37,900
7 5/8	47.10	46.73	0.625	6.375	6.250	13.744	13.385	97	100	4.742	8.500	9.485	738,200	893,700	25,000	40,000
8 5/8	32.00	31.10	0.352	7.921	7.796	9.149	16.943	100	100	4.742	9.625	9.485	503,200	609,600	15,200	24,300
8 5/8	36.00	35.14	0.400	7.825	7.700	10.336	16.943	100	100	4.742	9.625	9.485	568,500	688,800	18,300	29,200
8 5/8	40.00	39.29	0.450	7.725	7.600	11.557	16.943	100	100	4.742	9.625	9.485	635,600	770,200	21,400	34,200
8 5/8	44.00	43.39	0.500	7.625	7.500	12.763	16.943	100	100	4.742	9.625	9.485	701,900	850,500	24,500	39,200
8 5/8	49.00	47.99	0.557	7.511	7.386	14.118	16.943	100	100	4.742	9.625	9.485	776,500	940,800	27,900	44,700
9 5/8	36.00	34.89	0.352	8.921	8.765	10.254	18.820	100	100	4.742	10.625	9.485	564,000	672,700	18,100	28,900
9 5/8	40.00	38.94	0.395	8.835	8.679	11.454	18.820	100	100	4.742	10.625	9.485	630,000	751,400	21,500	34,500
9 5/8	43.50	42.69	0.435	8.755	8.599	12.559	18.820	100	100	4.742	10.625	9.485	690,700	823,900	24,700	39,600
9 5/8	47.00	46.14	0.472	8.681	8.525	13.572	18.820	100	100	4.742	10.625	9.485	746,500	890,400	27,600	44,200
9 5/8	53.50	52.85	0.545	8.535	8.379	15.546	18.820	100	100	4.742	10.625	9.485	855,100	1,019,900	33,200	53,200
9 5/8	58.40	57.36	0.595	8.435	8.279	16.879	18.820	100	100	4.742	10.625	9.485	928,400	1,107,300	37,000	59,200
10 3/4	40.50	38.88	0.350	10.050	9.894	11.435	20.994	100	100	4.792	11.750	9.585	628,900	736,800	21,400	34,200
10 3/4	45.50	44.22	0.400	9.950	9.794	13.006	20.994	100	100	4.792	11.750	9.585	715,300	838,000	26,500	42,400
10 3/4	51.00	49.50	0.450	9.850	9.694	14.581	20.994	100	100	4.792	11.750	9.585	800,900	938,200	31,500	50,400
10 3/4	55.50	54.21	0.495	9.760	9.604	15.947	20.994	100	100	4.792	11.750	9.585	877,100	1,027,500	35,900	57,400
10 3/4	60.70	59.40	0.545	9.660	9.504	17.473	20.994	100	100	4.792	11.750	9.585	961,000	1,125,600	40,600	65,200
10 3/4	65.70	64.53	0.595	9.560	9.404	18.982	20.994	100	100	4.792	11.750	9.585	1,044,000	1,223,100	45,500	72,900
11 3/4	47.00	45.60	0.375	11.000	10.844	13.401	22.739	100	100	4.692	12.750	9.385	737,000	849,500	28,200	45,100
11 3/4	54.00	52.62	0.435	10.880	10.724	15.463	22.739	100	100	4.692	12.750	9.385	850,500	980,300	35,500	56,800
11 3/4	60.00	58.81	0.489	10.772	10.616	17.300	22.739	100	100	4.692	12.750	9.385	951,600	1,096,700	41,900	67,100
13 3/8	54.50	52.74	0.380	12.615	12.459	15.513	25.858	100	100	4.742	14.375	9.485	853,200	957,300	36,200	57,900
13 3/8	61.00	59.50	0.430	12.515	12.359	17.487	25.858	100	100	4.742	14.375	9.485	961,800	1,079,100	44,100	70,600
13 3/8	68.00	66.10	0.480	12.415	12.259	19.445	25.858	100	100	4.742	14.375	9.485	1,069,500	1,199,900	51,900	83,100
13 3/8	72.00	70.60	0.514	12.347	12.191	20.768	25.858	100	100	4.742	14.375	9.485	1,142,200	1,281,500	57,200	91,500

