

HOBBS ^{R-111 Potash} ^{OCD}

ATS-14-1082

OCD Hobbs

JUN 10 2015

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

APPLICATION FOR PERMIT TO DRILL OR REENTER

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 #4H	
2. Name of Operator BC Operating, Inc. 160825		9. API Well No. 30-025-42627	
3a. Address P.O. Box 50820 Midland, Texas 79710	3b. Phone No. (include area code) 432-684-9696	10. Field and Pool, or Exploratory 97695 WC-025 G-08 S213304D; Bone Spring	
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 240' E & 1980' FEL of Unit Letter 'B', Section 31, T-20S, R-34E At proposed prod. zone 240' FNL & 660' FEL of Unit Letter 'A', 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) 240'	16. No. of acres in lease 640	17. Spacing Unit dedicated to this well 160	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 200'	19. Proposed Depth 16,406' MD/11,150' TVD	20. BLM/BIA Bond No. on file NM2572	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3704' GL	22. Approximate date work will start* 04/01/2015	23. Estimated duration 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. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification |
| 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). | 6. Such other site specific information and/or plans as may be required by the BLM. |

25. Signature Pam Stevens	Name (Printed/Typed) Pam Stevens	Date 01/05/2015
Title Regulatory Analyst		
Approved by (Signature) Steve Caffey	Name (Printed/Typed)	Date JUN 2 2015
Title FIELD MANAGER	Office 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)

Ka
06/10/15
Capitan Controlled Water Basin

COPY

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

JUN 11 2015

1. Geologic Formations

JUN 10 2015

TVD of target	11150	Pilot hole depth	None
MD at TD:	16406	Deepest expected fresh water:	485

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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		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
	From	To							
16"	0	1500	13.375"	54.5	J55	STC	1.58	1.01	6.29
12.25"	0	5200	9.625"	40	N80	LTC	1.14	1.12	3.54
8.75"	0	16406	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

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

BC Operating, Inc., Topaz 30 Federal Com #4H

	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 3 rd 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 2 nd 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 ft ³ /sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	640	13.5	1.73	9.1	10	Lead: Class C + 4.0% Bentonite + 1% CaCl ₂ + 0.25 lb/sk Cello-Flake
	260	14.8	1.35	6.3	8	Tail: Class C + 2% CaCl ₂ + 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)
	750	14.2	2.57	11	25	Tail: 50/50 Class H + 100% CaCO ₃ + 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 None planned. Contingency below KOP 10565

Plug top	Plug Bottom	% Excess	No. Sacks	Wt. lb/gal	Yld ft ³ /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	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 BOP required to drill WC.

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
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BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
16"	20"	2M	Annular	x	50% of working pressure 2M
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other*		
12-1/4"	13-5/8"	2M	Annular	x	50% testing pressure 2M
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other*		
8-3/4"	11"	3M	Annular	X	50% testing pressure 3M
			Blind Ram	X	
			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.
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BC Operating, Inc., Topaz 30 Federal Com #4H

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

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
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6. Logging and Testing Procedures

Logging, Coring and Testing.	
N	Will run GR/CNL from TD 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.

	H ₂ S is present
X	H ₂ S 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

The ULTIMA-DOX combination therapy was found to be a safe and effective treatment for the newly diagnosed patients with DLBCL.

Patient ID	Name	Age	Sex	Height (cm)	Weight (kg)	Temp (°C)	Pulse (b/min)	Respiration (b/min)	BP (mmHg)	SpO2 (%)	GCS	Mental Status	Physical Status	General	Diagnosis	Treatment	Prognosis	Follow-up	Discharge	Referral	Comments
1001	John Doe	35	M	175	75	37.8	72	18	120/80	98	15	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1002	Jane Smith	28	F	160	60	37.5	68	16	110/70	97	14	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1003	Robert Johnson	42	M	180	85	38.0	78	20	130/90	96	16	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1004	Emily White	31	F	165	65	37.6	70	18	120/80	98	15	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1005	Michael Brown	25	M	170	70	37.9	65	15	110/70	97	14	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1006	Sarah Green	38	F	162	62	37.7	72	18	120/80	98	15	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1007	David Lee	45	M	178	80	38.1	75	20	130/90	96	16	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1008	Olivia Hall	29	F	163	63	37.5	69	16	110/70	97	14	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1009	James King	33	M	172	72	37.8	71	18	120/80	98	15	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1010	Mia Scott	27	F	158	58	37.4	67	15	110/70	97	14	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1011	Benjamin Adams	40	M	179	79	37.9	76	20	130/90	96	16	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1012	Charlotte Baker	30	F	161	61	37.6	70	18	120/80	98	15	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1013	William Carter	26	M	171	71	37.8	66	15	110/70	97	14	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1014	Ava Evans	36	F	164	64	37.7	72	18	120/80	98	15	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1015	Lucas Foster	41	M	176	76	38.0	77	20	130/90	96	16	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1016	Grace Gibson	28	F	162	62	37.5	69	16	110/70	97	14	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1017	Henry Hill	34	M	173	73	37.9	71	18	120/80	98	15	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1018	Ivy Jackson	29	F	159	59	37.4	67	15	110/70	97	14	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1019	Leo Kelly	43	M	181	81	38.2	79	22	140/100	95	17	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1020	Aria Lopez	24	F	155	55	37.3	64	14	105/65	96	13	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1021	Noah Davis	39	M	174	74	37.8	73	19	125/85	97	15	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1022	Sophia Wilson	26	F	160	60	37.6	70	17	115/75	98	14	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1023	Liam Moore	44	M	185	85	38.3	80	23	145/110	94	18	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1024	Isabella Taylor	23	F	152	52	37.2	62	13	100/60	95	12	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1025	Ethan Anderson	37	M	170	70	37.7	74	18	120/80	97	15	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1026	Ava Martinez	27	F	158	58	37.5	68	16	110/70	98	14	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1027	Lucas Garcia	40	M	178	78	37.9	76	20	130/90	96	16	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1028	Mia Rodriguez	29	F	163	63	37.6	71	17	118/78	97	15	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1029	Benjamin Lee	32	M	171	71	37.8	72	19	122/82	97	16	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1030	Charlotte King	25	F	156	56	37.4	65	14	108/68	96	13	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1031	William Hall	41	M	180	80	38.1	78	21	135/95	95	17	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1032	Ava Scott	24	F	154	54	37.3	63	13	102/66	95	12	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1033	Lucas Adams	38	M	173	73	37.7	75	18	124/84	97	16	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1034	Mia Baker	28	F	161	61	37.5	70	17	116/76	98	15	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1035	Benjamin Carter	33	M	172	72	37.8	71	19	126/86	97	17	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1036	Charlotte Evans	26	F	159	59	37.4	66	14	106/69	96	13	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1037	William Foster	42	M	182	82	38.2	81	24	148/112	94	19	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1038	Ava Gibson	23	F	153	53	37.2	61	12	104/64	95	11	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1039	Lucas Hill	39	M	174	74	37.7	76	20	132/92	97	18	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1040	Mia Jackson	27	F	157	57	37.5	67	15	112/70	98	14	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1041	Benjamin Kelly	43	M	183	83	38.3	82	25	150/115	93	20	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1042	Charlotte Lee	24	F	154	54	37.3	64	13	103/67	95	12	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1043	William Moore	38	M	175	75	37.8	77	20	134/94	97	19	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1044	Ava Taylor	28	F	162	62	37.6	72	18	122/88	98	16	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1045	Benjamin Anderson	32	M	171	71	37.9	73	21	138/98	96	20	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1046	Charlotte Garcia	25	F	156	56	37.4	65	14	107/69	96	13	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1047	William Rodriguez	40	M	179	79	37.8	78	22	140/102	95	21	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1048	Ava Scott	26	F	158	58	37.5	68	16	114/74	97	15	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1049	Lucas Adams	35	M	173	73	37.7	74	20	136/96	97	18	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1050	Mia Baker	29	F	164	64	37.6	73	19	128/90	98	17	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1051	Benjamin Carter	31	M	172	72	37.8	75	21	140/100	96	20	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1052	Charlotte Evans	27	F	160	60	37.5	71	18	124/84	99	16	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1053	William Foster	42	M	181	81	38.2	83	26	152/118	94	22	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1054	Ava Gibson	23	F	155	55	37.3	62	12	105/65	95	11	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1055	Lucas Hill	39	M	176	76	37.9	79	23	142/104	97	20	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1056	Mia Jackson	28	F	161	61	37.6	74	19	126/86	99	17	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1057	Benjamin Kelly	33	M	174	74	37.8	76	22	144/106	96	22	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1058	Charlotte Lee	24	F	156	56	37.4	63	13	106/70	95	12	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1059	William Moore	40	M	180	80	38.1	80	25	148/112	95	23	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1060	Ava Taylor	29	F	163	63	37.7	75	20	130/90	99	18	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1061	Benjamin Anderson	32	M	171	71	37.9	77	22	146/110	96	24	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1062	Charlotte Garcia	25	F	157	57	37.5	66	14	108/72	96	13	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1063	William Rodriguez	41	M	182	82	38.3	81	27	150/116	94	25	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1064	Ava Scott	26	F	159	59	37.6	69	16	116/76	98	16	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1065	Lucas Adams	36	M	175	75	37.8	78	23	148/108	97	21	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1066	Mia Baker	30	F	165	65	37.7	76	20	132/92	99	19	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1067	Benjamin Carter	31	M	173	73	37.9	80	26	152/120	95	26	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1068	Charlotte Evans	27	F	162	62	37.6	77	21	134/94	99	18	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10
1069	William Foster	43	M	184	84	38.4	85	29	158/124	93	28	Alert	Well	Good	Acute	Medication	Good	10/10	10/10	10/10	10/10
1070	Ava Gibson	23	F	156	56	37.4	64	13	107/70	95	12	Alert	Well	Good	Chronic	Medication	Good	10/10	10/10	10/10	10/10

