Form 3160-3 (September 2001)

UNITED STATES DEPARTMENT OF THE INTERIOR

FORM APPROVED OMB No. 1004-0136 Expires March 31, 2007

5.	Lease	Serial	No.

1		_			
1.	licaril	la	Contra	ct '	111

Jicarilla Contract 110:

BUREAU OF LAND MANAC	PENTER TODGE MAR 1 C	All A T	broarma Commade 110;		
APPLICATION FOR PERMIT TO DR		1111 0 11	6. If Indian, Allottee or	Tribe Name	
		TYFD	Jicarilla Apache		
la. Type of Work: DRILL REENTER	OTO FARM	INGTON Ni	7. If Unit or CA Agreem	ent, Name and No.	
1b. Type of Well: Oil Well Gas Well Other	Single Zone	Multiple Zone	8. Lease Name and Well I		
2. Name of Operator			9. API Well No. 30-039- 29848		
CDX RIO, LLC 3a. Address	3b. Phone No. (include area co	J-\	/A		
	,	ae)	10. Field and Pool, or Exp		
	(505) 326-3003		Blanco Mesaverde/Ba		
4. Location of Well (Report location clearly and in accordance with a	ny State requirements. *)		11. Sec., T., R., M., or Bil	and Survey or Area	
At surface 750' FNL, 2240' FEL Lat: 36 29' 32, Lo	ng: 107 22' 53		l a		
At proposed prod. zone			Section 17, T-26-N, R-	5-W	
14. Distance in miles and direction from nearest town or post office*			12. County or Parish	13. State	
30 miles east of Lindrith, New Mexico			Rio Arriba	NM	
15. Distance from proposed*	16. No. of Acres in lease	17. Spacin	g Unit dedicated to this well	 	
location to nearest property or lease line, ft.	10.110.01110.00 100.00		g c c.c		
(Also to nearest drig. unit line, if any) 750		320 E/2			
 Distance from proposed location* to nearest well, drilling, completed, 	19. Proposed Depth	20. BLM/F	BIA Bond No. on file		
applied for, on this lease, ft. 1000'	7650'	National I	bond on file		
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6677' GR	22. Approximate date work will start*		23. Estimated duration		
	24. Attachments		}		
The following, completed in accordance with the requirements of Onshor	e Oil and Gas Order No.1, shall	be attached to this	s form:	•	
 Well plat certified by a registered surveyor. A Drilling Plan. A Surface Use Plan (if the location is on National Forest System I SUPO shall be filed with the appropriate Forest Service Office). 	Lands, the Item 20 above 5. Operator center 6. Such other 1	ove). rtification. site specific info	s unless covered by an exis		
	authorized o	ollicer.		1	
25. Signature (School (School)	Name (Printed/Typed) Richard Corcoran		Da	te 3-14-06	
Title	,				
Land Manager			:	,	
Approved by (Signature)	Name (Printed/Typed)		Da	2/21/07	
Title AFIA	Office 75	\sim			
Application approval does not warrant or certify that the applicant holds le operations thereon. Conditions of approval, if any, are attached.	egal or equitable title to those rig	thts in the subject	lease which would entitle the	applicant to conduct	
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it States any false, fictitious or fraudulent statements or representations as to	a crime for any person knowing	gly and willfully t	o make to any department o	r agency of the United	
*(Instructions on reverse)	, matter within the jurisdictio				
	1/		on mic	EB21'07	
4/3	\bigvee				
	•		OIL ÇO	NS.DIV.	
			DIS	37.3	
	4hrs ~		i .		
NOTIFY AZTEC OCD 2 IN TIME TO WITNESS C	sq dee ment				

TRILLING CHERATIONS AUTHORIZED ARE LUBUSOFF FORMY LANGE WITH ATTACHED "GENERAL REQUIREMENTS".

