# Appendix 1. Input Data Forms for 192 Storage Assessment Units Used in the U.S. Geological Survey National Assessment of Geologic Carbon Dioxide Storage Resources

The completed input data forms in appendix 1 are arranged alphabetically by basin name and then numerically by storage assessment unit (SAU) code. A complete list of basin names, SAU names, and SAU codes is in table 1. The first page of the input form contains identification information and the assessment geologist's inputs; it has spaces for the assessment geologist's name, the date of assessment, and the SAU location and its relation to NOGA assessment units (AUs), if appropriate, along with any notes from the assessor. In the input forms in appendix 1, no entries are shown for the last two categories because the information about the NOGA AUs was lengthy for some SAUs and because there were no significant notes from the assessors. Information on the related NOGA AUs is in table 1. The second page contains allocation percentages of the SAU mean area to the States that are listed alphabetically and of the SAU area to five general land-ownership categories that are defined in the "Glossary" in this report: Federal lands, State lands, Tribal lands, private and other lands, and offshore areas. More details about the forms are in the report text and figure 1.

Assessment geologist:	E. Slucher				Date:	3/16/2011
Assessment region:	Alaska					
Province:	Alaska North	Slope			Number:	C5001
Basin:	Alaska North	Slope			Number:	C500101
Storage Assessment Unit (SAU):	Endicott Group	p - LCU Trunc	ation		Number:	C50010101
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	9,400	most likely:	11,200	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	49,000	most likely:	54,000	maximum:	59,000
(3) Mean total SAU thickness (ft):	minimum: _	800	most likely:	1,000	maximum:	1,200
(4) SAU water quality (check one):						
Most of the water in the SAU is salin	e (greater than	10,000 mg/L T	DS).			X
Water in this SAU is both saline and	fresh.					-
Most of the water in the SAU is fresh	(less than 10,00	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where \$	SAU pore wat	ter has more	than 10,000 mg	/L TDS):	
	minimum: _	0.90	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	280	most likely:	350	maximum:	420
(7) Mean porosity net porous interval (fraction):	minimum:	0.12	most likely:	0.21	maximum:	0.25
Buoyant Tra	apping Proba	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(e) (e)	minimum: _	500	most likely:	530	maximum:	14,000
Residual Tra	apping Proba	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.020	most likely:	200.00	maximum:	10,000

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Endicott	Groun -	I C.U	Truncation

### Number:

C50010101

### actions of the CALL to State

	Allocations of the SAU	to States		
Alaska		_contains	100	% of mean SAU area
		_contains		% of mean SAU area
		_contains		% of mean SAU area
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		_contains		% of mean SAU area
		_contains		% of mean SAU area
	of the SAU to General Land			S % of mean SAU area
State lands		_contain	8.5	% of mean SAU area
Tribal lands		_contain	0	% of mean SAU area
Private and other lands		_contain	0	% of mean SAU area
Offshore areas		contain	92	% of mean SAU area

Assessment geologist:	E. Slucher				Date:	3/16/2011
Assessment region:	Alaska					
Province:	Alaska North	Slope			Number:	C5001
Basin:	Alaska North				Number:	C500101
Storage Assessment Unit (SAU):	Endicott Grou	p - Kayak Sha	ile		Number:	C50010102
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	9,300	most likely:	11,500	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	329,000	most likely:	365,000	maximum:	402,000
(3) Mean total SAU thickness (ft):	minimum:	360	most likely:	460	maximum:	560
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fresh	fresh.					X
(5) Area fraction available for storage (generally, t	he area where minimum:	-	ter has more most likely:	_	J/L TDS): maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	137	most likely:	175	maximum:	213
(7) Mean porosity net porous interval (fraction):	minimum:	0.08	most likely:	0.11	maximum:	0.18
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	390	most likely:	420	maximum:	11,300
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.020	most likely:	30.00	maximum:	1,200

Endicott Group -	Kayak Shale
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### Number:

C50010102

### Allocations of the SAU to States

Allo	ocations of the SAO to States
Alaska	contains 100 % of mean S
	contains % of mean S
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Allocations of the S	SAU to General Land-Ownership Categories contain<1.0_ % of mean S
State lands	contain69 % of mean S
Tribal lands	contain0 % of mean S
Private and other lands	contain1.1 % of mean S
Offshore areas	contain 30 % of mean S

Assessment geologist:	T. Roberts-As	hby			Date:	3/16/2011
Assessment region:	Alaska					
Province:	Alaska North	Slope			Number:	C5001
Basin:	Alaska North	Slope			Number:	C500101
Storage Assessment Unit (SAU):	Lower Ellesm	erian			Number:	C50010103
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft > 13,000 ft	t	х
(1) SAU depth from surface (ft):	minimum:	5,400	most likely:	9,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	8,121,000	most likely:	9,023,000	maximum:	9,925,000
(3) Mean total SAU thickness (ft):	minimum:	1,000	most likely:	1,500	maximum:	2,000
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and	_	10,000 mg/L T	DS).			x
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t		-		_		
	minimum:	0.80	most likely:	0.90	maximum:	0.95
(6) Mean thickness net porous interval (ft):	minimum:	400	most likely:	600	maximum:	800
(7) Mean porosity net porous interval (fraction):	minimum:	0.05	most likely:	0.10	maximum:	0.18
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	0	most likely:	600	maximum:	460,000
Residual Tra	apping Prob	abilistic Ca	lculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.002	most likely:	0.50	maximum:	850

