CO2 - EOR Carbon Management Workshop

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Outline

- **Overview of Kinder Morgan**
- **CO_2 Source and Transportation Assets**
- **Development Planning, Costs, Compliance**
- **Tall Cotton**
- **People Needs**
- **KM Outlook and Support for CCUS**

- Natural Gas Transmission
- Products Pipelines
- Terminals
- CO_2

KINDER MORGAN INC.

Kinder Morgan: Leader in North American Energy Infrastructure

Unparalleled and irreplaceable asset footprint built over decades

Largest natural gas transmission network

- ~70,000 miles of natural gas pipelines
- 657 Bcfd of working storage capacity
- Connected to every important U.S. natural gas resource play and key demand centers
- Move ~40% of natural gas consumed in the U.S.

Largest independent transporter of refined products

- Transport ~1.7 mmbbld of refined products
- ~6,900 miles of refined products pipelines
- ~5,800 miles of other liquids pipelines (crude and natural gas liquids)

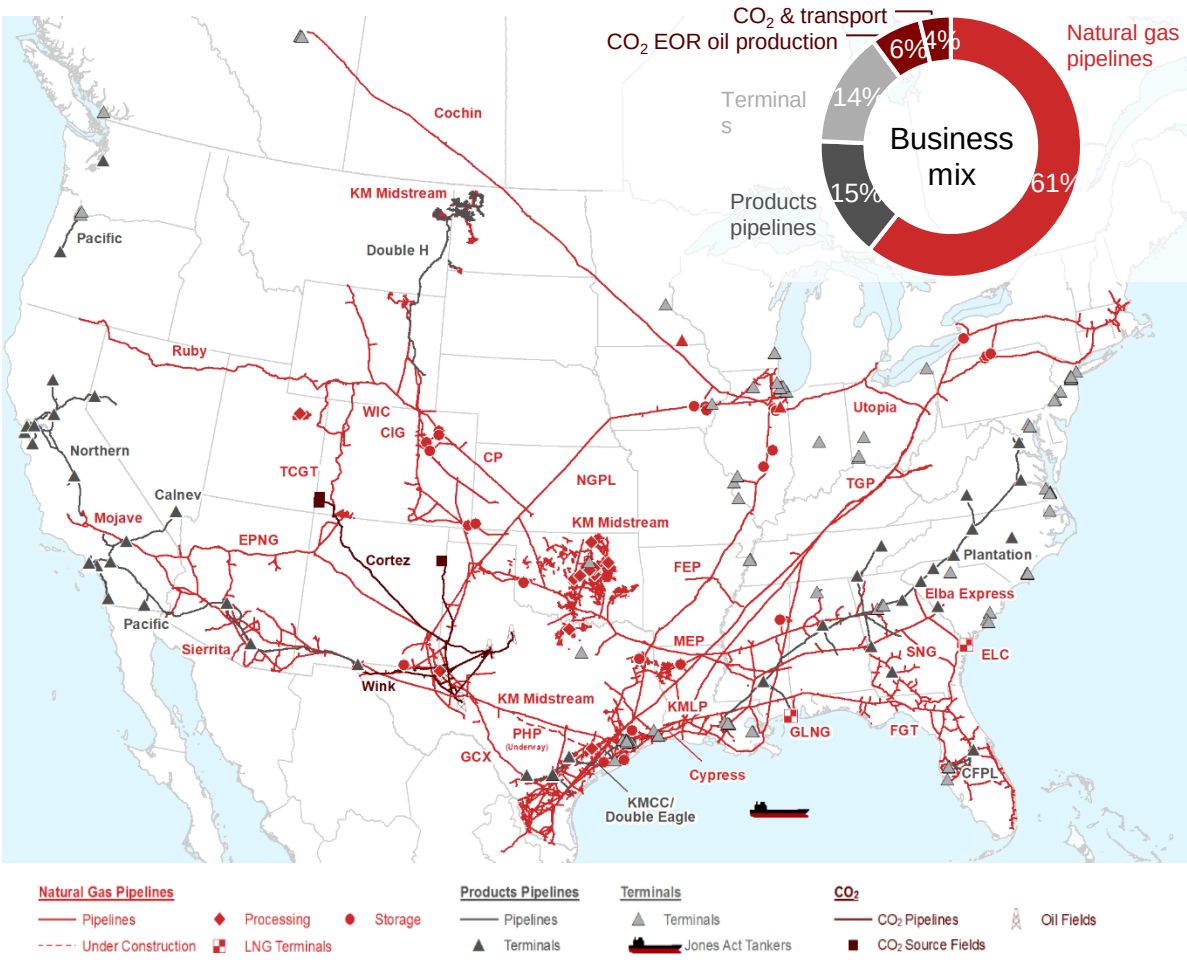
Largest independent terminal operator

- 157 terminals
- 16 Jones Act vessels

Largest transporter of CO_2

- Transport ~1.2 Bcfd of CO_2

Leading infrastructure provider
across multiple critical energy products



Note: Mileage and volumes are company-wide per 2019 budget. Business mix based on 2019 budgeted Adjusted Segment EBDA plus JV DD&A.

Committed to Being a Good Corporate Citizen

KINDER MORGAN

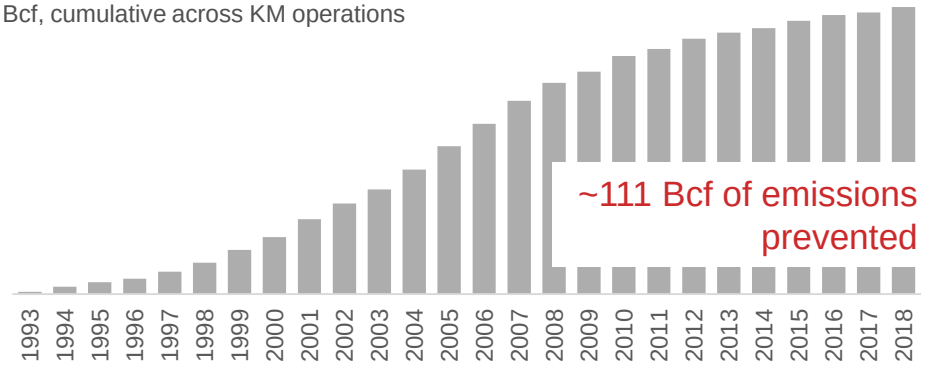
Long-standing commitment to safe operations and reduction of methane emissions