This action is subject to technical and productors, ray ewidures, and to 43 CFR 3165 3 & deposal pursuent to 43 CFR 3165 4

NSL-5397

NMOCD & 2-23-07

DISTRICT | 1625 N. French Dr., Hobbs, N.M. 88240

State of New Mexico Energy, Minerals & Natural Resources Department Form C-102 Revised June 10, 2003

DISTRICT II 1301 W. Grand Ave., Artesia, N.M. 88210

OIL CONSERVATION DIVISION

1220 South St. Francis MAN 16 AM 9 15

Santa Fe, NM 87505

Submit to Appropriate District Office 9 15 State Lease — 4 Copies Fee Lease — 3 Copies

DISTRICT III 1000 Rio Brazos Rd., Aztec, N.M. 87410

RECEIVED

AMENDED REPORT

DISTRICT IV 1220 South St. Francis Dr., Santa Fe, NM 87505

220 South St. Fro	O South St. Francis Dr., Santa Fe, NM 87505										
	٠	٧	VELL LO	CATIO	N AND	ACRE	AGE DED	CATION	PLAT	.	
¹ API 30	¹ API Number 29848 ² Pool Code 72319/71599						Bla	³ Pool N nco Mesaverde/B			
⁴ Property Co 33454					•	erty Name				* We	Number 8M
⁷ OGRID No 222374).				⁸ Oper	ator Name	<u> </u>		:		Elevation 6677'
		· · ·			10 Surfa	ice Lo	cation				
UL or lot no.	Section 17	Township 26-N	Range 5-W	Lot Idn	Feet from to 750'		orth/South line NORTH	Feet from the 2240'	East/West EAS		County RIO ARRIBA
		•	11 Botto	m Hole	Locatio	n If D	ifferent Fro	m Surface			
UL or lot no.	Section	Township	Range	Lot Idn	Feet from t	the I	lorth/South line	Feet from the	East/West	line	County
¹² Dedicated Acres			¹⁴ Consolidati	ion Code		**Order No.	-539	77	<u> </u>		
NO ALLOV	VABLE V						UNTIL ALL N APPROVEI		:	N CON	ISOLIDATED
CALC'D COR. BY DBL. PORP.			59-35 W '(C)	150,	06/		CALC'D BY DBL. F	ORP. hereby c	OPERATO ertify that the information that the best	nation conta	
LAT: LONG:	36'29'32 107'22'5	2.5" N. (1 53.2" W. (1	NAD 83) NAD 83)	_		22	240'				

Signature

N 88-59-35 W 5332' (C)

N 88-59-35 W 5332' (C)

LAT: 36'29'32.5" N. (NAD 83)

LONG: 107'22'53.2" W. (NAD 83)