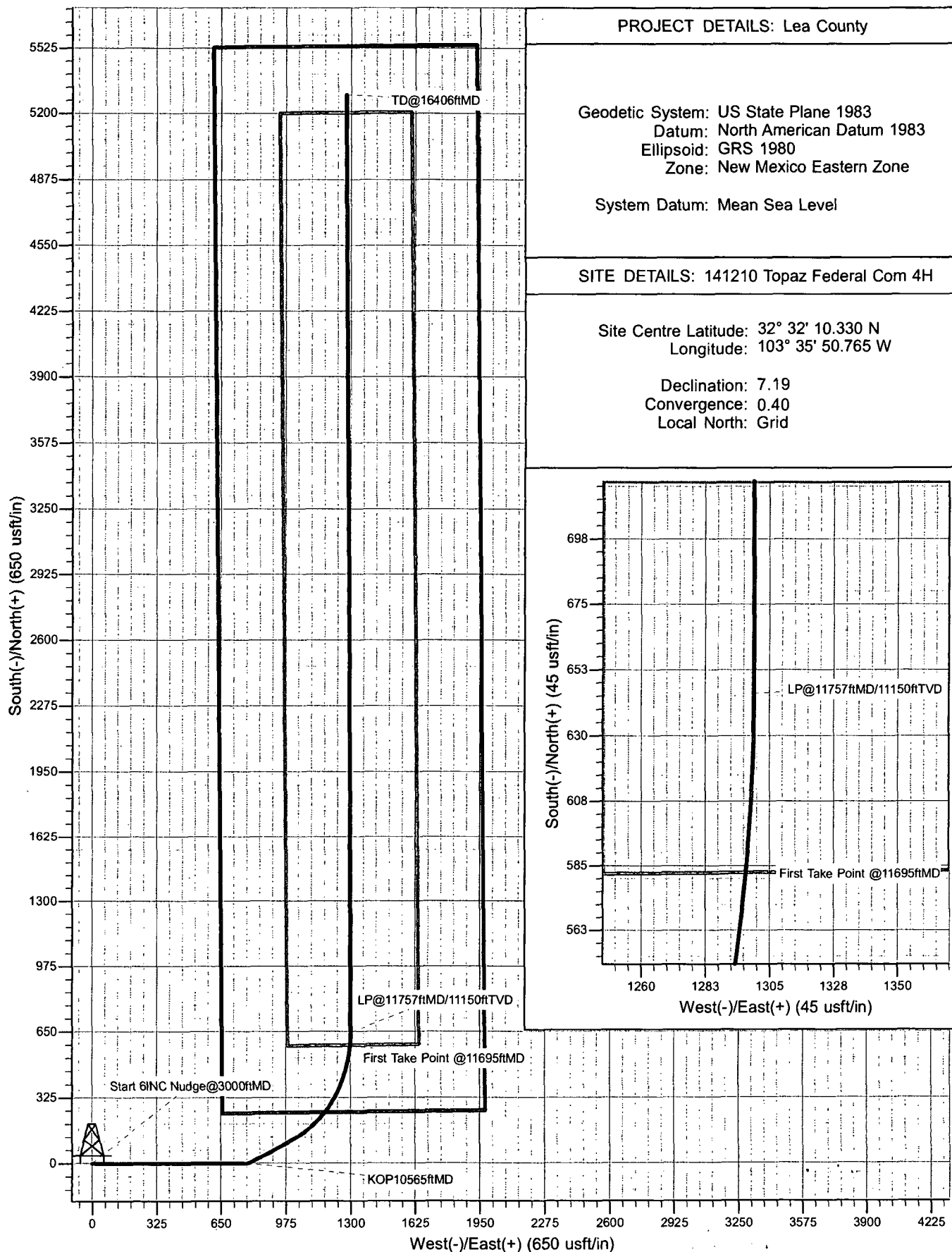
Project: Lea County
Site: 141210 Topaz Federal Com 4H
Well: 141210 Topaz Federal Com 4H
Wellbore: 141210 Topaz Federal Com 4H
Design: 141210 Topaz Federal Com 4H

BC OPERATING, INC.



Azimuths to Grid North
True North: -0.40°
Magnetic North: 6.79°

Magnetic Field
Strength: 48449.95nT
Dip Angle: 60.38°
Date: 10/12/2014
Model: IGRF2010



PROJECT DETAILS: Lea County

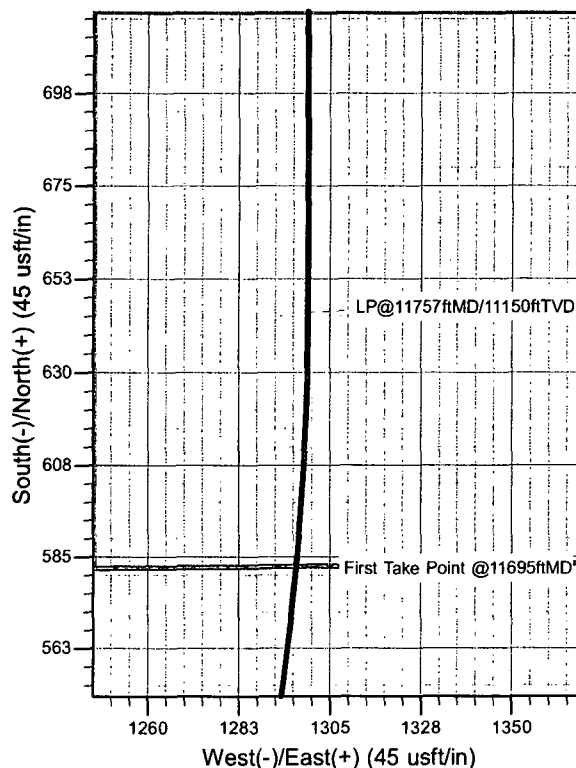
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

SITE DETAILS: 141210 Topaz Federal Com 4H

Site Centre Latitude: 32° 32' 10.330 N
Longitude: 103° 35' 50.765 W

Declination: 7.19
Convergence: 0.40
Local North: Grid



Project: Lea County
 Site: 141210 Topaz Federal Com 4H
 Well: 141210 Topaz Federal Com 4H
 Wellbore: 141210 Topaz Federal Com 4H
 Design: 141210 Topaz Federal Com 4H