Nominal OD in.	Nominal Weight lb/ft	L-80 Yield Load lbs.	L-80 Parting Load lbs.	L-80 Optimum Torque ft-lbs.	L-80 Yield Torque ft-lbs.	P-110 Yield Load lbs.	P-110 Parting Load lbs.	P-110 Optimum Torque ft-lbs.	P-110 Yield Torque ft-lbs.	Q-125 Yield Load lbs.	Q-125 Parting Load lbs.	Q-125 Optimum Torque ft-lbs.	Q-125 Yield Torque ft-lbs.
4 1/2	10.50	240,700	275,800	3,600	5,800	331,000	365,500	4,500	7,200	376,100	398,100	4,900	7,900
4 1/2	11.60	267,000	306,000	4,300	6,800	367,200	405,400	5,400	8,600	417,200	441,600	6,000	9,500
4 1/2	12.60	288,000	330,000	4,800	7,700	396,000	437,300	6,100	9,800	450,100	476,300	6,800	10,800
4 1/2	13.50	306,800	351,600	5,200	8,400	421,900	465,900	6,700	10,800	479,400	507,400	7,500	12,000
4 1/2	15.10	352,600	404,000	6,400	10,200	484,800	535,400	8,300	13,200	550,900	583,100	9,200	14,800
5	15.00	349,900	399,000	6,500	10,400	481,200	529,100	8,300	13,200	546,800	576,800	9,100	14,700
5	18.00	422,000	481,100	8,400	13,500	580,200	638,000	10,900	17,500	659,300	695,600	12,200	19,500
5	21.40	467,300	529,800	10,500	16,900	642,500	703,200	13,800	22,100	730,100	767,500	15,500	24,800
5	23.20	467,300	529,800	11,600	18,600	642,500	703,200	15,300	24,800	730,100	767,500	17,200	27,500
5	24.10	473,200	538,500	12,200	19,800	650,600	712,200	16,100	25,800	739,400	777,200	18,100	29,000
5 1/2	15.50	361,100	409,700	6,700	10,800	496,500	543,800	8,600	13,800	564,300	593,400	9,500	15,200
5 1/2	17.00	397,000	450,400	7,800	12,500	545,900	597,800	10,100	16,100	620,300	652,300	11,200	17,900
5 1/2	20.00	466,300	529,000	9,900	15,800	641,100	702,100	12,900	20,600	728,500	766,100	14,400	23,100
5 1/2	23.00	503,800	568,400	11,800	18,800	692,700	755,100	15,500	24,800	787,100	824,600	17,400	27,800
6 5/8	20.00	458,700	514,800	10,200	16,400	630,700	684,200	13,100	21,000	716,700	748,300	14,500	23,200
6 5/8	23.20	522,100	585,700	12,500	20,000	717,900	778,800	16,200	26,000	815,800	851,700	18,100	29,000
6 5/8	24.00	555,000	622,800	13,700	21,900	763,100	827,800	17,800	28,600	867,100	905,300	19,900	31,900
6 5/8	24.60	569,800	639,300	14,200	22,800	783,500	850,000	18,600	29,700	890,300	929,600	20,800	33,200
6 5/8	28.00	650,600	729,900	17,100	27,400	894,600	970,500	22,500	36,100	1,016,600	1,061,400	25,300	40,400
6 5/8	29.00	672,400	754,300	17,900	28,600	924,500	1,003,000	23,600	37,800	1,050,600	1,096,900	26,500	42,300
6 5/8	32.00	734,200	823,700	20,000	32,100	1,009,600	1,095,200	26,600	42,500	1,147,200	1,197,800	29,900	47,800
7	23.00	532,400	595,100	12,400	19,900	732,100	791,700	16,100	25,800	831,900	866,500	18,000	28,700
7	26.00	603,900	675,000	15,100	24,200	830,400	898,000	19,800	31,700	943,600	982,900	22,200	35,500
7	29.00	676,000	755,500	17,800	28,600	929,400	1,005,100	23,600	37,700	1,058,200	1,100,100	26,400	42,300
7	32.00	745,400	833,100	20,400	32,700	1,024,900	1,108,400	27,100	43,400	1,164,700	1,213,100	30,500	48,800
7	35.00	760,000	843,800	23,000	36,800	1,045,100	1,123,900	30,600	49,000	1,187,600	1,231,700	34,400	55,100
7	38.00	760,000	843,800	25,300	40,500	1,045,100	1,123,900	33,800	54,100	1,187,600	1,231,700	38,100	60,900
7 5/8	26.40	601,500	668,000	14,400	23,000	827,100	889,700	18,400	29,500	939,900	975,000	20,400	32,700
7 5/8	29.70	683,300	758,800	17,800	28,400	939,500	1,010,700	23,100	36,900	1,067,700	1,107,500	25,700	41,200
7 5/8	33.70	777,600	863,500	21,700	34,700	1,069,200	1,150,200	28,400	45,500	1,215,000	1,260,400	31,800	50,90
7 5/8	35.80	836,800	929,300	24,100	38,600	1,150,600	1,237,700	31,800	50,900	1,307,500	1,366,300	35,600	57,00
7 5/8	39.00	895,400	994,400	26,500	42,400	1,231,100	1,324,400	35,100	56,100	1,399,000	1,451,300	39,400	63,000
7 5/8	42.80	997,600	1,107,900	30,600	49,000	1,371,700	1,475,700	40,800	65,300	1,558,800	1,617,100	45,800	73,400
7 5/8	45.30	1,051,300	1,167,500	32,800	52,500	1,445,500	1,565,000	43,700	70,000	1,642,600	1,704,000	49,200	78,600
7 5/8	47.10	1,070,800	1,178,600	34,700	55,800	1,472,300	1,572,100	46,400	74,300	1,673,100	1,725,800	52,300	83,600
8 5/8	32.00	731,900	804,500	20,200	32,400	1,006,300	1,073,400	26,300	42,100	1,143,600	1,178,600	29,300	46,900
8 5/8	36.00	826,900	908,900	24,700	39,500	1,136,900	1,212,700	32,400	51,900	1,292,000	1,331,600	36,300	58,100
8 5/8	40.00	924,600	1,018,300	29,300	46,800	1,271,300	1,356,000	38,700	61,900	1,444,800	1,488,900	43,400	69,500
8 5/8	44.00	1,021,000	1,122,300	33,700	54,000	1,403,900	1,497,400	44,800	71,800	1,595,300	1,644,300	50,400	80,700
8 5/8	49.00	1,129,400	1,241,500	38,700	62,000	1,553,000	1,656,500	51,700	82,800	1,764,700	1,818,900	58,200	93,200
9 5/8	36.00	820,400	892,500	24,400	39,100	1,128,000	1,192,800	32,000	51,200	1,281,800	1,312,500	35,800	57,300
9 5/8	40.00	916,300	996,900	29,400	47,100	1,259,900	1,332,300	38,900	62,300	1,431,700	1,466,000	43,700	69,900
9 5/8	43.50	1,004,700	1,093,100	34,100	54,500	1,381,500	1,460,900	45,300	72,500	1,569,900	1,607,500	50,900	81,400
9 5/8	47.00	1,085,800	1,181,300	38,300	61,300	1,493,000	1,578,800	51,100	81,700	1,696,500	1,737,200	57,500	92,000
9 5/8	53.50	1,243,700	1,353,100	46,500	74,400	1,710,100	1,808,400	62,300	99,700	1,943,300	1,989,900	70,300	112,400
9 5/8	58.40	1,350,300	1,469,100	51,900	83,100	1,856,700	1,963,500	69,900	111,800	2,109,900	2,160,500	78,800	126,100
10 3/4	40.50	914,800	983,600	29,100	46,800	1,257,900	1,317,300	38,400	61,500	1,429,400	1,452,900	43,100	69,000
10 3/4	45.50	1,040,500	1,118,700	36,500	58,400	1,430,700	1,498,200	48,600	77,800	1,625,800	1,652,400	54,600	87,400
10 3/4	51.00	1,164,900	1,252,500	43,800	70,100	1,601,700	1,677,400	58,600	93,800	1,820,200	1,850,000	66,000	105,600
10 3/4	55.50	1,275,800	1,371,700	50,200	80,400	1,754,200	1,837,100	67,500	107,900	1,993,400	2,028,100	76,100	121,700
10 3/4	60.70	1,397,800	1,502,900	57,300	91,700	1,922,000	2,012,800	77,200	123,500	2,184,100	2,219,800	87,100	139,400
10 3/4	65.70	1,518,600	1,632,600	64,300	102,800	2,088,000	2,186,700	86,700	138,800	2,372,800	2,411,700	98,000	156,600
11 3/4	47.00	1,072,100	1,140,500	39,100	62,600	1,474,100	1,530,200	52,200	83,600	1,675,100	1,691,300	58,800	94,100
11 3/4	54.00	1,237,000	1,316,000	49,700	79,500	1,700,900	1,765,700	66,800	106,800	1,932,900	1,951,600	75,300	120,500
11 3/4	60.00	1,384,000	1,472,300	59,100	94,500	1,903,000	1,975,400	79,700	127,500	2,162,400	2,183,400	89,900	143,900
13 3/8	54.50	1,241,100	1,297,500	50,600	81,000	1,706,500	1,746,200	67,900	108,700	1,939,200	1,936,800	76,600	122,600
13 3/8	61.00	1,399,000	1,462,600	62,100	99,400	1,923,600	1,968,300	83,800	134,100	2,185,900	2,183,200	94,600	151,400
13 3/8	68.00	1,555,600	1,626,300	73,500	117,700	2,139,000	2,188,700	99,500	159,200	2,430,700	2,427,700	112,500	179,900
13 3/8	72.00	1,661,400	1,736,900	81,200	130,000	2,284,400	2,337,600	110,000	176,100	2,596,000	2,592,800	124,400	199,100

... Yield Load is based on ... Parting Load is ... Neither Minimum Yield or Parting Load include any Design or Safety Factors.

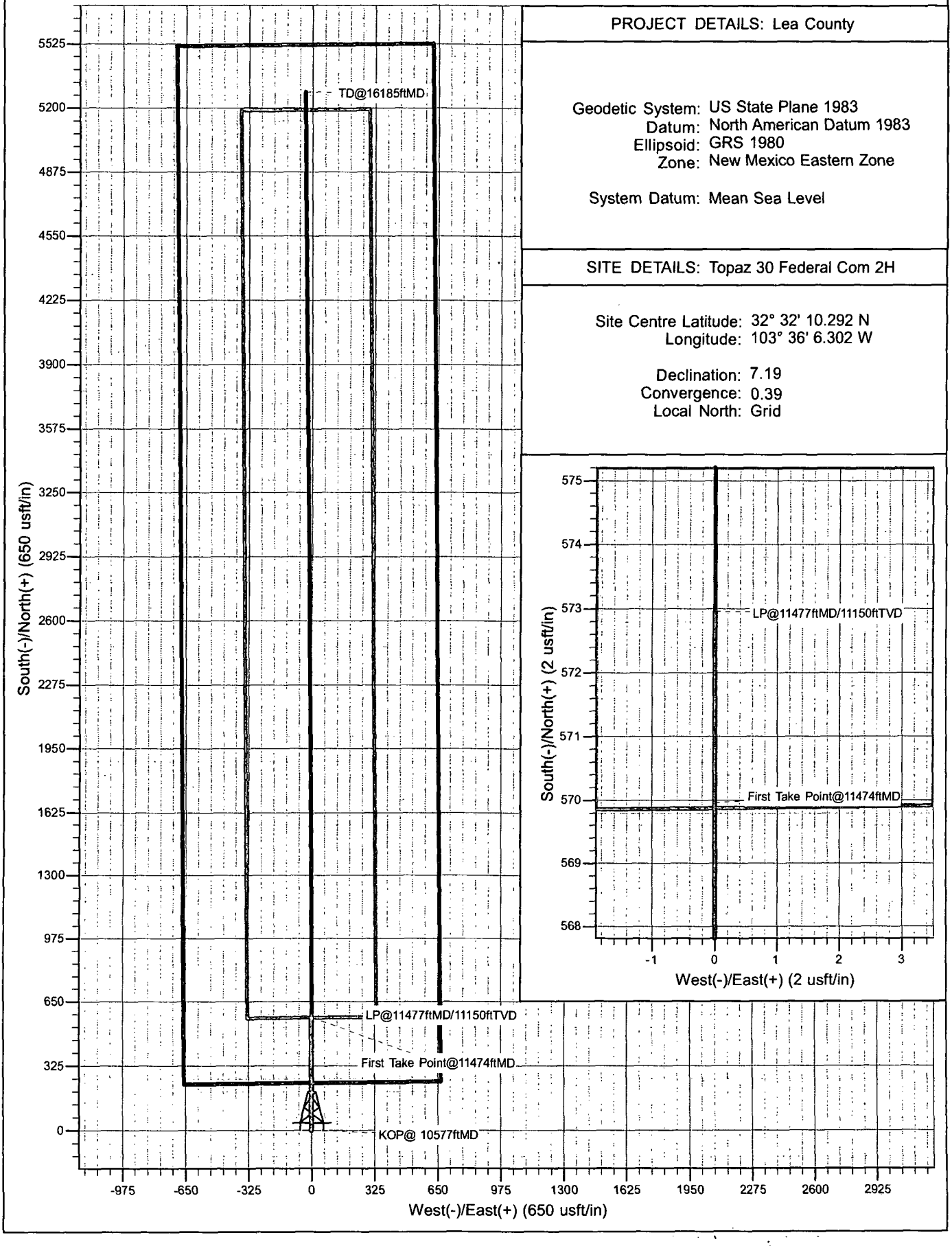
The ULTRA-DQX connection was originally invented by ...