Signature

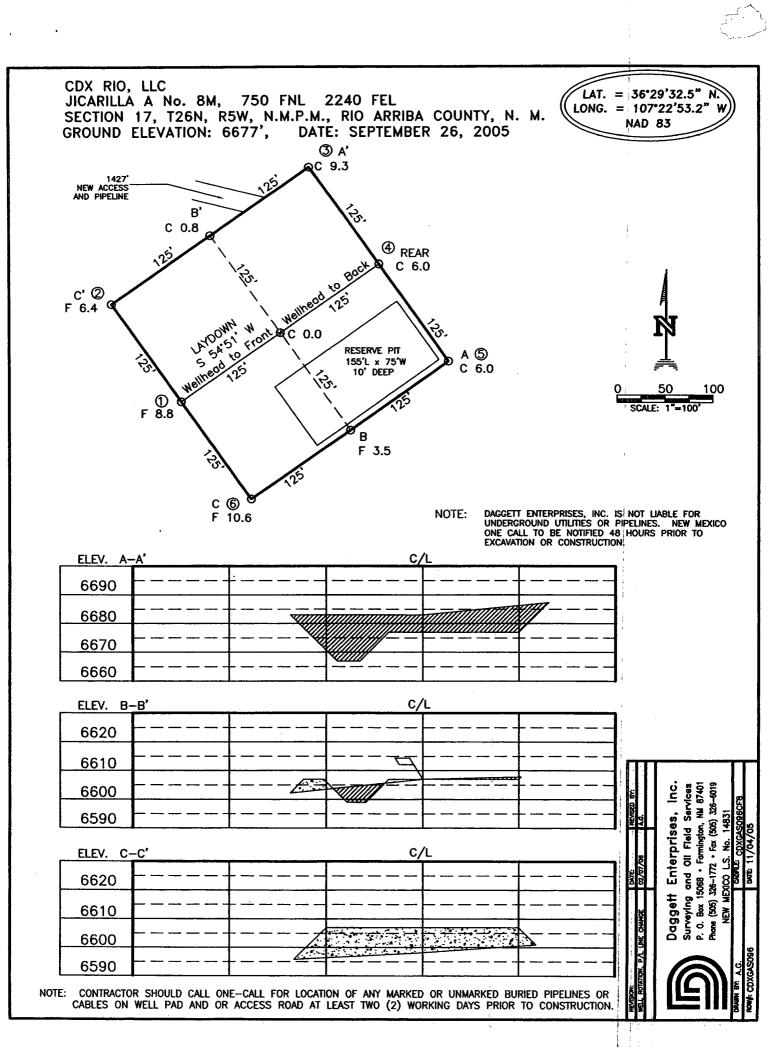
Signature

Printed Name
Land Manager inth-corcoron@cdxgas.com
Title and E-mail Address

20'0' 57

O'C 57

Submit 3 Copies To Appropriate District Office	State of New Me			Form C-103
District I	Energy, Minerals and Natur	ral Resources	WELL API NO.	May 27, 2004
1625 N. French Dr., Hobbs, NM 88240 District II			30-039-	19848
1301 W. Grand Ave., Artesia, NM 88210	OIL CONSERVATION	-	5. Indicate Type of I	Lease
<u>District III</u> 1000 Rio Brazos Rd., Aztec, NM 87410	1220 South St. Fran		STATE [FEE
District IV	Santa Fe, NM 87	7505	6. State Oil & Gas L	ease No.
1220 S. St. Francis Dr., Santa Fe, NM			Jicarilla 110	
87505 SUNDRY NOTE	CES AND REPORTS ON WELLS		7. Lease Name or Ur	nit Agreement Name
(DO NOT USE THIS FORM FOR PROPOS	ALS TO DRILL OR TO DEEPEN OR PLU	JG BACK TO A		,
DIFFERENT RESERVOIR. USE "APPLIC PROPOSALS.)	ATION FOR PERMIT" (FORM C-101) FO	OR SUCH	Jicarilla A	
1 -	Gas Well X□ Other		8. Well Number 8M	
2. Name of Operator			9. OGRID Number	222374
CDX RIO, LLC			·	i I
3. Address of Operator			10. Pool name or Wi	1
2010 Afton Place, Farmington, New	/ Mexico 87401		Blanco Mesaverde/B	asin Dakota
4. Well Location				;
Unit LetterB:75	0'feet from theNorth li	ne and _2240'	feet from theEas	stline
Section 17	Township 26N	Range 4W	NMPM R	io Arriba County
4900年前3000年1	11. Elevation (Show whether DR, 6677' GR	RKB, RT, GR, etc.)		
Pit or Below-grade Tank Application or			[25] [25] [25] [25]	
Pit type_New DrillDepth to Groundw	vater_< 100'Distance from nearest	fresh water well \$1000	'_ Distance from nearest	surface water_<1000'
Pit Liner Thickness: 12 mi	l Below-Grade Tank: Volume	bbls; (Construction Material	
12 Check A	ppropriate Box to Indicate N	ature of Notice	Report or Other Da	nta
12. OHOK 11	ppropriate Box to maleute 14		-	
NOTICE OF IN			SEQUENT REPO	
PERFORM REMEDIAL WORK	PLUG AND ABANDON	REMEDIAL WORK		TERING CASING
TEMPORARILY ABANDON	CHANGE PLANS	COMMENCE DRII	=	AND A
PULL OR ALTER CASING	MULTIPLE COMPL	CASING/CEMENT	JOB 🗌	1
OTHER: New Drill Pit Sundry	×П	OTHER:		, п
13. Describe proposed or compl	eted operations. (Clearly state all prk). SEE RULE 1103. For Multiple			
CDV BIO I I C requests on	provol to construct a drilling mit in	naaandamaa yyith CD	V DIO II C Comount	Construction Plan
	proval to construct a drilling pit in a e pit will be a lined as per the gener			
	osure Plan submitted August, 2004		be closed within 100	days from completion
	<i>3</i> ,			;
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I hereby certify that the information a grade tank has been/will be constructed or of				
SIGNATURE Mancy Olt	ManusTITLE_Re	gulatory Consultant	DA	ATE3/14/06
Towns and successful			·	
Type or print name Nancy Oltm	anns E-mail address: nancy.	oitmanns@cdxgas.c	om Telephone No. (50	us) 326-3003
For State Use Only				PER 0.0.00
APPROVED BY:	TITLE	aty of 8 gas inci	D.	_{ATE} FEB 23 2007
Conditions of Approval (if any):		we nev 1993		