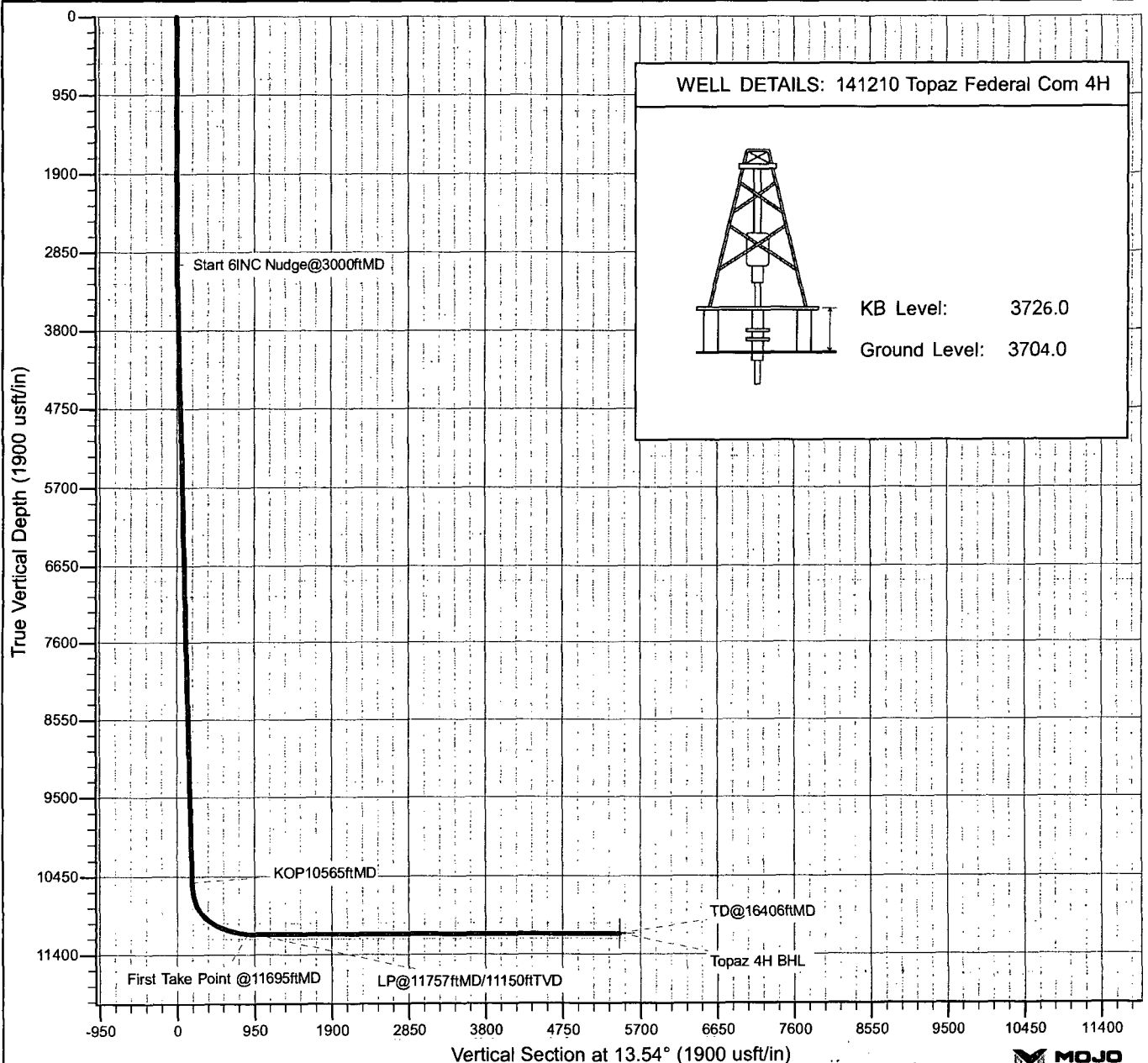
Azimuths to Grid North
 True North: -0.40°
 Magnetic North: 6.79°
 Magnetic Field
 Strength: 48449.9snT
 Dip Angle: 60.38°
 Date: 10/12/2014
 Model: IGRF2010

WELL DETAILS: 141210 Topaz Federal Com 4H

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	559584.63	768122.40	32° 32' 10.330 N	103° 35' 50.765 W

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation
3000.0	3000.0	0.00	0.00	0.0	0.0	0.0	0.0	Start 6INC Nudge@3000ftMD
10524.7	10565.0	6.00	90.00	0.0	775.1	181.5	775.1	KOP10565ftMD
11148.1	11695.0	86.52	5.23	582.6	1296.7	870.0	1607.7	First Take Point @11695ftMD
11150.0	11757.0	89.96	0.06	644.5	1299.6	930.8	1669.7	LP@11757ftMD/11150ftTVD
11150.0	16406.0	90.00	359.65	5293.4	1275.0	5444.8	6318.7	TD@16406ftMD





MOJO
DIRECTIONAL CORPORATION

B.C Operating, Inc.

Lea County

141210 Topaz Federal Com 4H

Plan: 141210 Topaz Federal Com 4H

MOJO Standard Plan

10 December, 2014



MOJO
DIRECTIONAL CORPORATION

Company:	B.C. Operating, Inc.	Local Co-ordinate Reference:	Well 141210 Topaz Federal Com 4H
Project:	Lea County	TVD Reference:	WELL @ 3726.0usft (Original Well Elev)
Site:	141210 Topaz Federal Com 4H	MD Reference:	WELL @ 3726.0usft (Original Well Elev)
Well:	141210 Topaz Federal Com 4H	North Reference:	Grid
Wellbore:	141210 Topaz Federal Com 4H	Survey Calculation Method:	Minimum Curvature
Design:	141210 141210 Topaz Federal Com 4H	Database:	EDM 5000.1 Single User Db

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

Site:		141210-Topaz Federal Com 4H				
Site Position:		Northing:	559,584.63	usft	Latitude:	32° 32' 10.330 N
From:	Map	Easting:	768,122.40	usft	Longitude:	103° 35' 50.765 W
Position Uncertainty:	0.0	usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.40 °

Well:		141210 Topaz Federal Com 4H				
Well Position	+N/-S	0.0 usft	Northing:	559,584.63 usft	Latitude:	32° 32' 10.330 N
	+E/-W	0.0 usft	Easting:	768,122.40 usft	Longitude:	103° 35' 50.765 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,704.0 usft

Wellbore		141210 Topaz Federal Com 4H			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/12/2014	7.19	60.38	48,450

Design:	141210 141210 Topaz Federal Com 4H			
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	13.54

Survey Tool Program		Date: 10/12/2014		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	16,406.3	141210 141210 Topaz Federal Com 4H (1		

Company:	B.C Operating, Inc.	Local Co-ordinate Reference:	Well 141210 Topaz Federal Com 4H
Project:	Lea County	TVD Reference:	WELL @ 3726.0usft (Original Well Elev)
Site:	141210 Topaz Federal Com 4H	MD Reference:	WELL @ 3726.0usft (Original Well Elev)
Well:	141210 Topaz Federal Com 4H	North Reference:	Grid
Wellbore:	141210 Topaz Federal Com 4H	Survey Calculation Method:	Minimum Curvature
Design:	141210 141210 Topaz Federal Com 4H	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	-3,726.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
100.0	0.00	0.00	100.0	-3,626.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
200.0	0.00	0.00	200.0	-3,526.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
300.0	0.00	0.00	300.0	-3,426.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
400.0	0.00	0.00	400.0	-3,326.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
500.0	0.00	0.00	500.0	-3,226.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
600.0	0.00	0.00	600.0	-3,126.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
700.0	0.00	0.00	700.0	-3,026.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
800.0	0.00	0.00	800.0	-2,926.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
900.0	0.00	0.00	900.0	-2,826.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
1,000.0	0.00	0.00	1,000.0	-2,726.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
1,100.0	0.00	0.00	1,100.0	-2,626.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
1,200.0	0.00	0.00	1,200.0	-2,526.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
1,300.0	0.00	0.00	1,300.0	-2,426.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
1,400.0	0.00	0.00	1,400.0	-2,326.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
1,500.0	0.00	0.00	1,500.0	-2,226.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
1,600.0	0.00	0.00	1,600.0	-2,126.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
1,700.0	0.00	0.00	1,700.0	-2,026.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
1,800.0	0.00	0.00	1,800.0	-1,926.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
1,900.0	0.00	0.00	1,900.0	-1,826.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
2,000.0	0.00	0.00	2,000.0	-1,726.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
2,100.0	0.00	0.00	2,100.0	-1,626.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
2,200.0	0.00	0.00	2,200.0	-1,526.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
2,300.0	0.00	0.00	2,300.0	-1,426.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
2,400.0	0.00	0.00	2,400.0	-1,326.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
2,500.0	0.00	0.00	2,500.0	-1,226.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	
2,600.0	0.00	0.00	2,600.0	-1,126.0	0.0	0.0	0.0	0.00	559,584.63	768,122.40	