Project:	Lea County
Site:	Topaz 30 Federal Com 2H
Well:	Topaz 30 Federal Com 2H
Wellbore:	Topaz 30 Federal Com 2H
Design:	Topaz 30 Federal Com 2H

BC OPERATING, INC.

Azimuths to Grid North
True North: -0.39°
Magnetic North: 6.80°

Magnetic Field
Strength: 48451.1snT
Dip Angle: 60.38°
Date: 04/12/2014
Model: IGRF2010



PROJECT DETAILS: Lea County

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

SITE DETAILS: Topaz 30 Federal Com 2H

Site Centre Latitude:	32° 32' 10.292 N
Longitude:	103° 36' 6.302 W
Declination:	7.19
Convergence:	0.39
Local North:	Grid

Project:	Lea County
Site:	Topaz 30 Federal Com 2H
Well:	Topaz 30 Federal Com 2H
Wellbore:	Topaz 30 Federal Com 2H
Design:	Topaz 30 Federal Com 2H

BC OPERATING, INC.

Azimuths to Grid North
True North: -0.39°
Magnetic North: 6.80°

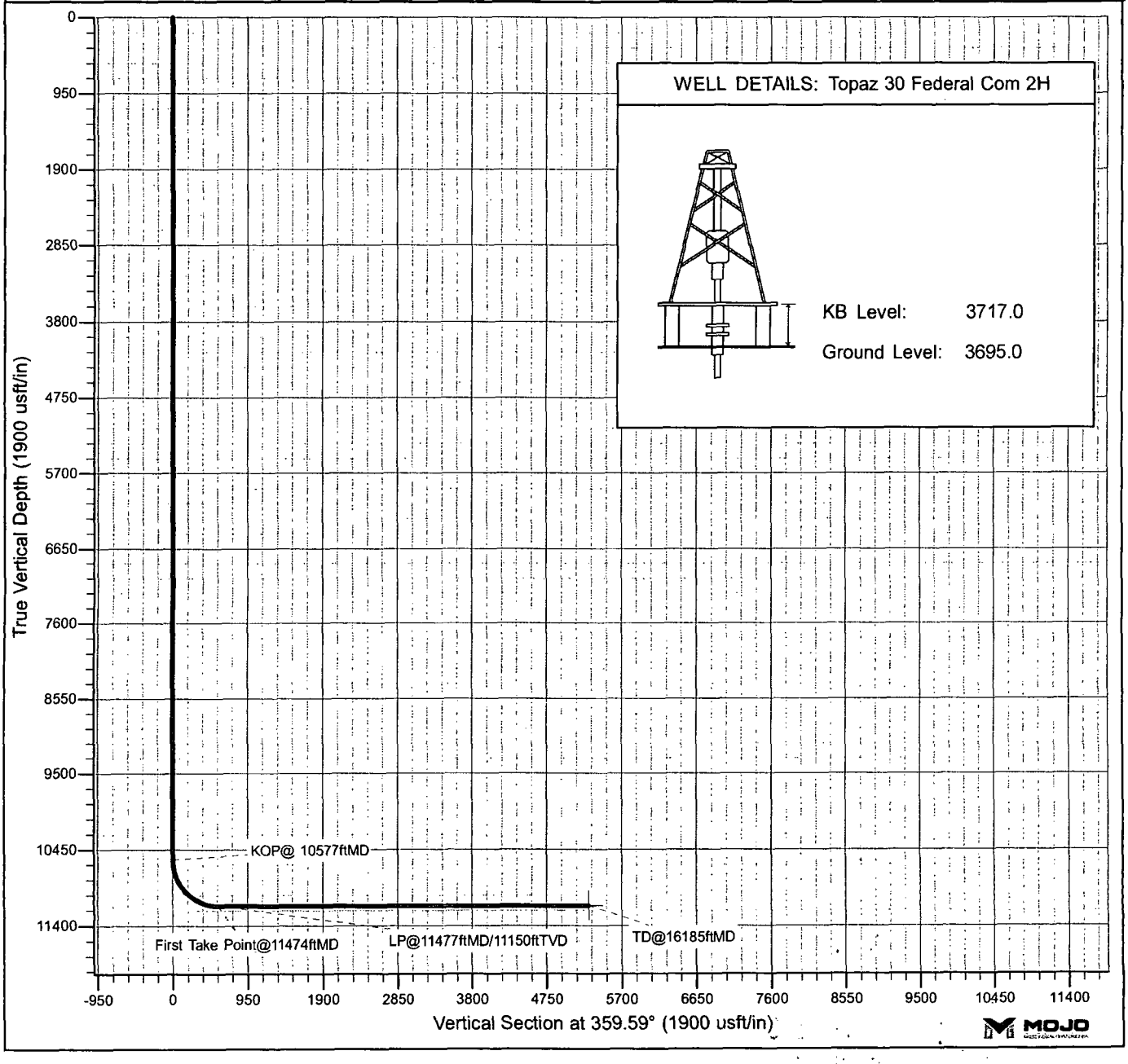
Magnetic Field
Strength: 48451.1snT
Dip Angle: 60.38°
Date: 04/12/2014
Model: IGRF2010

WELL DETAILS: Topaz 30 Federal Com 2H

+N/-S	+E/-W	Northing	Easting	Latittude	Longitude
0.0	0.0	559571.59	766792.32	32° 32' 10.292 N	103° 36' 6.302 W

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
10577.0	10577.0	0.00	0.00	0.0	0.0	0.0	0.0	KOP@ 10577ftMD
11149.9	11474.0	89.70	0.00	570.0	0.0	569.9	570.0	First Take Point@11474ftMD
11150.0	11477.0	90.00	0.00	573.0	0.0	572.9	573.0	LP@11477ftMD/11150ftTVD
11150.0	16185.0	90.00	359.47	5280.8	-37.4	5280.9	5281.0	TD@16185ftMD



BC OPERATING, INC.

B.C Operating, Inc.

Lea County
Topaz 30 Federal Com 2H

Plan: 141204 Topaz 30 Federal Com 2H

MOJO Standard Plan

04 December, 2014

MOJO
DIRECTIONAL CORPORATION

Company:	B.C Operating, Inc.	**Local Co-ordinate Reference:**	Well Topaz 30 Federal Com 2H
Project:	Lea County	**TVD Reference:**	WELL @ 3717.0usft (Original Well Elev)
Site:	Topaz 30 Federal Com 2H	**MD Reference:**	WELL @ 3717.0usft (Original Well Elev)
Well:	Topaz 30 Federal Com 2H	**North Reference:**	Grid
Wellbore:	Topaz 30 Federal Com 2H	**Survey Calculation Method:**	Minimum Curvature
Design:	141204 Topaz 30 Federal Com 2H	**Database:**	EDM 5000.1 Single User Db

Project Lea County

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Topaz 30 Federal Com 2H

Site Position:		**Northing:**	559,571.59 usft	**Latitude:**	32° 32' 10.292 N
From:	Map	**Easting:**	766,792.32 usft	**Longitude:**	103° 36' 6.302 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.39 °

Well Topaz 30 Federal Com 2H

Well Position	**+N/-S**	0.0 usft	**Northing:**	559,571.59 usft	**Latitude:**	32° 32' 10.292 N
	+E/-W	0.0 usft	**Easting:**	766,792.32 usft	**Longitude:**	103° 36' 6.302 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,695.0 usft

Wellbore Topaz 30 Federal Com 2H

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	04/12/2014	7.19	60.38	48,451

Design 141204 Topaz 30 Federal Com 2H

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	359.59

Survey Tool Program Date 04/12/2014

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	16,185.9	141204 Topaz 30 Federal Com 2H (Topaz		