Jicarilla A 8M General Drilling Plan CDX Rio, LLC Rio Arriba County, New Mexico

1. LOCATION:

750' FNL & 2240' FEL, Section 17, T26N, R5W

Rio Arriba County, New Mexico UGL: 6677' Estimated KB: 6689'

Field: Blanco Mesa Verde and Basin Dakota

Surface: Jicarilla Contract #110 Minerals: Jicarilla Contract #110

2. SURFACE FORMATION – SAN JOSE, ESTIMATED TOPS AND WATER, OIL, GAS OR MINERAL BEARING FORMATIONS (TVD):

Formation Tops	Top MD (KB)	Top Subsea (KB)	Rock Type	Comments
Ojo Alamo Sandstone	2561	4128	Sandstone	Possible Differential Sticking, Gas, Water
Kirtland Formation	2809	3880	Shale	
Fruitland Formation	3075	3614	Coal, Shale, Sandstone	Possible Lost Circulation Zone, Gas, Water
Pictured Cliffs Sandstone	3209	3480	Sandstone	Possible Lost Circulation Zone, Gas, Water
Lewis Shale	3352	3337	Shale	Sloughing Shale
Huerfanito Bentonite Bed	3668	3021	Shale	
Chacra Interval	4103	2586	Siltstone	Gas, Water
Mesaverde Formation (MVRD)	4880	1809	Coal, Sandstone, Shale	Possible Lost Circulation, Gas, Water
Cliff House Sandstone (MVRD)	4880	1809	Sandstone	Possible Lost Circulation, Gas, Water
Menefee Member (MVRD)	4967	1722	Coal, Sandstone, Shale	Possible Lost Circulation, Gas, Water
Point Lookout Sandstone(MVRD)	5379	1310	Sandstone	Possible Lost Circulation, Gas, Water
Mancos Shale	5582	1107	Shale	Sloughing Shale
Gallup Formation (GLLP)	6612	77	Siltstone, Shale	Gas, Oil
Greenhorn Limestone	7329	-640	Limestone	Gas, Oil
Graneros Shale	7387	-698	Shale	Gas, Oil, Water
Dakota Formation (DKOT)	7414	-725	Sandstone, Shale, Coal	Gas, Oil, Water
Two Wells Sandstone (DKOT)	7414	-725	Sandstone	Gas, Oil, Water
Paguate Sandstone (DKOT)	7501	-812	Sandstone	Gas, Oil, Water
Upper Cubero Sandstone(DKOT)	7541	-852	Sandstone	Gas, Oil, Water
Main Body (DKOT)	7574	-885	Shale, Sandstone	Gas, Oil, Water
Lower Cubero (DKOT)	7616	-927	Shale, Sandstone	Gas, Oil, Water
Burro Canyon (DKOT	7655	-966	Sandstone	Gas, Water - TD immediately below L. Cubero.
Morrison Formation	70.10		Shale, Sandstone	On-site pick when black/brown cuttings start.
Proposed TD	7649	-960	·	Avoid wet Burro Canyon.

All fresh water and prospectively valuable minerals encountered during drilling will be recorded by depth and adequately protected.

3. PRESSURE CONTROL EQUIPMENT:

BOP equipment will be tested to its rated working pressure or 70-percent of the internal yield of the surface casing, but not to exceed 1,000 psi. See attachments for BOP and choke manifold diagrams.

Production Hole BOP Requirements and Test Plan

```
11" – 2,000 psi single ram (blind)
11" – 2,000 psi single ram (pipe)
```

Test as follows:

a) Pipe rams: 1,000 psi (High) 250 psi (low)

b) Choke manifold and lines: 1,000 psi (High) 250 psi (low)

All ram type preventers and related equipment will be hydraulically tested at nipple-up. They will also be retested in either of the following events:

- A pressure seal is broken.
- 30 days have elapsed since the last successful test of the equipment.