Company:	B/C Operating, Inc.					Local Co-ordinate Reference:			Well 141210 Topaz Federal Com 4H		
Project:	Lea County					TVD Reference:			WELL @ 3726.0usft (Original Well Elev)		
Site:	141210 Topaz Federal Com 4H					MD Reference:			WELL @ 3726.0usft (Original Well Elev)		
Well:	141210 Topaz Federal Com 4H					North Reference:			Grid		
Wellbore:	141210 Topaz Federal Com 4H					Survey Calculation Method:			Minimum Curvature		
Design:	141210 141210 Topaz Federal Com 4H					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)	D Leg (°/100usft)	Northing (usft)	Easting (usft)	
2,700.0	0.00	0.00	2,700.0	-1,026.0	0.0	0.0	0.0	0.0	559,584.63	768,122.40	
2,800.0	0.00	0.00	2,800.0	-926.0	0.0	0.0	0.0	0.0	559,584.63	768,122.40	
2,900.0	0.00	0.00	2,900.0	-826.0	0.0	0.0	0.0	0.0	559,584.63	768,122.40	
3,000.0	0.00	0.00	3,000.0	-726.0	0.0	0.0	0.0	0.0	559,584.63	768,122.40	
Start 6INC Nudge@3000RMD											
3,100.0	2.00	90.00	3,100.0	-626.0	0.0	1.7	0.4	2.00	559,584.63	768,124.15	
3,200.0	4.00	90.00	3,199.8	-526.2	0.0	7.0	1.6	2.00	559,584.63	768,129.38	
3,300.0	6.00	90.00	3,299.5	-426.5	0.0	15.7	3.7	2.00	559,584.63	768,138.09	
3,400.0	6.00	90.00	3,398.9	-327.1	0.0	26.1	6.1	0.00	559,584.63	768,148.55	
3,500.0	6.00	90.00	3,498.4	-227.6	0.0	36.6	8.6	0.00	559,584.63	768,159.00	
3,600.0	6.00	90.00	3,597.8	-128.2	0.0	47.1	11.0	0.00	559,584.63	768,169.45	
3,700.0	6.00	90.00	3,697.3	-28.7	0.0	57.5	13.5	0.00	559,584.63	768,179.90	
3,800.0	6.00	90.00	3,796.7	70.7	0.0	68.0	15.9	0.00	559,584.63	768,190.36	
3,900.0	6.00	90.00	3,896.2	170.2	0.0	78.4	18.4	0.00	559,584.63	768,200.81	
4,000.0	6.00	90.00	3,995.6	269.6	0.0	88.9	20.8	0.00	559,584.63	768,211.26	
4,100.0	6.00	90.00	4,095.1	369.1	0.0	99.3	23.3	0.00	559,584.63	768,221.72	
4,200.0	6.00	90.00	4,194.5	468.5	0.0	109.8	25.7	0.00	559,584.63	768,232.17	
4,300.0	6.00	90.00	4,294.0	568.0	0.0	120.2	28.2	0.00	559,584.63	768,242.62	
4,400.0	6.00	90.00	4,393.4	667.4	0.0	130.7	30.6	0.00	559,584.63	768,253.07	
4,500.0	6.00	90.00	4,492.9	766.9	0.0	141.1	33.0	0.00	559,584.63	768,263.53	
4,600.0	6.00	90.00	4,592.3	866.3	0.0	151.6	35.5	0.00	559,584.63	768,273.98	
4,700.0	6.00	90.00	4,691.8	965.8	0.0	162.0	37.9	0.00	559,584.63	768,284.43	
4,800.0	6.00	90.00	4,791.2	1,065.2	0.0	172.5	40.4	0.00	559,584.63	768,294.89	
4,900.0	6.00	90.00	4,890.7	1,164.7	0.0	182.9	42.8	0.00	559,584.63	768,305.34	
5,000.0	6.00	90.00	4,990.1	1,264.1	0.0	193.4	45.3	0.00	559,584.63	768,315.79	
5,100.0	6.00	90.00	5,089.6	1,363.6	0.0	203.8	47.7	0.00	559,584.63	768,326.24	
5,200.0	6.00	90.00	5,189.0	1,463.0	0.0	214.3	50.2	0.00	559,584.63	768,336.70	

Company:	B.C. Operating, Inc.	Local Co-ordinate Reference:	Well 141210 Topaz Federal Com 4H
Project:	Lea County	TVD Reference:	WELL @ 3726.0usft (Original Well Elev)
Site:	141210 Topaz Federal Com 4H	MD Reference:	WELL @ 3726.0usft (Original Well Elev)
Well:	141210 Topaz Federal Com 4H	North Reference:	Grid
Wellbore:	141210 Topaz Federal Com 4H	Survey Calculation Method:	Minimum Curvature
Design:	141210 141210 Topaz Federal Com 4H	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)	Northings (usft)	Easting (usft)	
5,300.0	6.00	90.00	5,288.5	1,562.5	0.0	224.8	52.6	0.00	559,584.63	768,347.15	
5,400.0	6.00	90.00	5,387.9	1,661.9	0.0	235.2	55.1	0.00	559,584.63	768,357.60	
5,500.0	6.00	90.00	5,487.4	1,761.4	0.0	245.7	57.5	0.00	559,584.63	768,368.06	
5,600.0	6.00	90.00	5,586.9	1,860.9	0.0	256.1	60.0	0.00	559,584.63	768,378.51	
5,700.0	6.00	90.00	5,686.3	1,960.3	0.0	266.6	62.4	0.00	559,584.63	768,388.96	
5,800.0	6.00	90.00	5,785.8	2,059.8	0.0	277.0	64.9	0.00	559,584.63	768,399.41	
5,900.0	6.00	90.00	5,885.2	2,159.2	0.0	287.5	67.3	0.00	559,584.63	768,409.87	
6,000.0	6.00	90.00	5,984.7	2,258.7	0.0	297.9	69.8	0.00	559,584.63	768,420.32	
6,100.0	6.00	90.00	6,084.1	2,358.1	0.0	308.4	72.2	0.00	559,584.63	768,430.77	
6,200.0	6.00	90.00	6,183.6	2,457.6	0.0	318.8	74.7	0.00	559,584.63	768,441.23	
6,300.0	6.00	90.00	6,283.0	2,557.0	0.0	329.3	77.1	0.00	559,584.63	768,451.68	
6,400.0	6.00	90.00	6,382.5	2,656.5	0.0	339.7	79.6	0.00	559,584.63	768,462.13	
6,500.0	6.00	90.00	6,481.9	2,755.9	0.0	350.2	82.0	0.00	559,584.63	768,472.58	
6,600.0	6.00	90.00	6,581.4	2,855.4	0.0	360.6	84.4	0.00	559,584.63	768,483.04	
6,700.0	6.00	90.00	6,680.8	2,954.8	0.0	371.1	86.9	0.00	559,584.63	768,493.49	
6,800.0	6.00	90.00	6,780.3	3,054.3	0.0	381.5	89.3	0.00	559,584.63	768,503.94	
6,900.0	6.00	90.00	6,879.7	3,153.7	0.0	392.0	91.8	0.00	559,584.63	768,514.40	
7,000.0	6.00	90.00	6,979.2	3,253.2	0.0	402.4	94.2	0.00	559,584.63	768,524.85	
7,100.0	6.00	90.00	7,078.6	3,352.6	0.0	412.9	96.7	0.00	559,584.63	768,535.30	
7,200.0	6.00	90.00	7,178.1	3,452.1	0.0	423.4	99.1	0.00	559,584.63	768,545.75	
7,300.0	6.00	90.00	7,277.5	3,551.5	0.0	433.8	101.6	0.00	559,584.63	768,556.21	
7,400.0	6.00	90.00	7,377.0	3,651.0	0.0	444.3	104.0	0.00	559,584.63	768,566.66	
7,500.0	6.00	90.00	7,476.4	3,750.4	0.0	454.7	106.5	0.00	559,584.63	768,577.11	
7,600.0	6.00	90.00	7,575.9	3,849.9	0.0	465.2	108.9	0.00	559,584.63	768,587.57	
7,700.0	6.00	90.00	7,675.3	3,949.3	0.0	475.6	111.4	0.00	559,584.63	768,598.02	
7,800.0	6.00	90.00	7,774.8	4,048.8	0.0	486.1	113.8	0.00	559,584.63	768,608.47	
7,900.0	6.00	90.00	7,874.3	4,148.3	0.0	496.5	116.3	0.00	559,584.63	768,618.92	

Company:	B:C Operating, Inc.	Local Co-ordinate Reference:	Well: 141210 Topaz Federal Com 4H
Project:	Lea County	TVD Reference:	WELL @ 3726.0usft (Original Well Elev)
Site:	141210 Topaz Federal Com 4H	MD Reference:	WELL @ 3726.0usft (Original Well Elev)
Well:	141210 Topaz Federal Com 4H	North Reference:	Grid
Wellbore:	141210 Topaz Federal Com 4H	Survey Calculation Method:	Minimum Curvature
Design:	141210 141210 Topaz Federal Com 4H	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)	DLog (%/100usft)	Northing (usft)	Easting (usft)	
8,000.0	6.00	90.00	7,973.7	4,247.7	0.0	507.0	118.7	0.00	559,584.63	768,629.38	
8,100.0	6.00	90.00	8,073.2	4,347.2	0.0	517.4	121.2	0.00	559,584.63	768,639.83	
8,200.0	6.00	90.00	8,172.6	4,446.6	0.0	527.9	123.6	0.00	559,584.63	768,650.28	
8,300.0	6.00	90.00	8,272.1	4,546.1	0.0	538.3	126.1	0.00	559,584.63	768,660.74	
8,400.0	6.00	90.00	8,371.5	4,645.5	0.0	548.8	128.5	0.00	559,584.63	768,671.19	
8,500.0	6.00	90.00	8,471.0	4,745.0	0.0	559.2	131.0	0.00	559,584.63	768,681.64	
8,600.0	6.00	90.00	8,570.4	4,844.4	0.0	569.7	133.4	0.00	559,584.63	768,692.09	
8,700.0	6.00	90.00	8,669.9	4,943.9	0.0	580.1	135.8	0.00	559,584.63	768,702.55	
8,800.0	6.00	90.00	8,769.3	5,043.3	0.0	590.6	138.3	0.00	559,584.63	768,713.00	
8,900.0	6.00	90.00	8,868.8	5,142.8	0.0	601.1	140.7	0.00	559,584.63	768,723.45	
9,000.0	6.00	90.00	8,968.2	5,242.2	0.0	611.5	143.2	0.00	559,584.63	768,733.91	
9,100.0	6.00	90.00	9,067.7	5,341.7	0.0	622.0	145.6	0.00	559,584.63	768,744.36	
9,200.0	6.00	90.00	9,167.1	5,441.1	0.0	632.4	148.1	0.00	559,584.63	768,754.81	
9,300.0	6.00	90.00	9,266.6	5,540.6	0.0	642.9	150.5	0.00	559,584.63	768,765.26	
9,400.0	6.00	90.00	9,366.0	5,640.0	0.0	653.3	153.0	0.00	559,584.63	768,775.72	
9,500.0	6.00	90.00	9,465.5	5,739.5	0.0	663.8	155.4	0.00	559,584.63	768,786.17	
9,600.0	6.00	90.00	9,564.9	5,838.9	0.0	674.2	157.9	0.00	559,584.63	768,796.62	
9,700.0	6.00	90.00	9,664.4	5,938.4	0.0	684.7	160.3	0.00	559,584.63	768,807.08	
9,800.0	6.00	90.00	9,763.8	6,037.8	0.0	695.1	162.8	0.00	559,584.63	768,817.53	
9,900.0	6.00	90.00	9,863.3	6,137.3	0.0	705.6	165.2	0.00	559,584.63	768,827.98	
10,000.0	6.00	90.00	9,962.7	6,236.7	0.0	716.0	167.7	0.00	559,584.63	768,838.43	
10,100.0	6.00	90.00	10,062.2	6,336.2	0.0	726.5	170.1	0.00	559,584.63	768,848.89	
10,200.0	6.00	90.00	10,161.7	6,435.7	0.0	736.9	172.6	0.00	559,584.63	768,859.34	
10,300.0	6.00	90.00	10,261.1	6,535.1	0.0	747.4	175.0	0.00	559,584.63	768,869.79	
10,400.0	6.00	90.00	10,360.6	6,634.6	0.0	757.8	177.5	0.00	559,584.63	768,880.25	
10,500.0	6.00	90.00	10,460.0	6,734.0	0.0	768.3	179.9	0.00	559,584.63	768,890.70	