Company:	B.C Operating, Inc.	**Local Co-ordinate Reference:**	Well Topaz 30 Federal Com 2H
Project:	Lea County	**TVD Reference:**	WELL @ 3717.0usft (Original Well Elev)
Site:	Topaz 30 Federal Com 2H	**MD Reference:**	WELL @ 3717.0usft (Original Well Elev)
Well:	Topaz 30 Federal Com 2H	**North Reference:**	Grid
Wellbore:	Topaz 30 Federal Com 2H	**Survey Calculation Method:**	Minimum Curvature
Design:	141204 Topaz 30 Federal Com 2H	**Database:**	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
0.0	0.00	0.00	0.0	-3,717.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
100.0	0.00	0.00	100.0	-3,617.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
200.0	0.00	0.00	200.0	-3,517.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
300.0	0.00	0.00	300.0	-3,417.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
400.0	0.00	0.00	400.0	-3,317.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
500.0	0.00	0.00	500.0	-3,217.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
600.0	0.00	0.00	600.0	-3,117.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
700.0	0.00	0.00	700.0	-3,017.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
800.0	0.00	0.00	800.0	-2,917.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
900.0	0.00	0.00	900.0	-2,817.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
1,000.0	0.00	0.00	1,000.0	-2,717.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
1,100.0	0.00	0.00	1,100.0	-2,617.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
1,200.0	0.00	0.00	1,200.0	-2,517.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
1,300.0	0.00	0.00	1,300.0	-2,417.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
1,400.0	0.00	0.00	1,400.0	-2,317.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
1,500.0	0.00	0.00	1,500.0	-2,217.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
1,600.0	0.00	0.00	1,600.0	-2,117.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
1,700.0	0.00	0.00	1,700.0	-2,017.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
1,800.0	0.00	0.00	1,800.0	-1,917.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
1,900.0	0.00	0.00	1,900.0	-1,817.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
2,000.0	0.00	0.00	2,000.0	-1,717.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
2,100.0	0.00	0.00	2,100.0	-1,617.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
2,200.0	0.00	0.00	2,200.0	-1,517.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
2,300.0	0.00	0.00	2,300.0	-1,417.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
2,400.0	0.00	0.00	2,400.0	-1,317.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
2,500.0	0.00	0.00	2,500.0	-1,217.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
2,600.0	0.00	0.00	2,600.0	-1,117.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32

Company:	B.C Operating, Inc.	**Local Co-ordinate Reference:**	Well Topaz 30 Federal Com 2H
Project:	Lea County	**TVD Reference:**	WELL @ 3717.0usft (Original Well Elev)
Site:	Topaz 30 Federal Com 2H	**MD Reference:**	WELL @ 3717.0usft (Original Well Elev)
Well:	Topaz 30 Federal Com 2H	**North Reference:**	Grid
Wellbore:	Topaz 30 Federal Com 2H	**Survey Calculation Method:**	Minimum Curvature
Design:	141204 Topaz 30 Federal Com 2H	**Database:**	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
2,700.0	0.00	0.00	2,700.0	-1,017.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
2,800.0	0.00	0.00	2,800.0	-917.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
2,900.0	0.00	0.00	2,900.0	-817.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
3,000.0	0.00	0.00	3,000.0	-717.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
3,100.0	0.00	0.00	3,100.0	-617.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
3,200.0	0.00	0.00	3,200.0	-517.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
3,300.0	0.00	0.00	3,300.0	-417.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
3,400.0	0.00	0.00	3,400.0	-317.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
3,500.0	0.00	0.00	3,500.0	-217.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
3,600.0	0.00	0.00	3,600.0	-117.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
3,700.0	0.00	0.00	3,700.0	-17.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
3,800.0	0.00	0.00	3,800.0	83.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
3,900.0	0.00	0.00	3,900.0	183.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
4,000.0	0.00	0.00	4,000.0	283.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
4,100.0	0.00	0.00	4,100.0	383.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
4,200.0	0.00	0.00	4,200.0	483.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
4,300.0	0.00	0.00	4,300.0	583.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
4,400.0	0.00	0.00	4,400.0	683.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
4,500.0	0.00	0.00	4,500.0	783.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
4,600.0	0.00	0.00	4,600.0	883.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
4,700.0	0.00	0.00	4,700.0	983.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
4,800.0	0.00	0.00	4,800.0	1,083.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
4,900.0	0.00	0.00	4,900.0	1,183.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
5,000.0	0.00	0.00	5,000.0	1,283.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
5,100.0	0.00	0.00	5,100.0	1,383.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
5,200.0	0.00	0.00	5,200.0	1,483.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
5,300.0	0.00	0.00	5,300.0	1,583.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32

Company:	B.C Operating, Inc.	Local Co-ordinate Reference:	Well Topaz 30 Federal Com 2H
Project:	Lea County	TVD Reference:	WELL @ 3717.0usft (Original Well Elev)
Site:	Topaz 30 Federal Com 2H	MD Reference:	WELL @ 3717.0usft (Original Well Elev)
Well:	Topaz 30 Federal Com 2H	North Reference:	Grid
Wellbore:	Topaz 30 Federal Com 2H	Survey Calculation Method:	Minimum Curvature
Design:	141204 Topaz 30 Federal Com 2H	Database:	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
5,400.0	0.00	0.00	5,400.0	1,683.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
5,500.0	0.00	0.00	5,500.0	1,783.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
5,600.0	0.00	0.00	5,600.0	1,883.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
5,700.0	0.00	0.00	5,700.0	1,983.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
5,800.0	0.00	0.00	5,800.0	2,083.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
5,900.0	0.00	0.00	5,900.0	2,183.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
6,000.0	0.00	0.00	6,000.0	2,283.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
6,100.0	0.00	0.00	6,100.0	2,383.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
6,200.0	0.00	0.00	6,200.0	2,483.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
6,300.0	0.00	0.00	6,300.0	2,583.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
6,400.0	0.00	0.00	6,400.0	2,683.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
6,500.0	0.00	0.00	6,500.0	2,783.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
6,600.0	0.00	0.00	6,600.0	2,883.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
6,700.0	0.00	0.00	6,700.0	2,983.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
6,800.0	0.00	0.00	6,800.0	3,083.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
6,900.0	0.00	0.00	6,900.0	3,183.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
7,000.0	0.00	0.00	7,000.0	3,283.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
7,100.0	0.00	0.00	7,100.0	3,383.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
7,200.0	0.00	0.00	7,200.0	3,483.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
7,300.0	0.00	0.00	7,300.0	3,583.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
7,400.0	0.00	0.00	7,400.0	3,683.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
7,500.0	0.00	0.00	7,500.0	3,783.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
7,600.0	0.00	0.00	7,600.0	3,883.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
7,700.0	0.00	0.00	7,700.0	3,983.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
7,800.0	0.00	0.00	7,800.0	4,083.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
7,900.0	0.00	0.00	7,900.0	4,183.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
8,000.0	0.00	0.00	8,000.0	4,283.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32

Company:	B.C Operating, Inc.	**Local Co-ordinate Reference:**	Well Topaz 30 Federal Com 2H
Project:	Lea County	**TVD Reference:**	WELL @ 3717.0usft (Original Well Elev)
Site:	Topaz 30 Federal Com 2H	**MD Reference:**	WELL @ 3717.0usft (Original Well Elev)
Well:	Topaz 30 Federal Com 2H	**North Reference:**	Grid
Wellbore:	Topaz 30 Federal Com 2H	**Survey Calculation Method:**	Minimum Curvature
Design:	141204 Topaz 30 Federal Com 2H	**Database:**	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
8,100.0	0.00	0.00	8,100.0	4,383.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
8,200.0	0.00	0.00	8,200.0	4,483.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
8,300.0	0.00	0.00	8,300.0	4,583.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
8,400.0	0.00	0.00	8,400.0	4,683.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
8,500.0	0.00	0.00	8,500.0	4,783.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
8,600.0	0.00	0.00	8,600.0	4,883.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
8,700.0	0.00	0.00	8,700.0	4,983.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
8,800.0	0.00	0.00	8,800.0	5,083.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
8,900.0	0.00	0.00	8,900.0	5,183.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
9,000.0	0.00	0.00	9,000.0	5,283.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
9,100.0	0.00	0.00	9,100.0	5,383.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
9,200.0	0.00	0.00	9,200.0	5,483.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
9,300.0	0.00	0.00	9,300.0	5,583.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
9,400.0	0.00	0.00	9,400.0	5,683.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
9,500.0	0.00	0.00	9,500.0	5,783.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
9,600.0	0.00	0.00	9,600.0	5,883.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
9,700.0	0.00	0.00	9,700.0	5,983.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
9,800.0	0.00	0.00	9,800.0	6,083.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
9,900.0	0.00	0.00	9,900.0	6,183.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
10,000.0	0.00	0.00	10,000.0	6,283.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
10,100.0	0.00	0.00	10,100.0	6,383.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
10,200.0	0.00	0.00	10,200.0	6,483.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
10,300.0	0.00	0.00	10,300.0	6,583.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
10,400.0	0.00	0.00	10,400.0	6,683.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
10,500.0	0.00	0.00	10,500.0	6,783.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
10,577.0	0.00	0.00	10,577.0	6,860.0	0.0	0.0	0.0	0.00	559,571.59	766,792.32
KOP@ 10577MD										