Furthermore, BOP's will be checked daily as to mechanical operating condition. All ram type preventers will have hand wheels, which will be operative and accessible at the time the preventers are installed. See attached Exhibit for details on the BOP equipment.

AUXILIARY EQUIPMENT:

- a) Manually operated kelly cock (upper and lower)
- b) Full opening manually operated safety valves in the full open position, capable of fitting all drill stem connections.

4. CASING AND CEMENTING DESIGN:

Casing Program:

Hole Size	<u>Depth</u>	Casing Size
12 1/4"	250'	9 5/8"
8 3/4"	3568' +/- Lewis seat	7"
6 1/4"	<u>7649</u> '	4 1/2"

Csg Size	Casing Type	Top (MD)	Bottom (MD)	Wt. (lb./ ft)	Grade	Thread	Condition
9-5/8"	Surface	0'	250'	36.0	J55	STC	New
7"	Intermediate	0'	<u>3568</u> ' +/-	23.0	N80	LTC	New
4 1/2"	Prod Liner	- <u>3568</u> ,	<u>7649</u> '	11.6	N80	LTC	New

3468

Casing Data			Collapse	Burst	Min. Tensile	
OD	Wt/Ft	Grade	Thread	(psi)	(psi)	(Lbs.)
9-5/8"	36.0 lbs.	J55	STC	2,020	3,520	394,000
7"	23.0 lbs.	N80	LTC	3,830	6,340	442,000
4 1/2"	11.6 lbs.	N80	LTC	6,350	7,780	223,000

MINIMUM CASING DESIGN FACTORS:

COLLAPSE: 1.125 BURST: 1.00 TENSION: 1.80

Area Fracture Gradient Range:

0.7 - 0.8 psi/foot

Maximum anticipated reservoir pressure:

2,500 psi

Maximum anticipated mud weight:

9.0 ppg

Maximum surface treating pressure:

3,500 - 3,750 psi

Float Equipment:

<u>Surface Casing</u>: Guide shoe on bottom and 3 centralizers on the bottom 3 joints.

<u>Intermediate Casing:</u> Float shoe on bottom joint and a float collar one joint up from float shoe. One centralizer 10 ft above float shoe and nine centralizers spaced every joint above the float collar. Stage tool above the Kirtland formation. One centralizer below stage tool and one centralizer above stage tool.

<u>Production Casing:</u> 4 1/2" cement nosed guide shoe and a float collar on top of bottom joint with centralizers over potential hydrocarbon bearing zones.

Cementing Program:

9-5/8" Surface casing: 250'

165 sxs Type III cement with 2% CaCl₂, ¼#/sx celloflake. 100% excess to circulate cement to surface. WOC 12 hrs.

Slurry weight: 15.2 ppg Slurry yield: 1.27 ft³/sack

Volume basis:

 40' of 9-5/8" shoe joint
 17.4 cu ft

 250' of 12-1/4" x 9-5/8" annulus
 96.1 cu ft

 100% excess (annulus)
 96.1 cu ft

 Total
 209.6 cu ft

Note:

- 1. Design top of cement is the surface.
- 2. Have available 100 sx Type III cement with 2% CaCL₂ for top out purposes.

7" Intermediate Casing: 3568'

1st Stage: <u>139</u> sacks of Type III cement: <u>3568' – 2709' (859')</u>

Slurry weight: 14.5 ppg Annular Vol = $\underline{129.1} \text{ cf} + \underline{64.6} \text{ cf} (50\% \text{ Access})$

Slurry yield: $1.4 \text{ ft}^3/\text{sack} = 193.7 \text{ cf}$

2nd Stage: (Stage tool at <u>2709</u>° +/-): <u>315</u> sacks of Premium Lite FM

Slurry weight: 12.4 ppg Volume = $\underline{605} \text{ cf}$

Slurry yield: 1.92 ft³/sack

Volume Basis:	40' of 7" shoe joint	8.8 cu ft
	3318' of 7" x 8 3/4" annulus	498.8 cu ft
	250° of 7" x 9 5/8" csg	41.7 cu ft
	50% excess (annulus)	249.4 cu ft
	Total	798.7 cu ft

Note:

- 1. Design top of cement is surface.
- 2. Actual cement volumes to be based on caliper log plus 30%.