In large part due to replacing coal-fired electricity generation with natural gas, the U.S. has reduced emissions significantly

↓ 12 %	U.S. greenhouse gas emissions over the last 10 years
↓ 28 %	electricity generation greenhouse gas emissions over the last 10 years, despite an 8% population increase
↓ 16 %	U.S. methane emissions since 1990, despite a 50% increase in natural gas production

SUCCESSFUL METHANE EMISSIONS REDUCTIONS[a]

Bcf, cumulative across KM operations



SUSTAINALYTICS ESG RISK RATING[c]

#2 out of 163	Refiners and Pipelines (Industry Group)
#2 out of 91	Oil & Gas Storage and Transportation (Subindustry)

Our focus on ESG priorities

- 25+ years of commitment to reducing methane emissions, including ONE Future and EPA's Natural Gas STAR program
- Far exceeded methane emission intensity target of 0.31% for our natural gas operations with 0.02% in 2018, 7 years ahead of schedule
- Rated in top quartile of midstream sector for methane disclosures and quantitative methane targets by Environmental Defense Fund
- Currently outperforming the industry in 25 of 31 safety metrics tracked and updated monthly on our public website[b]

Source: EPA Inventory of U.S. Greenhouse Gas Emissions & Sinks: 1990-2017 (published 04/11/2019). Emissions reductions statistics refer to changes through 2017, the latest available. EIA for U.S. natural gas production.

a) Kinder Morgan's EPA Natural Gas STAR Summary Report (September 2019).

b) Based on Kinder Morgan metrics as of 9/30/2019 versus most applicable industry performance.

c) As of 6/18/2019.