Company:	B.C Operating, Inc.	**Local Co-ordinate Reference:**	Well Topaz 30 Federal Com 2H
Project:	Lea County	**TVD Reference:**	WELL @ 3717.0usft (Original Well Elev)
Site:	Topaz 30 Federal Com 2H	**MD Reference:**	WELL @ 3717.0usft (Original Well Elev)
Well:	Topaz 30 Federal Com 2H	**North Reference:**	Grid
Wellbore:	Topaz 30 Federal Com 2H	**Survey Calculation Method:**	Minimum Curvature
Design:	141204 Topaz 30 Federal Com 2H	**Database:**	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
10,600.0	2.30	0.00	10,600.0	6,883.0	0.5	0.0	0.5	10.00	559,572.05	766,792.32
10,650.0	7.30	0.00	10,649.8	6,932.8	4.6	0.0	4.6	10.00	559,576.23	766,792.32
10,700.0	12.30	0.00	10,699.1	6,982.1	13.2	0.0	13.2	10.00	559,584.74	766,792.32
10,750.0	17.30	0.00	10,747.4	7,030.4	25.9	0.0	25.9	10.00	559,597.51	766,792.32
10,800.0	22.30	0.00	10,794.4	7,077.4	42.9	0.0	42.9	10.00	559,614.44	766,792.32
10,850.0	27.30	0.00	10,839.8	7,122.8	63.8	0.0	63.8	10.00	559,635.41	766,792.32
10,900.0	32.30	0.00	10,883.2	7,166.2	88.7	0.0	88.7	10.00	559,660.25	766,792.32
10,950.0	37.30	0.00	10,924.2	7,207.2	117.2	0.0	117.2	10.00	559,688.78	766,792.32
11,000.0	42.30	0.00	10,962.6	7,245.6	149.2	0.0	149.2	10.00	559,720.77	766,792.32
11,050.0	47.30	0.00	10,998.1	7,281.1	184.4	0.0	184.4	10.00	559,755.99	766,792.32
11,100.0	52.30	0.00	11,030.3	7,313.3	222.6	0.0	222.6	10.00	559,794.17	766,792.32
11,150.0	57.30	0.00	11,059.2	7,342.2	263.4	0.0	263.4	10.00	559,835.01	766,792.32
11,200.0	62.30	0.00	11,084.3	7,367.3	306.6	0.0	306.6	10.00	559,878.21	766,792.32
11,250.0	67.30	0.00	11,105.6	7,388.6	351.8	0.0	351.8	10.00	559,923.44	766,792.32
11,300.0	72.30	0.00	11,122.8	7,405.8	398.8	0.0	398.7	10.00	559,970.35	766,792.32
11,350.0	77.30	0.00	11,135.9	7,418.9	447.0	0.0	447.0	10.00	560,018.59	766,792.32
11,400.0	82.30	0.00	11,144.8	7,427.8	496.2	0.0	496.2	10.00	560,067.78	766,792.32
11,450.0	87.30	0.00	11,149.3	7,432.3	546.0	0.0	546.0	10.00	560,117.56	766,792.32
11,474.0	89.70	0.00	11,149.9	7,432.9	570.0	0.0	569.9	10.00	560,141.55	766,792.32
First Take Point@11474ftMD										
11,477.0	90.00	0.00	11,150.0	7,433.0	573.0	0.0	572.9	10.00	560,144.55	766,792.32
LP@11477ftMD/11150ftTVD										
11,500.0	90.00	359.99	11,150.0	7,433.0	596.0	0.0	595.9	0.04	560,167.55	766,792.32
11,600.0	90.00	359.95	11,150.0	7,433.0	696.0	-0.1	695.9	0.04	560,267.55	766,792.27
11,700.0	90.00	359.91	11,150.0	7,433.0	796.0	-0.2	795.9	0.04	560,367.55	766,792.15
11,800.0	90.00	359.87	11,150.0	7,433.0	896.0	-0.4	895.9	0.04	560,467.55	766,791.97
11,900.0	90.00	359.84	11,150.0	7,433.0	996.0	-0.6	995.9	0.04	560,567.55	766,791.71

Company:	B.C Operating, Inc.	**Local Co-ordinate Reference:**	Well Topaz 30 Federal Com 2H
Project:	Lea County	**TVD Reference:**	WELL @ 3717.0usft (Original Well Elev)
Site:	Topaz 30 Federal Com 2H	**MD Reference:**	WELL @ 3717.0usft (Original Well Elev)
Well:	Topaz 30 Federal Com 2H	**North Reference:**	Grid
Wellbore:	Topaz 30 Federal Com 2H	**Survey Calculation Method:**	Minimum Curvature
Design:	141204 Topaz 30 Federal Com 2H	**Database:**	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
12,000.0	90.00	359.80	11,150.0	7,433.0	1,096.0	-0.9	1,095.9	0.04	560,667.55	766,791.39
12,100.0	90.00	359.76	11,150.0	7,433.0	1,196.0	-1.3	1,195.9	0.04	560,767.55	766,791.00
12,200.0	90.00	359.72	11,150.0	7,433.0	1,296.0	-1.8	1,295.9	0.04	560,867.54	766,790.55
12,300.0	90.00	359.68	11,150.0	7,433.0	1,396.0	-2.3	1,395.9	0.04	560,967.54	766,790.02
12,400.0	90.00	359.64	11,150.0	7,433.0	1,496.0	-2.9	1,495.9	0.04	561,067.54	766,789.43
12,500.0	90.00	359.60	11,150.0	7,433.0	1,595.9	-3.5	1,595.9	0.04	561,167.54	766,788.77
12,600.0	90.00	359.56	11,150.0	7,433.0	1,695.9	-4.3	1,695.9	0.04	561,267.54	766,788.04
12,700.0	90.00	359.52	11,150.0	7,433.0	1,795.9	-5.1	1,795.9	0.04	561,367.53	766,787.25
12,800.0	90.00	359.49	11,150.0	7,433.0	1,895.9	-5.9	1,895.9	0.04	561,467.53	766,786.39
12,849.4	90.00	359.47	11,150.0	7,433.0	1,945.3	-6.4	1,945.3	0.04	561,516.94	766,785.93
12,900.0	90.00	359.47	11,150.0	7,433.0	1,995.9	-6.9	1,995.9	0.00	561,567.53	766,785.46
13,000.0	90.00	359.47	11,150.0	7,433.0	2,095.9	-7.8	2,095.9	0.00	561,667.52	766,784.53
13,100.0	90.00	359.47	11,150.0	7,433.0	2,195.9	-8.7	2,195.9	0.00	561,767.52	766,783.60
13,200.0	90.00	359.47	11,150.0	7,433.0	2,295.9	-9.6	2,295.9	0.00	561,867.51	766,782.67
13,300.0	90.00	359.47	11,150.0	7,433.0	2,395.9	-10.6	2,395.9	0.00	561,967.51	766,781.74
13,400.0	90.00	359.47	11,150.0	7,433.0	2,495.9	-11.5	2,495.9	0.00	562,067.50	766,780.81
13,500.0	90.00	359.47	11,150.0	7,433.0	2,595.9	-12.4	2,595.9	0.00	562,167.50	766,779.88
13,600.0	90.00	359.47	11,150.0	7,433.0	2,695.9	-13.4	2,695.9	0.00	562,267.50	766,778.95
13,700.0	90.00	359.47	11,150.0	7,433.0	2,795.9	-14.3	2,795.9	0.00	562,367.49	766,778.02
13,800.0	90.00	359.47	11,150.0	7,433.0	2,895.9	-15.2	2,895.9	0.00	562,467.49	766,777.09
13,900.0	90.00	359.47	11,150.0	7,433.0	2,995.9	-16.2	2,995.9	0.00	562,567.48	766,776.16
14,000.0	90.00	359.47	11,150.0	7,433.0	3,095.9	-17.1	3,095.9	0.00	562,667.48	766,775.23
14,100.0	90.00	359.47	11,150.0	7,433.0	3,195.9	-18.0	3,195.9	0.00	562,767.47	766,774.30
14,200.0	90.00	359.47	11,150.0	7,433.0	3,295.9	-19.0	3,295.9	0.00	562,867.47	766,773.37
14,300.0	90.00	359.47	11,150.0	7,433.0	3,395.9	-19.9	3,395.9	0.00	562,967.47	766,772.44
14,400.0	90.00	359.47	11,150.0	7,433.0	3,495.9	-20.8	3,495.9	0.00	563,067.46	766,771.51
14,500.0	90.00	359.47	11,150.0	7,433.0	3,595.9	-21.7	3,595.9	0.00	563,167.46	766,770.58