Company:	B.C. Operating, Inc.	Local Co-ordinate Reference:	Well 141210 Topaz Federal Com 4H
Project:	Lea County	TVD Reference:	WELL @ 3726.0usft (Original Well Elev)
Site:	141210 Topaz Federal Com 4H	MD Reference:	WELL @ 3726.0usft (Original Well Elev)
Well:	141210 Topaz Federal Com 4H	North Reference:	Grid
Wellbore:	141210 Topaz Federal Com 4H	Survey Calculation Method:	Minimum Curvature
Design:	141210 141210 Topaz Federal Com 4H	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)	D Log (°/100usft)	Northing (usft)	Easting (usft)	
10,565.0	6.00	90.00	10,524.7	6,798.7	0.0	775.1	181.5	0.00	559,584.63	768,897.49	
KOP10565RMD											
10,565.8	6.00	90.00	10,525.4	6,799.4	0.0	775.2	181.5	0.00	559,584.63	768,897.58	
10,600.0	9.08	78.46	10,559.4	6,833.4	0.5	779.6	183.1	10.00	559,585.17	768,902.01	
10,650.0	13.88	71.13	10,608.3	6,882.3	3.3	789.2	188.0	10.00	559,587.90	768,911.56	
10,700.0	18.78	67.55	10,656.3	6,930.3	8.3	802.3	195.9	10.00	559,592.91	768,924.67	
10,750.0	23.72	65.42	10,702.9	6,976.9	15.5	818.9	206.9	10.00	559,600.18	768,941.27	
10,800.0	28.68	63.98	10,747.7	7,021.7	25.0	838.8	220.7	10.00	559,609.63	768,961.20	
10,850.0	33.65	62.94	10,790.5	7,064.5	36.6	861.9	237.4	10.00	559,621.20	768,984.33	
10,900.0	38.63	62.14	10,830.9	7,104.9	50.2	888.1	256.7	10.00	559,634.80	769,010.48	
10,950.0	43.61	61.50	10,868.5	7,142.5	65.7	917.1	278.6	10.00	559,650.33	769,039.45	
11,000.0	48.59	60.97	10,903.2	7,177.2	83.0	948.6	302.9	10.00	559,667.66	769,071.02	
11,050.0	53.58	60.51	10,934.6	7,208.6	102.0	982.5	329.3	10.00	559,686.68	769,104.95	
11,100.0	58.57	60.11	10,962.5	7,236.5	122.6	1,018.6	357.7	10.00	559,707.23	769,140.98	
11,114.3	60.00	60.00	10,969.8	7,243.8	128.8	1,029.3	366.2	10.00	559,713.38	769,151.66	
11,150.0	61.05	56.08	10,987.4	7,261.4	145.2	1,055.6	388.3	10.00	559,729.81	769,177.99	
11,200.0	62.70	50.73	11,011.0	7,285.0	171.5	1,091.0	422.2	10.00	559,756.09	769,213.36	
11,250.0	64.55	45.55	11,033.2	7,307.2	201.4	1,124.3	459.0	10.00	559,785.98	769,246.70	
11,300.0	66.58	40.53	11,053.9	7,327.9	234.6	1,155.3	498.6	10.00	559,819.25	769,277.74	
11,350.0	68.76	35.66	11,072.9	7,346.9	271.0	1,183.8	540.7	10.00	559,855.64	769,306.25	
11,400.0	71.08	30.94	11,090.1	7,364.1	310.3	1,209.6	584.9	10.00	559,894.88	769,332.01	
11,450.0	73.51	26.36	11,105.3	7,379.3	352.0	1,232.4	630.8	10.00	559,936.67	769,354.83	
11,500.0	76.04	21.89	11,118.4	7,392.4	396.1	1,252.1	678.2	10.00	559,980.69	769,374.53	
11,550.0	78.65	17.52	11,129.4	7,403.4	442.0	1,268.6	726.7	10.00	560,026.61	769,390.96	
11,600.0	81.33	13.23	11,138.1	7,412.1	489.4	1,281.6	775.9	10.00	560,074.07	769,404.00	
11,650.0	84.05	9.00	11,144.4	7,418.4	538.1	1,291.2	825.5	10.00	560,122.72	769,413.55	

Company:	B.C Operating, Inc.	Local Co-ordinate Reference:	Well: 141210 Topaz Federal Com 4H
Project:	Lea County	TVD Reference:	WELL @ 3726.0usft (Original Well Elev)
Site:	141210 Topaz Federal Com 4H	MD Reference:	WELL @ 3726.0usft (Original Well Elev)
Well:	141210 Topaz Federal Com 4H	North Reference:	Grid
Wellbore:	141210 Topaz Federal Com 4H	Survey Calculation Method:	Minimum Curvature
Design:	141210 141210 Topaz Federal Com 4H	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)	D Leg (°/100usft)	Northing (usft)	Easting (usft)	
11,695.0	86.52	5.23	11,148.1	7,422.1	582.6	1,296.7	870.0	10.00	560,167.21	769,419.10	
First Take Point @ 11695ftMD											
11,700.0	86.80	4.81	11,148.4	7,422.4	587.6	1,297.1	875.0	10.00	560,172.18	769,419.54	
11,750.0	89.57	0.65	11,150.0	7,424.0	637.5	1,299.5	924.0	10.00	560,222.08	769,421.92	
11,757.0	89.96	0.06	11,150.0	7,424.0	644.5	1,299.6	930.8	10.00	560,229.08	769,421.96	
LP@11757ftMD/11150ftTVD											
11,757.8	90.00	360.00	11,150.0	7,424.0	645.2	1,299.6	931.6	10.00	560,229.84	769,421.96	
11,800.0	90.00	359.99	11,150.0	7,424.0	687.5	1,299.6	972.6	0.03	560,272.08	769,421.96	
11,900.0	90.00	359.96	11,150.0	7,424.0	787.5	1,299.5	1,069.9	0.03	560,372.08	769,421.91	
12,000.0	90.00	359.94	11,150.0	7,424.0	887.5	1,299.4	1,167.1	0.03	560,472.08	769,421.83	
12,100.0	90.00	359.91	11,150.0	7,424.0	987.5	1,299.3	1,264.2	0.03	560,572.08	769,421.69	
12,200.0	90.00	359.88	11,150.0	7,424.0	1,087.5	1,299.1	1,361.4	0.03	560,672.08	769,421.51	
12,300.0	90.00	359.86	11,150.0	7,424.0	1,187.5	1,298.9	1,458.6	0.03	560,772.08	769,421.29	
12,400.0	90.00	359.83	11,150.0	7,424.0	1,287.5	1,298.6	1,555.7	0.03	560,872.08	769,421.01	
12,500.0	90.00	359.80	11,150.0	7,424.0	1,387.5	1,298.3	1,652.9	0.03	560,972.08	769,420.70	
12,600.0	90.00	359.78	11,150.0	7,424.0	1,487.5	1,297.9	1,750.0	0.03	561,072.08	769,420.33	
12,700.0	90.00	359.75	11,150.0	7,424.0	1,587.5	1,297.5	1,847.1	0.03	561,172.08	769,419.92	
12,800.0	90.00	359.73	11,150.0	7,424.0	1,687.5	1,297.1	1,944.3	0.03	561,272.08	769,419.47	
12,900.0	90.00	359.70	11,150.0	7,424.0	1,787.4	1,296.6	2,041.4	0.03	561,372.08	769,418.97	
13,000.0	90.00	359.67	11,150.0	7,424.0	1,887.4	1,296.0	2,138.4	0.03	561,472.08	769,418.42	
13,101.6	90.00	359.65	11,150.0	7,424.0	1,989.0	1,295.4	2,237.1	0.03	561,573.67	769,417.82	
13,200.0	90.00	359.65	11,150.0	7,424.0	2,087.4	1,294.8	2,332.6	0.00	561,672.07	769,417.21	
13,300.0	90.00	359.65	11,150.0	7,424.0	2,187.4	1,294.2	2,429.7	0.00	561,772.07	769,416.59	
13,400.0	90.00	359.65	11,150.0	7,424.0	2,287.4	1,293.6	2,526.7	0.00	561,872.07	769,415.98	
13,500.0	90.00	359.65	11,150.0	7,424.0	2,387.4	1,293.0	2,623.8	0.00	561,972.07	769,415.36	
13,600.0	90.00	359.65	11,150.0	7,424.0	2,487.4	1,292.3	2,720.9	0.00	562,072.07	769,414.74	
13,700.0	90.00	359.65	11,150.0	7,424.0	2,587.4	1,291.7	2,818.0	0.00	562,172.06	769,414.13	