(a) Long-standing commitment to safe operations and reduction of methane emissions

CO_2 Segment Overview

World class, fully-integrated assets | CO_2 source to crude oil production and takeaway in the Permian Basin

CO_2 & TRANSPORT

CO_2 Reserves	KMI Interest	NRI	Location	Remaining Deliverability	OGIP (tcf)
McElmo Dome	45%	37%	SW Colorado	20+ years	22.0
Doe Canyon	87%	68%	SW Colorado	10+ years	3.0
Bravo Dome[a]	11%	8%	NE New Mexico	10+ years	12.0

Pipelines	KMI Interest	Location	Capacity (mmcfpd)
Cortez	53%	McElmo Dome to Denver City	1,500
Bravo[a]	13%	Bravo Dome to Denver City	375
Central Basin (CB)	100%	Denver City to McCamey	700
Canyon Reef	97%	McCamey to Snyder	290
Centerline	100%	Denver City to Snyder	300
Pecos	95%	McCamey to Iraan	125
Eastern Shelf	100%	Snyder to Katz	110
Wink (crude)	100%	McCamey to Snyder to El Paso	145 mbbld

EOR OIL PROD

Crude Reserves[b]	KMI Interest	NRI	Location	OOIP (billion bbls)
SACROC	97%	83%	Permian Basin	2.8
Yates	50%	44%	Permian Basin	5.0
Katz	99%	83%	Permian Basin	0.2
Goldsmith	99%	87%	Permian Basin	0.5
Tall Cotton	100%	88%	Permian Basin	0.7

a) Not KM-operated.
b) In addition to KM's interests above, KM has a 22%, 51%, and 100% working interest in the Snyder gas plant, Diamond M gas plant and North Snyder gas plant, respectively.
c) 2019 budgeted Adjusted Segment EBDA plus JV DD&A. See Non-GAAP Financial Measures and Reconciliations.