Company:	B.C Operating, Inc.	**Local Co-ordinate Reference:**	Well Topaz 30 Federal Com 2H
Project:	Lea County	**TVD Reference:**	WELL @ 3717.0usft (Original Well Elev)
Site:	Topaz 30 Federal Com 2H	**MD Reference:**	WELL @ 3717.0usft (Original Well Elev)
Well:	Topaz 30 Federal Com 2H	**North Reference:**	Grid
Wellbore:	Topaz 30 Federal Com 2H	**Survey Calculation Method:**	Minimum Curvature
Design:	141204 Topaz 30 Federal Com 2H	**Database:**	EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
14,600.0	90.00	359.47	11,150.0	7,433.0	3,695.9	-22.7	3,695.9	0.00	563,267.45	766,769.65
14,700.0	90.00	359.47	11,150.0	7,433.0	3,795.9	-23.6	3,795.9	0.00	563,367.45	766,768.72
14,800.0	90.00	359.47	11,150.0	7,433.0	3,895.9	-24.5	3,895.9	0.00	563,467.44	766,767.79
14,900.0	90.00	359.47	11,150.0	7,433.0	3,995.8	-25.5	3,995.9	0.00	563,567.44	766,766.85
15,000.0	90.00	359.47	11,150.0	7,433.0	4,095.8	-26.4	4,095.9	0.00	563,667.43	766,765.92
15,100.0	90.00	359.47	11,150.0	7,433.0	4,195.8	-27.3	4,195.9	0.00	563,767.43	766,764.99
15,200.0	90.00	359.47	11,150.0	7,433.0	4,295.8	-28.3	4,295.9	0.00	563,867.43	766,764.06
15,300.0	90.00	359.47	11,150.0	7,433.0	4,395.8	-29.2	4,395.9	0.00	563,967.42	766,763.13
15,400.0	90.00	359.47	11,150.0	7,433.0	4,495.8	-30.1	4,495.9	0.00	564,067.42	766,762.20
15,500.0	90.00	359.47	11,150.0	7,433.0	4,595.8	-31.0	4,595.9	0.00	564,167.41	766,761.27
15,600.0	90.00	359.47	11,150.0	7,433.0	4,695.8	-32.0	4,695.9	0.00	564,267.41	766,760.34
15,700.0	90.00	359.47	11,150.0	7,433.0	4,795.8	-32.9	4,795.9	0.00	564,367.40	766,759.41
15,800.0	90.00	359.47	11,150.0	7,433.0	4,895.8	-33.8	4,895.9	0.00	564,467.40	766,758.48
15,900.0	90.00	359.47	11,150.0	7,433.0	4,995.8	-34.8	4,995.9	0.00	564,567.40	766,757.55
16,000.0	90.00	359.47	11,150.0	7,433.0	5,095.8	-35.7	5,095.9	0.00	564,667.39	766,756.62
16,100.0	90.00	359.47	11,150.0	7,433.0	5,195.8	-36.6	5,195.9	0.00	564,767.39	766,755.69
16,177.7	90.00	359.47	11,150.0	7,433.0	5,273.5	-37.4	5,273.6	0.00	564,845.05	766,754.97
16,185.0	90.00	359.47	11,150.0	7,433.0	5,280.8	-37.4	5,280.9	0.04	564,852.38	766,754.90
TD@16185ftMD										
16,185.9	90.00	359.47	11,150.0	7,433.0	5,281.7	-37.4	5,281.8	0.04	564,853.26	766,754.89

Company:	B.C Operating, Inc.	**Local Co-ordinate Reference:**	Well Topaz 30 Federal Com 2H
Project:	Lea County	**TVD Reference:**	WELL @ 3717.0usft (Original Well Elev)
Site:	Topaz 30 Federal Com 2H	**MD Reference:**	WELL @ 3717.0usft (Original Well Elev)
Well:	Topaz 30 Federal Com 2H	**North Reference:**	Grid
Wellbore:	Topaz 30 Federal Com 2H	**Survey Calculation Method:**	Minimum Curvature
Design:	141204 Topaz 30 Federal Com 2H	**Database:**	EDM 5000.1 Single User Db

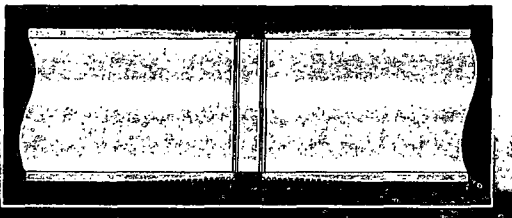
Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
10,577.0	10,577.0	0.0	0.0	KOP@ 10577ftMD
11,474.0	11,149.9	570.0	0.0	First Take Point@11474ftMD
11,477.0	11,150.0	573.0	0.0	LP@11477ftMD/11150ftTVD
16,185.0	11,150.0	5,280.8	-37.4	TD@16185ftMD

Checked By: _____ Approved By: _____ Date: _____

tejas® tubular

TRS-I Connections



5 1/2-in 17.0 ppf P-110 Tejas Tubular Reduced Stress

Pipe Body	Data
	Imperial [Metric]
Nominal OD (in [mm])	5.500 [139.7]
Nominal weight (lbm/ft)	17.0
Minimum yield of material (psi [kPa])	110,000 [758,423]
Minimum ID (in [mm])	4.892 [124.3]
Drift (in [mm])	4.767 [121.1]
Wall thickness (in [mm])	0.304 [7.72]
Plain end weight (lbm/ft)	16.89
Cross sectional area (in^2 [mm^2])	4.962 [3,201]
Performance	
API tensile yield (lbf [N])	546,000 [2,428,729]
API internal yield pressure (psi [kPa])	10,640 [73,360]
API external yield pressure (psi [kPa])	7,480 [51,573]
Connection Dimensions	
Coupling OD (in [mm])	6.050 [153.7]
Coupling ID (in [mm])	4.892 [124.3]
Coupling length (in [mm])	9.375 [238.1]
Make-up loss (in [mm])	4.125 [104.8]
Threads per inch	5
Connection Performance	
Tensile yield strength** (lbf [N])	546,000 [2,428,729]
Internal yield pressure** (psi [kPa])	10,640 [73,360]
External yield pressure** (psi [kPa])	7,480 [51,573]
Compression strength** (lbf [N])	546,000 [2,428,729]
Working bending rate, tested (°/100 ft)	20
Bending rate, calculated (°/100 ft)	92
***Values based on 100% efficiency*	
Torque Values	
Minimum (lbf.ft [N.m])	6,800 [9,219]
Optimum, recommended make-up (lbf.ft [N.m])	7,200 [9,762]
Maximum (lbf.ft [N.m])	8,600 [11,660]
Yield (lbf.ft [N.m])	17,000 [23,049]
Max. operational torque (lbf.ft [N.m])	15,500 [21,015]

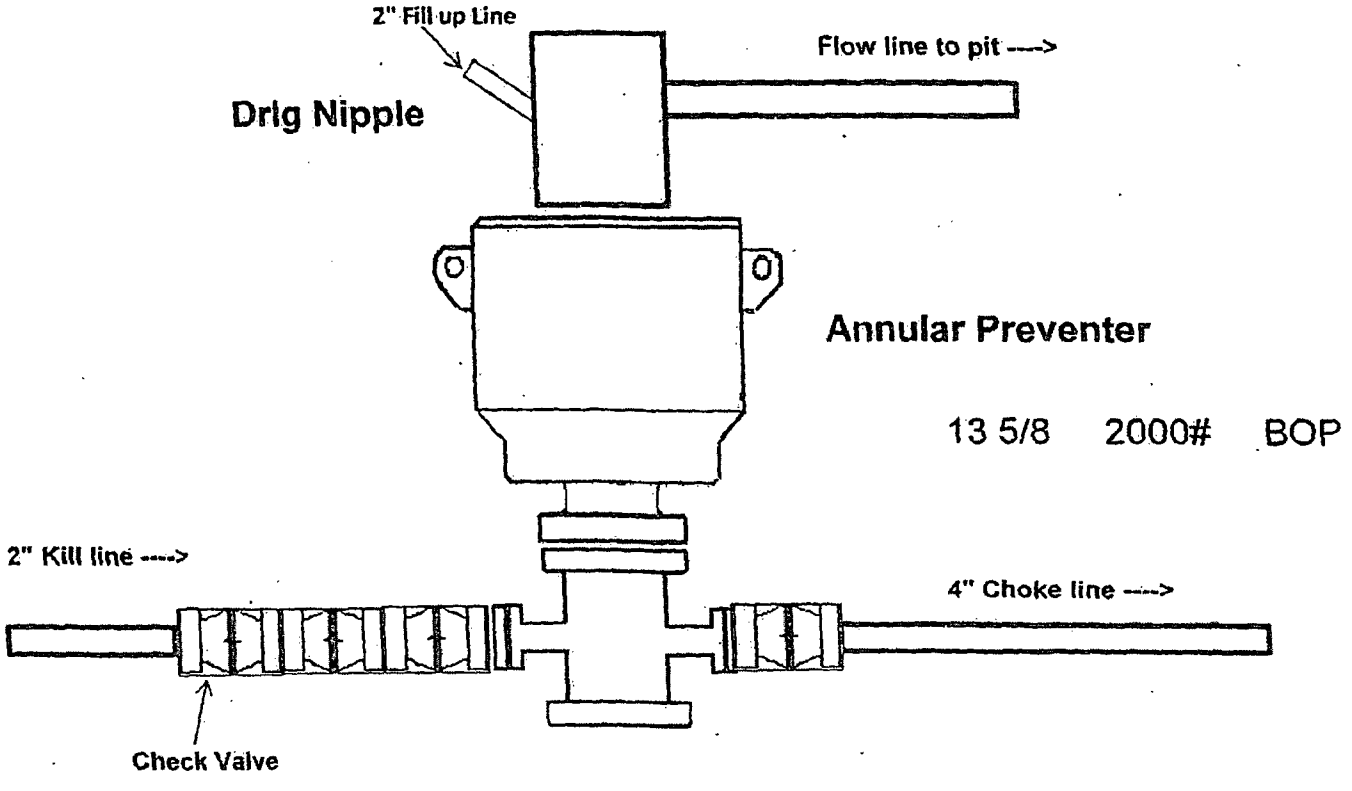
Inspection Criteria

All the material is inspected to 5% Test notch inspection for OD/ID, Long/Trans and wall check as per API/ASTM requirements through EMI/SEA.