Company:	B.C Operating, Inc.	Local Co-ordinate Reference:	Well: 141210 Topaz Federal Com 4H
Project:	Lea County	TVD Reference:	WELL @ 3726.0usft (Original Well Elev)
Site:	141210 Topaz Federal Com 4H	MD Reference:	WELL @ 3726.0usft (Original Well Elev)
Well:	141210 Topaz Federal Com 4H	North Reference:	Grid
Wellbore:	141210 Topaz Federal Com 4H	Survey Calculation Method:	Minimum Curvature
Design:	141210 141210 Topaz Federal Com 4H	Database:	EDM 5000.1 Single User Db

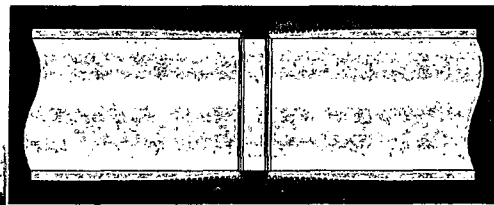
Planned Survey										
MD (usft)	Inc. (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec. (usft)	DLog (°/100usft)	Northing (usft)	Easting (usft)
13,800.0	90.00	359.65	11,150.0	7,424.0	2,687.4	1,291.1	2,915.0	0.00	562,272.06	769,413.51
13,900.0	90.00	359.65	11,150.0	7,424.0	2,787.4	1,290.5	3,012.1	0.00	562,372.06	769,412.89
14,000.0	90.00	359.65	11,150.0	7,424.0	2,887.4	1,289.9	3,109.2	0.00	562,472.06	769,412.28
14,100.0	90.00	359.65	11,150.0	7,424.0	2,987.4	1,289.3	3,206.3	0.00	562,572.06	769,411.66
14,200.0	90.00	359.65	11,150.0	7,424.0	3,087.4	1,288.6	3,303.3	0.00	562,672.05	769,411.04
14,300.0	90.00	359.65	11,150.0	7,424.0	3,187.4	1,288.0	3,400.4	0.00	562,772.05	769,410.43
14,400.0	90.00	359.65	11,150.0	7,424.0	3,287.4	1,287.4	3,497.5	0.00	562,872.05	769,409.81
14,500.0	90.00	359.65	11,150.0	7,424.0	3,387.4	1,286.8	3,594.6	0.00	562,972.05	769,409.19
14,600.0	90.00	359.65	11,150.0	7,424.0	3,487.4	1,286.2	3,691.6	0.00	563,072.05	769,408.58
14,700.0	90.00	359.65	11,150.0	7,424.0	3,587.4	1,285.6	3,788.7	0.00	563,172.05	769,407.96
14,800.0	90.00	359.65	11,150.0	7,424.0	3,687.4	1,284.9	3,885.8	0.00	563,272.04	769,407.34
14,900.0	90.00	359.65	11,150.0	7,424.0	3,787.4	1,284.3	3,982.9	0.00	563,372.04	769,406.73
15,000.0	90.00	359.65	11,150.0	7,424.0	3,887.4	1,283.7	4,079.9	0.00	563,472.04	769,406.11
15,100.0	90.00	359.65	11,150.0	7,424.0	3,987.4	1,283.1	4,177.0	0.00	563,572.04	769,405.49
15,200.0	90.00	359.65	11,150.0	7,424.0	4,087.4	1,282.5	4,274.1	0.00	563,672.04	769,404.88
15,300.0	90.00	359.65	11,150.0	7,424.0	4,187.4	1,281.9	4,371.1	0.00	563,772.03	769,404.26
15,400.0	90.00	359.65	11,150.0	7,424.0	4,287.4	1,281.2	4,468.2	0.00	563,872.03	769,403.65
15,500.0	90.00	359.65	11,150.0	7,424.0	4,387.4	1,280.6	4,565.3	0.00	563,972.03	769,403.03
15,600.0	90.00	359.65	11,150.0	7,424.0	4,487.4	1,280.0	4,662.4	0.00	564,072.03	769,402.41
15,700.0	90.00	359.65	11,150.0	7,424.0	4,587.4	1,279.4	4,759.4	0.00	564,172.03	769,401.80
15,800.0	90.00	359.65	11,150.0	7,424.0	4,687.4	1,278.8	4,856.5	0.00	564,272.02	769,401.18
15,900.0	90.00	359.65	11,150.0	7,424.0	4,787.4	1,278.2	4,953.6	0.00	564,372.02	769,400.56
16,000.0	90.00	359.65	11,150.0	7,424.0	4,887.4	1,277.5	5,050.7	0.00	564,472.02	769,399.95
16,100.0	90.00	359.65	11,150.0	7,424.0	4,987.4	1,276.9	5,147.7	0.00	564,572.02	769,399.33
16,200.0	90.00	359.65	11,150.0	7,424.0	5,087.4	1,276.3	5,244.8	0.00	564,672.02	769,398.71
16,300.0	90.00	359.65	11,150.0	7,424.0	5,187.4	1,275.7	5,341.9	0.00	564,772.01	769,398.10
16,393.8	90.00	359.65	11,150.0	7,424.0	5,281.2	1,275.1	5,433.0	0.00	564,865.83	769,397.52

Company:	B.C Operating, Inc.	Local Coordinate Reference:	Well-141210 Topaz Federal Com 4H
Project:	Lea County	TVD Reference:	WELL @ 3726.0usft (Original Well Elev)
Site:	141210 Topaz Federal Com 4H	MD Reference:	WELL @ 3726.0usft (Original Well Elev)
Well:	141210 Topaz Federal Com 4H	North Reference:	Grid
Wellbore:	141210 Topaz Federal Com 4H	Survey Calculation Method:	Minimum Curvature
Design:	141210-141210 Topaz Federal Com 4H	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)	
16,406.0	90.00	359.65	11,150.0	7,424.0	5,293.4	1,275.0	5,444.8	0.03	564,878.01	769,397.44	
TD@16406ftMD											
16,406.4	90.00	359.65	11,150.0	7,424.0	5,293.8	1,275.0	5,445.2	0.03	564,878.41	769,397.44	

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3,000.0	3,000.0	0.0	0.0	Start 6INC Nudge@3000ftMD
10,565.0	10,524.7	0.0	775.1	KOP10565ftMD
11,695.0	11,148.1	582.6	1,296.7	First Take Point @11695ftMD
11,757.0	11,150.0	644.5	1,299.6	LP@11757ftMD/11150ftTVD
16,406.0	11,150.0	5,293.4	1,275.0	TD@16406ftMD

Checked By: _____ Approved By: _____ Date: _____



THRS Connections

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

Pipe Body	Data
	<i>Imperial [Metric]</i>
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
<i>**Values based on 100% efficiency</i>	
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]