CO_2 Source Assets

- CO_2 deliveries kicked off in 1984

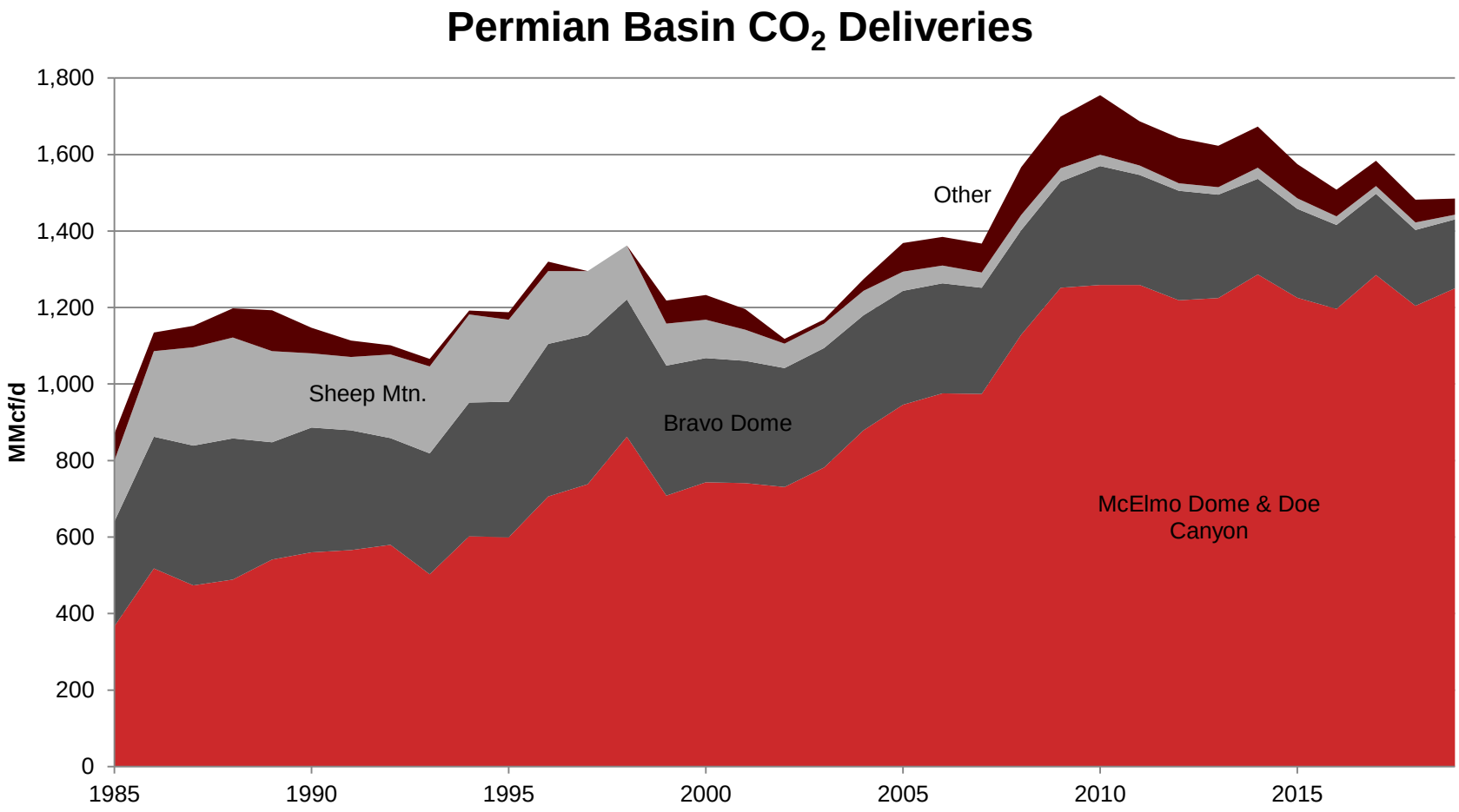
Kinder Morgan CO_2 Company

- Acquired Shell CO_2 in 2000
- Added EOR targets
  - SACROC - first commercial CO2 flood started by Chevron in 1973
  - Yates Field – various EOR processes employed
  - Tall Cotton – first greenfield ROZ development

- *Overall: 1.3 BCFD source CO_2, 55,000 BOPD, 21,000 BNGLPD 140,000 BOPD transport, 1.8 BCFD of recycle CO_2*

CO_2 Deliveries to Permian Basin

- CO_2 supply to the Permian over past 30 years demonstrates strong demand through oil price cycles



CO_2 Development and Market

- **Continued development of CO_2 sources needed to satisfy customer demand for existing and future floods**
  - Supply is available
  - Development offsets declines and adds to contract growth
  - Costs are increasing for wellbores, infrastructure
  - Regulations

- **Structure of CO2 contracts**
  - Indexed to oil price
  - Designed to cover costs