4 1/2" Production casing: Air Drilled Hole 3568' - 7649' (4081')

Stage 1: 264 sacks of Premium Lite High Strength FM out guide shoe.

Slurry weight: 12.3 ppg Slurry yield: 2.13 ft³/sack

Volume basis:	40' of 4 1/2" shoe joint	3.5 cu ft
	4081' of 4 1/2 "x 6 1/4" hole	418.8 cu ft
	120' of 4 ½" x 7" casing	13.3 cu ft
	30% excess (annulus)	125.6 cu ft
	Total	561.2 cu ft

Note:

- 1. Design top of cement is 3448' +/- ft. or 120 ft. into 7" intermediate casing.
- 2. Actual cement volumes to be based on caliper log plus 30%.

5. MUD PROGRAM:

The surface hole will be drilled with spud mud. Gel and polymer sweeps will be used from surface to 250 feet as necessary to keep hole clean.

The intermediate hole will be drilled with water till mud up at about 2300 ft. From 2300' to 3568', intermediate casing depth, will be drilled with LSND mud. Anticipated mud weight ranges from 8.5 - 9.0 ppg. Mud weight will be increased as required to maintain hole stability and control gas influx.

The production hole will be drilled with air or air/mist.

Sufficient mud materials to maintain stable wellbore conditions (for either well control or lost circulation scenarios) will be maintained at the well site.

No chrome-based additives will be used in the mud system.

6. EVALUATION PROGRAM:

Mud logger:

None Planned

Testing:

No DST is planned

Coring:

None Planned

Electric logs:

Intermediate Hole: Non Planned

Production Hole: TMD-L or Open Hole Platform Express

7. ABNORMAL PRESSURE AND TEMPERATURE:

H ₂ S	None
Coal	Fruitland
Minerals	None
Water	None
Static BHT	175° F
Lost Circulation	Possible
Hole Deviation	None
Abnormal Pressures	None
Unusual Drilling Problems	None

8. ANTICIPATED STARTING DATE: June 1, 2006

Anticipated duration: 16 days

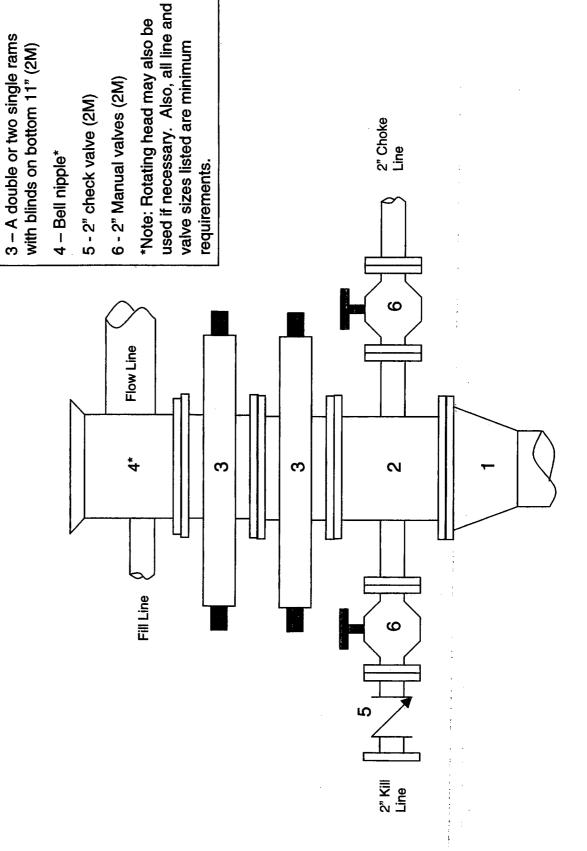
Jicarilla A No. 8M 2000 psi BOP stack



2 - Drilling spool 11" (2M)

1 - Wellhead 9-5/8" (2M)

Components



3 – Mud cross with gauge (2M) flanged below the gauge. Note: All line and valve sizes listed are 2000 psi Choke Manifold 4 - Replaceable beam choke (2M) 5 - Adjustable needle choke (2M) Jicarilla A No. 8M Minimum requirements Components minimum requirements. 1 - 2" Valve (2M) 2-2" Valve (2M) 2" line to pit or mud/gas separator 2" bypass line 2" line to pit or mud/gas separator 2" line from BOP (see BOP diagram)