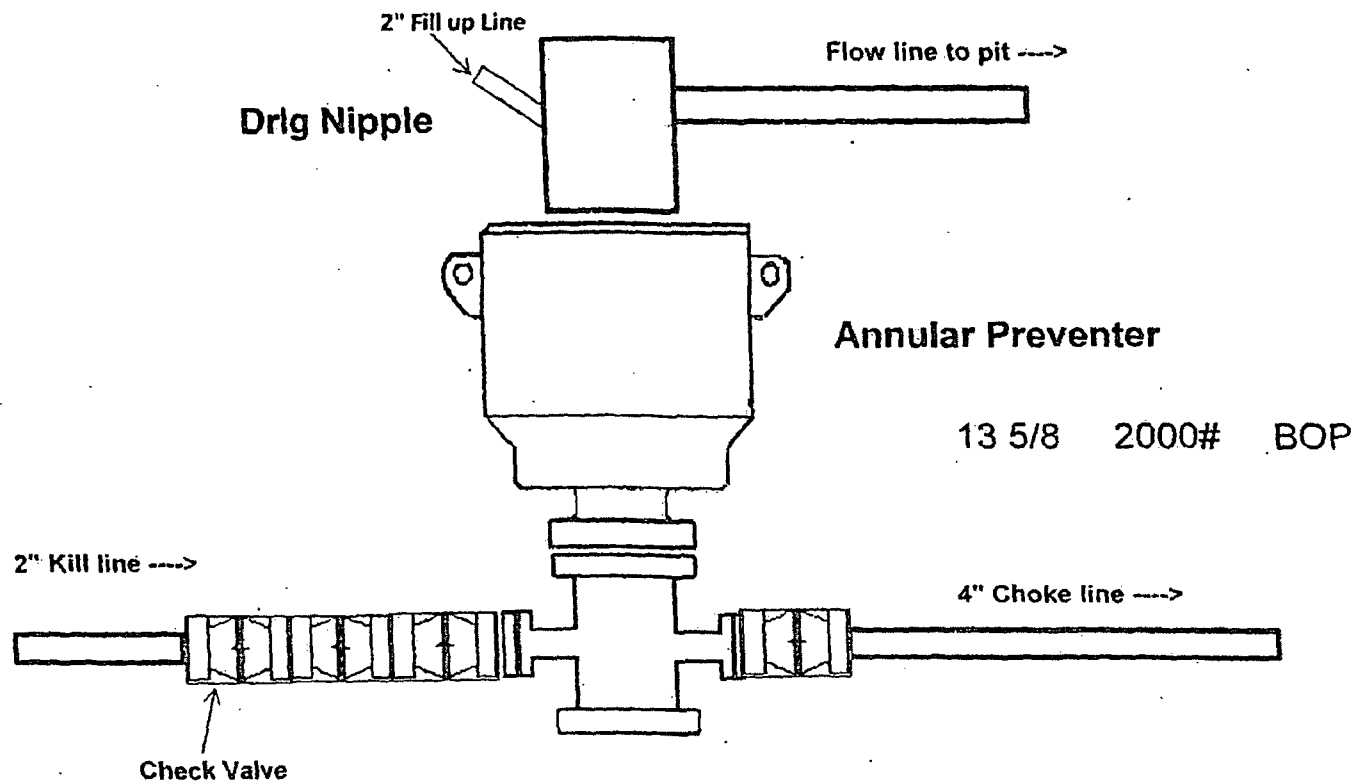
Inspection Criteria

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.

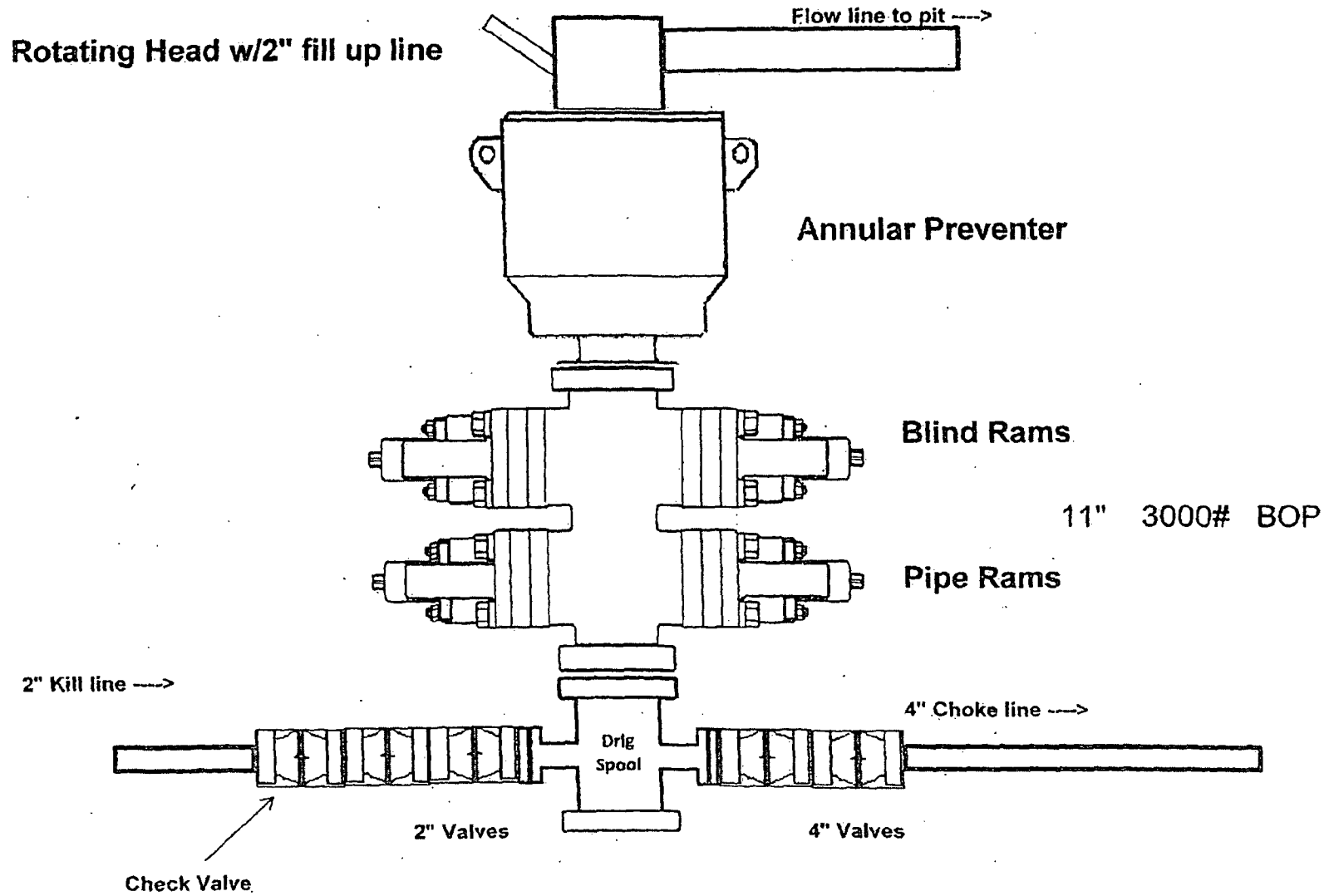
Note: All the information provided is general data. This document is not a warranty/quality certificate. Tejas Tubular reserves the right to change any and all of this data at any time for corrections and product improvement. This is an uncontrolled document.