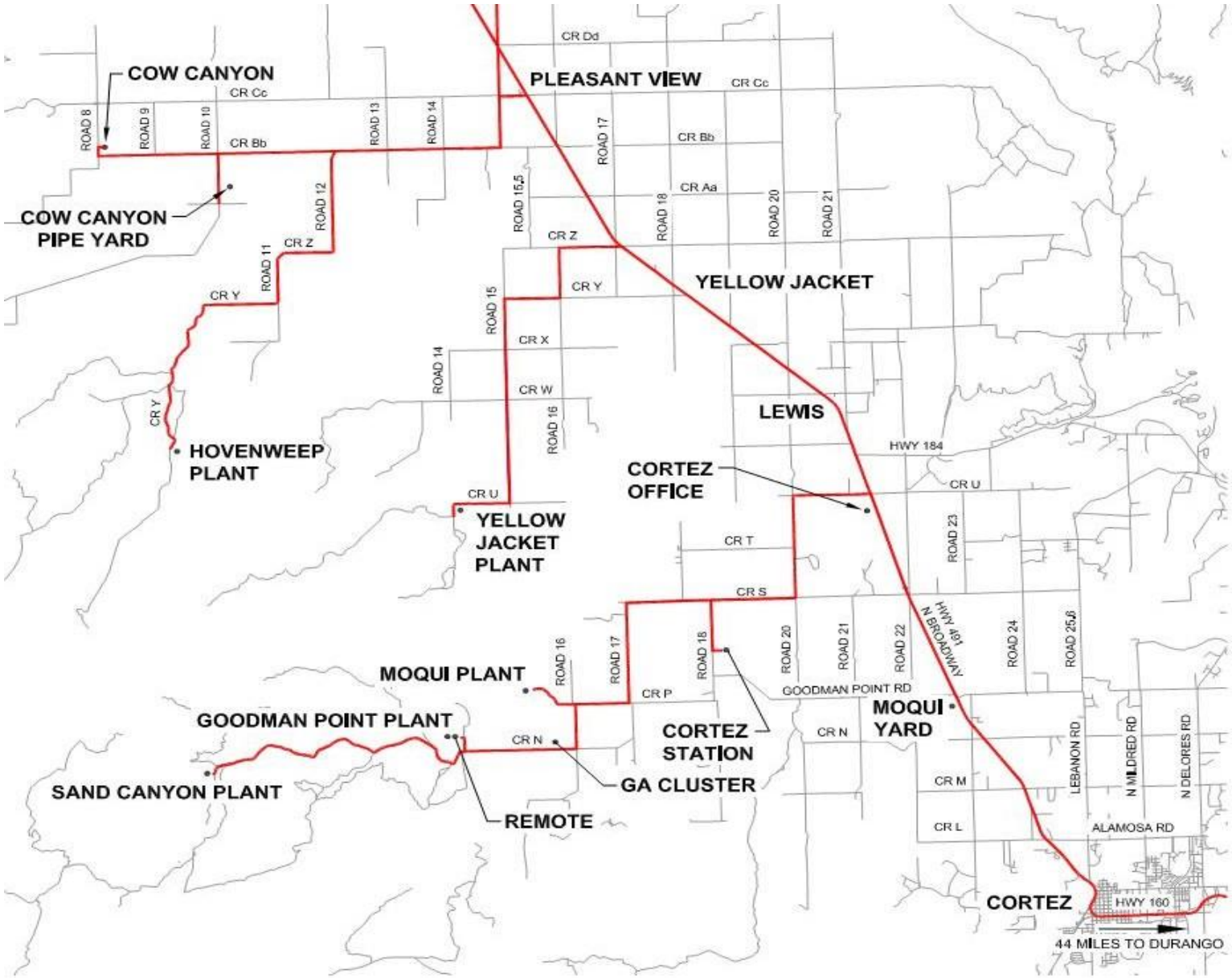
Capital Discipline

- **Development spend optimized based on contractual commitments**
  - Long term contracts needed to support these commitments
  - Short term flexibility limited
  - Important for good communications with customers

- **Development Capital from 2000-2019**
  - $7.8 B total segment
  - $1.5 B for Source and Transportation