Note: All the information provided is general data. This document is not a warranty/quality certificate. Tejas Tubular reserves the right to change any and all of this data at any time for corrections and product improvement. This is an uncontrolled document.

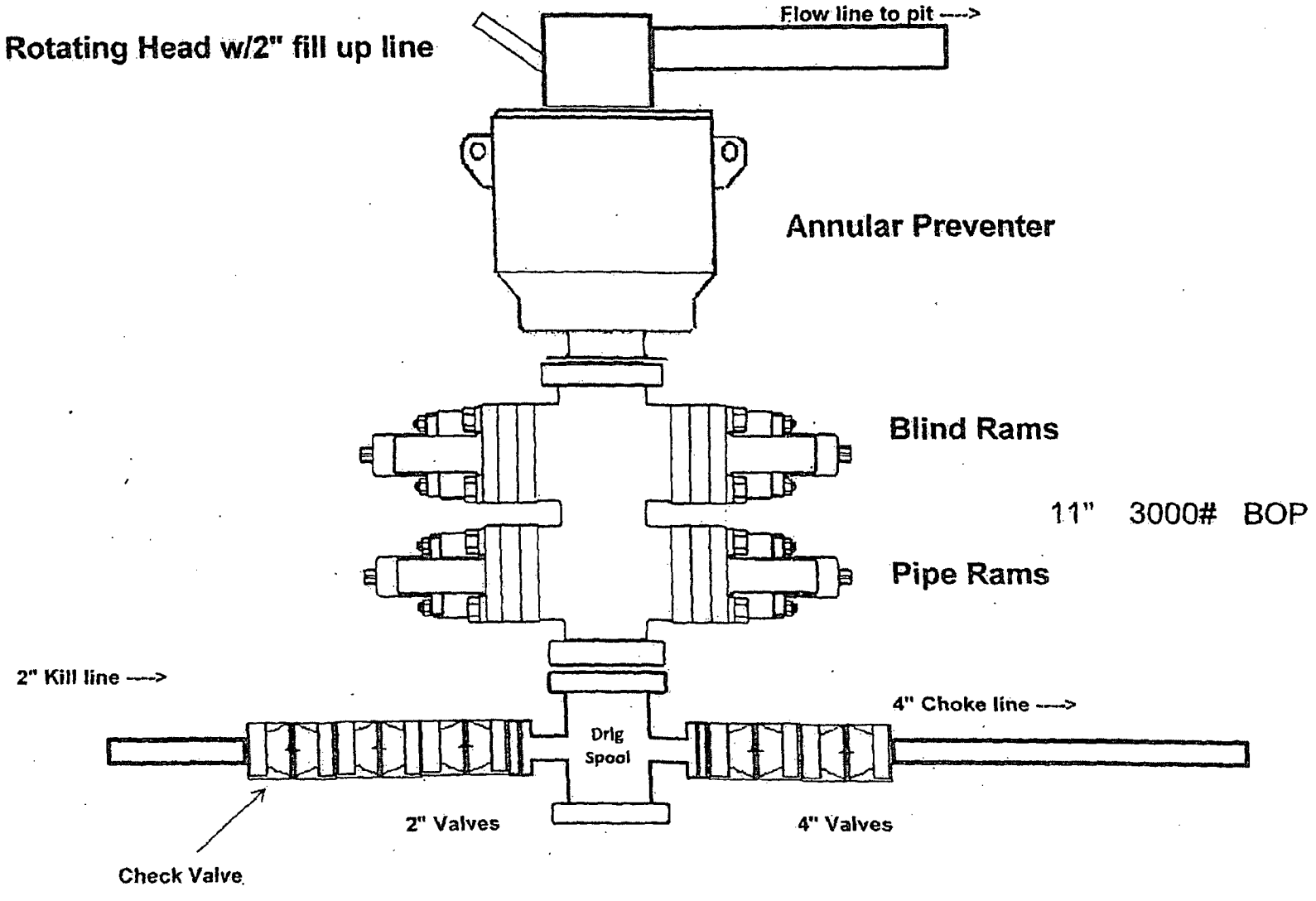
BC Operating, Inc.
Exhibit 1

2,000 psi BOP Schematic



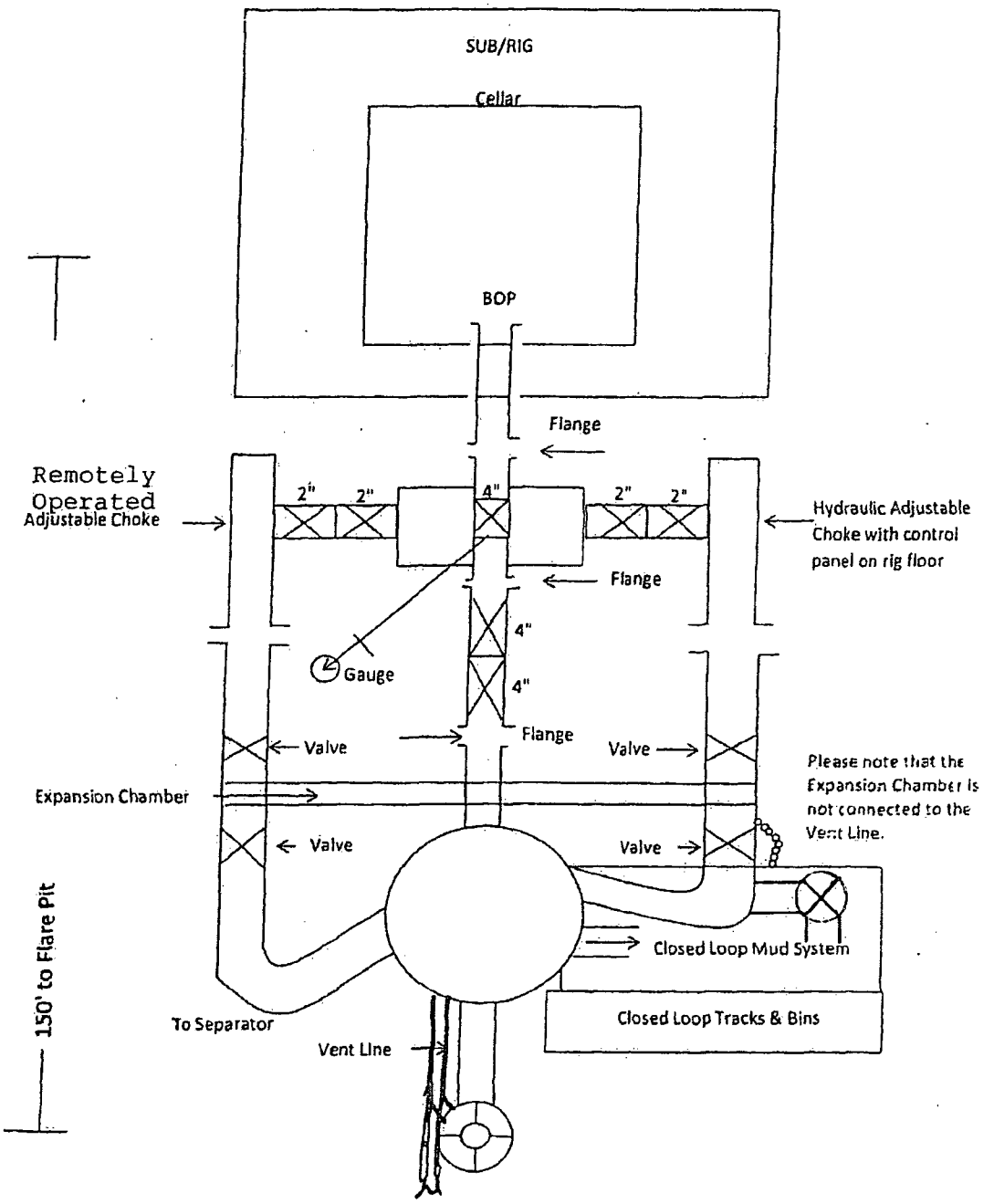
BC Operating, Inc.
Exhibit 3

3,000 psi BOP Schematic

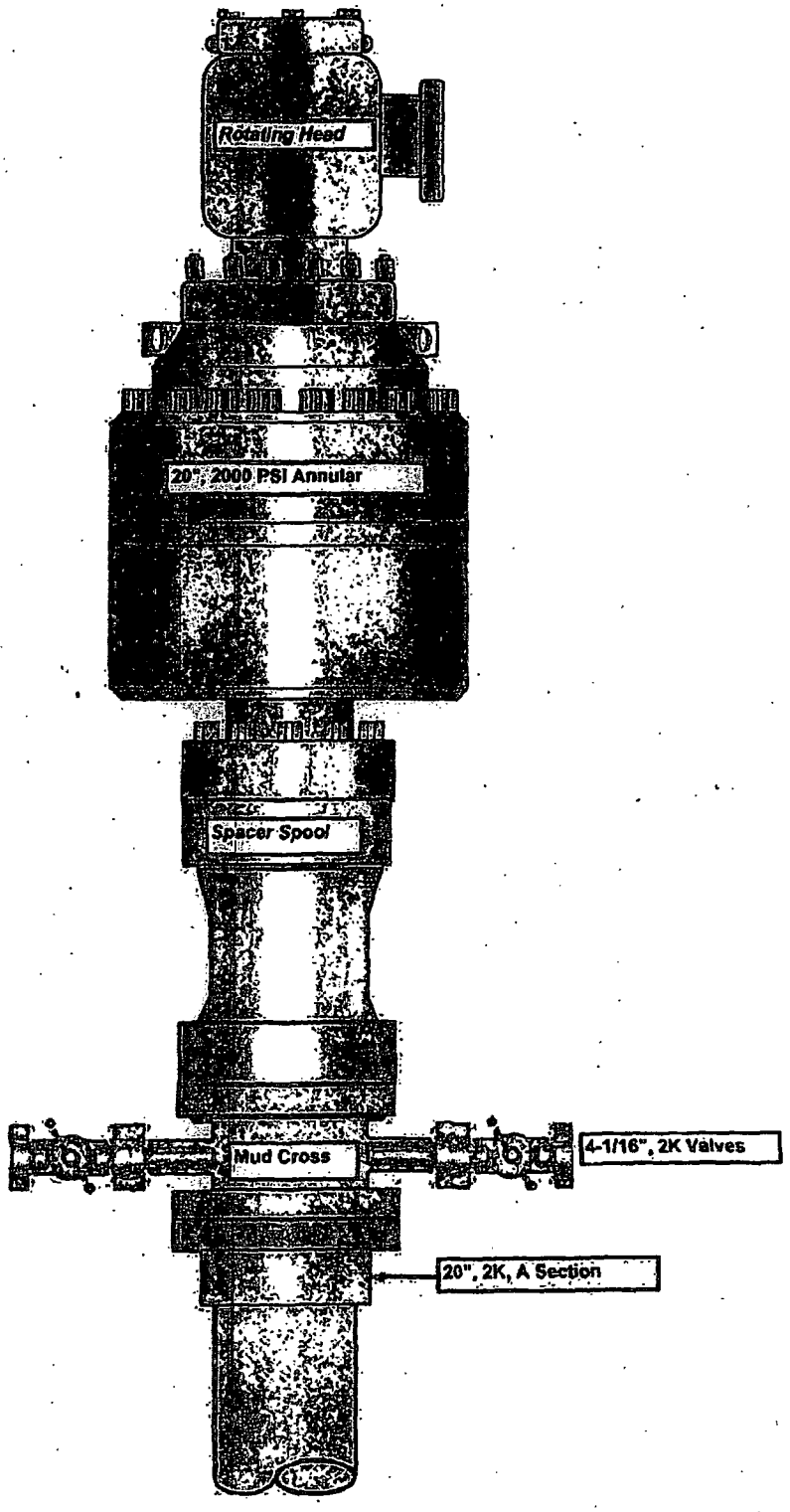


BC Operating, Inc.
Exhibit 4

3M Choke Manifold Equipment



20" 2K Annular



BC Operating, Inc. Closed Loop System

Design Plan

Equipment List

- 2 – 414 MI Swaco *Centrifuges*
- 2 – MI Swaco 4 screen Moongoose *Shale Shakers*
- 2 – double screen *Shakers* with rig inventory
- 2 – CRI *Haul off bins* with track system
- 2 – additional 500bbl *Frac tanks* for fresh and brine water