BC Operating, Inc.
Exhibit 1

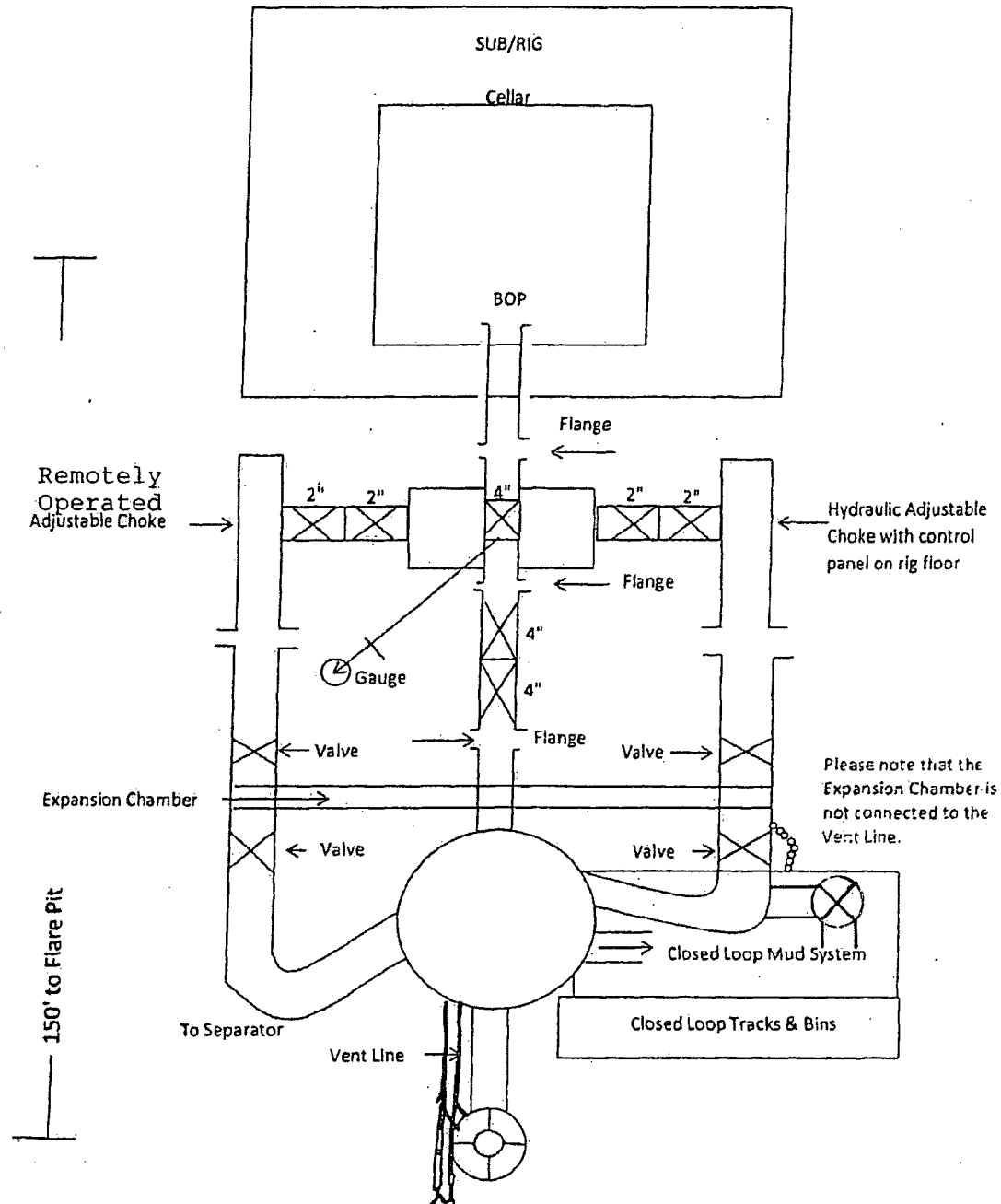
2,000 psi BOP Schematic



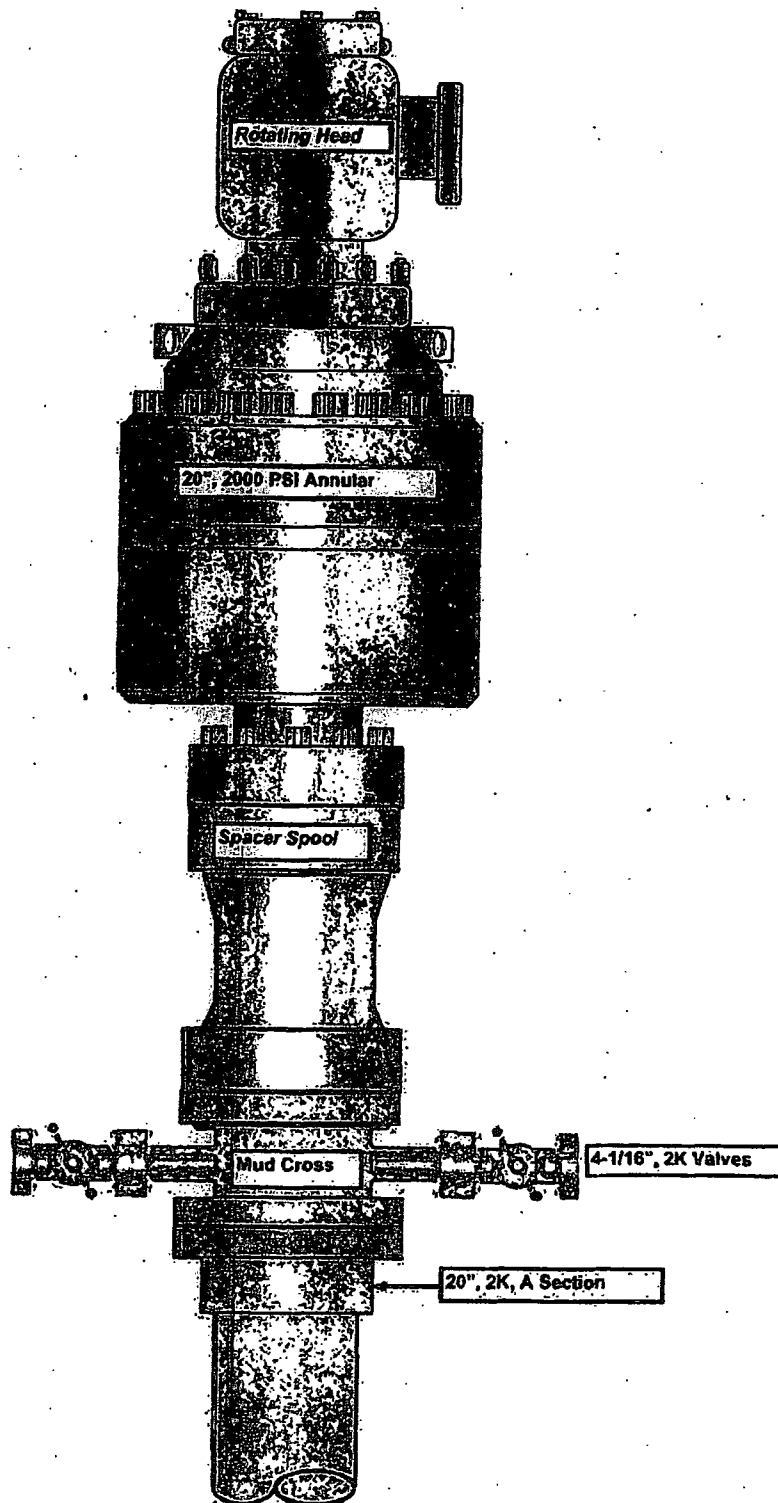
3,000 psi BOP Schematic



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

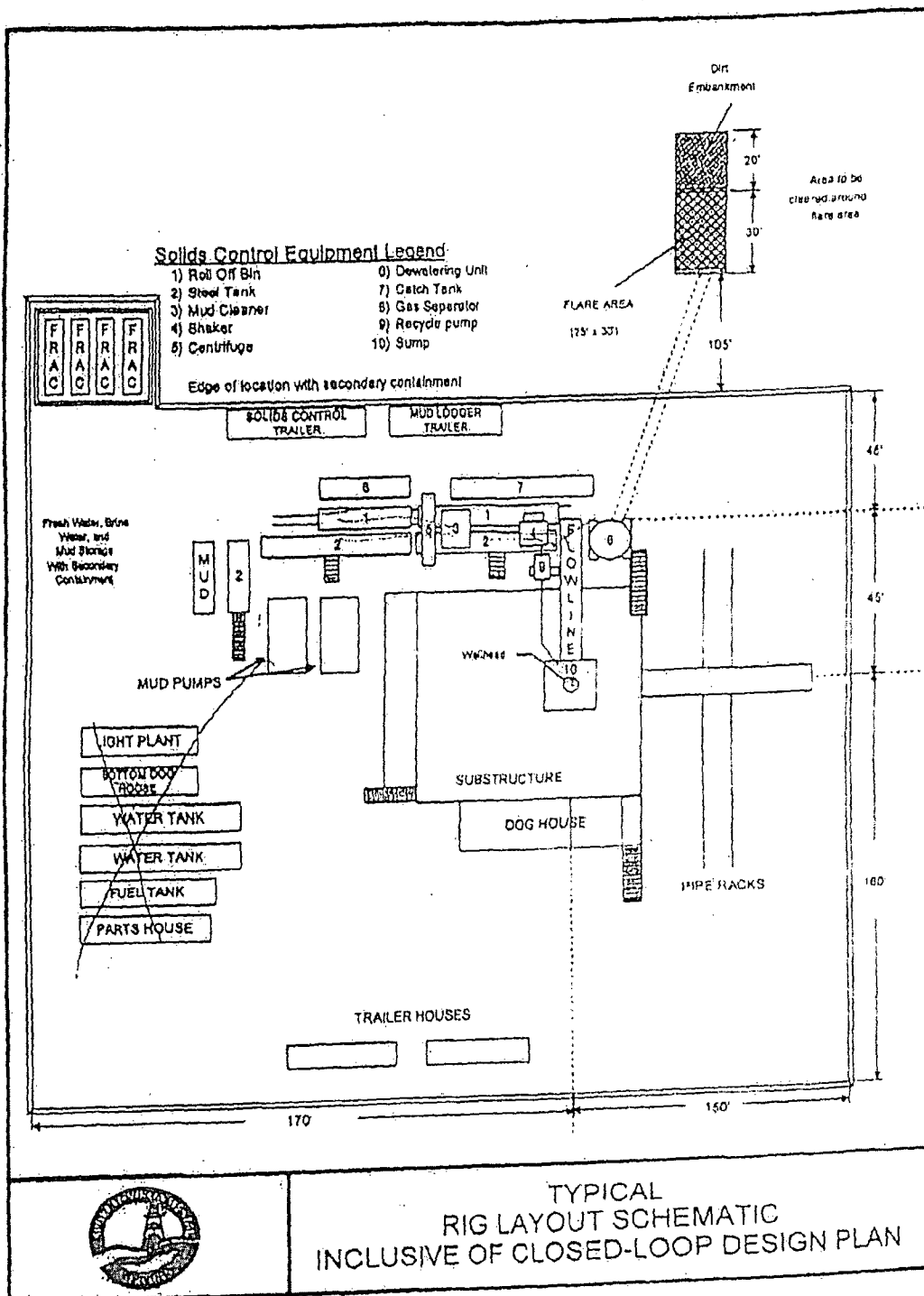
**Equipment manufactures may vary due to availability but components will not.*

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 #4H

SHL: 240' FSL & 1980' FEL, B-31-T20S-R34E

Flare



400'

★ Secondary Briefing Area

Secondary Egress

Access Road

Close Loop System

Mud Pit System

Pump 1

Pump 2

Sub Structure

400'

TOP SOIL

Primary Briefing Area ★

Housing

Housing

Housing

-  Wind Sock
-  Flare
-  Briefing Area

Prevailing Winds