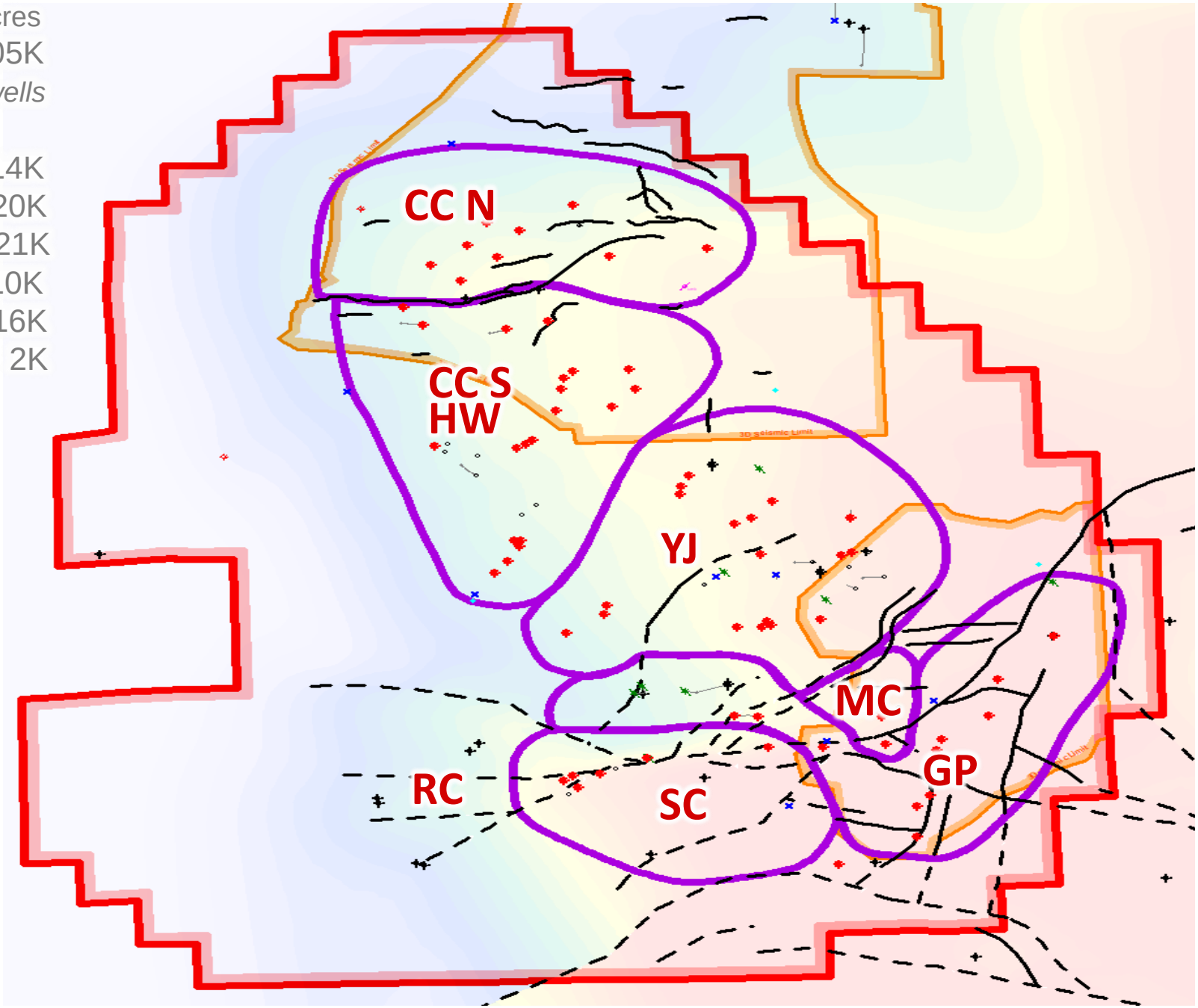
CO_2 Source Development

McElmo Dome - 205,000 acres

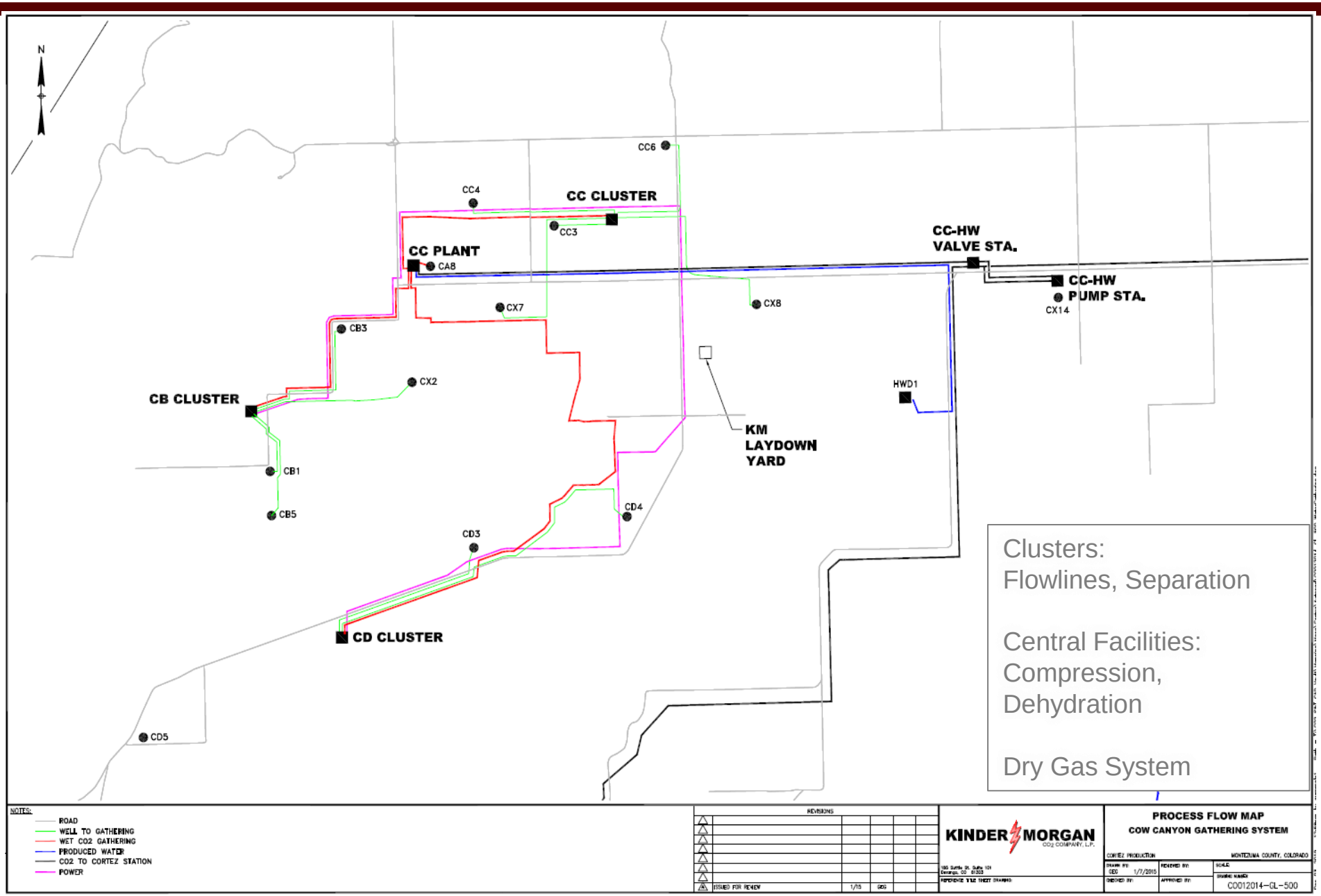


McElmo Dome Drainage Areas

	acres
Total Unit	205K
78 active wells	
CC-N	14K
HW & CC-S	20K
Yellow Jacket	21K
Sand Canyon	10K
Goodman Pt	16K
Moqui	2K



Cow Canyon Gathering System



CO_2 Source Development

- **Regulatory process requires significant planning time**
  - 2-4 year permitting process
  - Local, state, federal agencies
  - Coordinated efforts for proper alignment
  - Agency and public meetings
  - Requirements vary by impact area

EOR Development

- **Tall Cotton - Greenfield ROZ Development**
  - Good pay packages
  - Complex geology
  - Processing rate and sweep challenges
  - More data and understanding to optimize future development

- **ROZ Industry Development**
  - Significant oil targets
  - Future target with CCUS

Outlook and Staying Competitive

- **Economics for ROZ and conventional CO_2 Floods**
  - CAPEX and operating costs typically higher
  - Good subsurface understanding
  - Commitment for safe and reliable operations
  - IRR better where main pay exists, lower royalties, efficiencies

- **Future will drive more CO_2 capture which is good for EOR**

- **45Q will help close gap of economic hurdles but more needed**

- **Helium where viable helps economics**

Outlook and Staying Competitive

- **We need to continue developing and attracting CO2 – EOR expertise**

- **Specialized industry**
  - Great ideas, ingenuity, work ethic driving success
  - Complex problem solving
  - Diverse disciplines needed in our business

- **Competition with high profile plays and negative press**

Outlook and Staying Competitive

- **Industry environmental responsibility and sustainability compliments CCUS growth**
- **Kinder Morgan natural fit to support the future of CCUS**
- ***Technology, ingenuity of people needed to crack the code***

  ….. along with this Workshop and Conference

Thank You !

Questions ?

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