- 2 – 500bbl *water tanks* with rig inventory

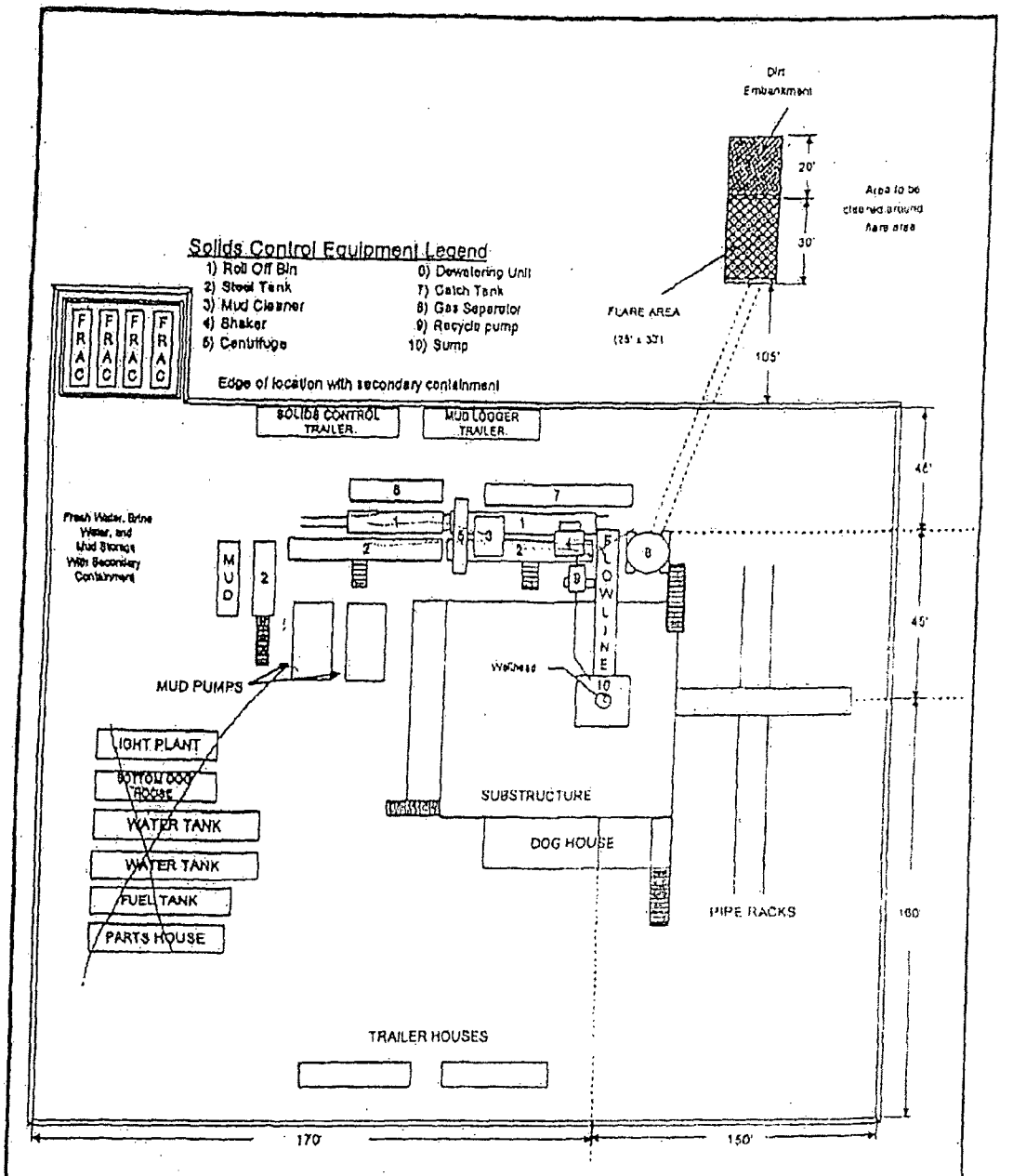
**Equipment manufactures may vary due to availability but components will not.*

Operation and Maintenance

The system along with equipment will be inspected numerous times a day by each tour to make sure all equipment is operating correctly. Routine maintenance will be done to keep system running properly. Any leak in system will be repaired and/or contained immediately and the OCD notified within 48 hours of the remediation process start.

Closure Plan

While drilling, all cuttings and fluids associated with drilling will be hauled off and disposed of via Controlled Recovery Incorporated Facilities Permit NM01-0006.



TYPICAL
RIG LAYOUT SCHEMATIC
INCLUSIVE OF CLOSED-LOOP DESIGN PLAN

BC Operating, Inc.
H2S Well Site Orientation – Drill Rig Orientation
Topaz 30 Fed Com #2H
SHL: 240' FNL & 1980' FWL, C-31-T20S-R34E