Offshore areas

Lower Ellesmerian

Number:

11 % of mean SAU area

C50010103

### Allocations of the SAU to States

Alaska	contains	100	% of mean SAU a
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	contains		% of mean SAU
Allocations of the S	SAU to General Land-Ownership Ca	ategorie	
			% of mean SAU a S % of mean SAU a
	SAU to General Land-Ownership Ca	52	s
Federal lands	SAU to General Land-Ownership Ca contain	52 32	S % of mean SAU

Assessment region:  Province:  Basin:  Alaska North Slope Number:  Storage Assessment Unit (SAU):  SAU relationship to NOGA AU:  Notes from assessor:	C5001 C500101
Basin: Storage Assessment Unit (SAU):  SAU relationship to NOGA AU:  Notes from assessor:	
Storage Assessment Unit (SAU):  SAU relationship to NOGA AU:  Notes from assessor:	C500101
SAU relationship to NOGA AU:  Notes from assessor:	
Notes from assessor:	C50010104
<u> </u>	
Characteristics of the Storage Assessment Unit	
Lines 1-9 concern data for the SAU at depths of (check one): 3,000-13,000 ft	
> 13,000 ft	Х
(1) SAU depth from surface (ft): minimum: 13,000 most likely: 19,000 maximum:	27,000
(2) Area of the SAU (acres): minimum: 25,710,000 most likely: 28,567,000 maximum:	31,424,000
(3) Mean total SAU thickness (ft): minimum: 2,400 most likely: 2,900 maximum:	3,600
(4) SAU water quality (check one):	
Most of the water in the SAU is saline (greater than 10,000 mg/L TDS).  Water in this SAU is both saline and fresh.	X
Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).	
(5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):	
minimum: 0.95 most likely: 0.95 maximum:	1.00
(6) Mean thickness net porous interval (ft): minimum: 480 most likely: 580 maximum:	720
(7) Mean porosity net porous interval (fraction): minimum: 0.03 most likely: 0.06 maximum:	0.10
Buoyant Trapping Probabilistic Calculation Inputs	
(8) Buoyant trapping pore volume (MMbbl):	
minimum: 400 most likely: 3,750 maximum:	1,000,000
Residual Trapping Probabilistic Calculation Inputs	
(9) Permeability of the net porous interval (mD): minimum: 0.002 most likely: 0.50 maximum:	8

Storage Assessment Unit (SAU)	
	r

Alaska

(1)

(2)

(3)

(4)

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(7)

(8)

(5)

Offshore areas

ın Deep	Number:	C50010104
e SAU to States		
contains	100 % of mean	SAU area
contains	% of mean	SAU area
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contains	% of mean	SAU area
contains	% of mean	SAU area
contains	% of mean	SAU area
contains	% of mean	SAU area
contains	% of mean	SAU area
al Land-Ownership Cateç	jories	
contain	65 % of mean	SAU area
	contains	contains 100 % of mean contains

contain

2.6 % of mean SAU area

# (1) Federal lands contain 65 % of mean SAU area (2) State lands contain 20 % of mean SAU area (3) Tribal lands contain 12 % of mean SAU area (4) Private and other lands contain < 1.0 % of mean SAU area

Assessment geologist:	T. Roberts-As	hby			Date:	3/16/2011
Assessment region:	Alaska					
Province:	Alaska North	Slope			Number:	C5001
Basin:	Alaska North Slope				Number:	C500101
Storage Assessment Unit (SAU):	Lower Ellesmo	erian - LCU Tr	uncation		Number:	C50010105
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	9,000	most likely:	10,000	maximum:	11,800
(2) Area of the SAU (acres):	minimum:	221,000	most likely:	246,000	maximum:	271,000
(3) Mean total SAU thickness (ft):	minimum:	1,100	most likely:	1,300	maximum:	1,700
(4) SAU water quality (check one):						
Most of the water in the SAU is salin	_	10,000 mg/L T	DS).			X
Water in this SAU is both saline and						
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wat	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	0.90	most likely:	0.90	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum: _	770	most likely:	1,050	maximum:	1,470
(7) Mean porosity net porous interval (fraction):	minimum: _	0.10	most likely:	0.15	maximum:	0.25
Buoyant Tra	apping Proba	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
· · · · · · · · · · · · · · · · · · ·	minimum: _	0	most likely:	50	maximum:	23,000
Residual Tra	apping Prob	abilistic Ca	lculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	50.00	maximum:	850

Offshore areas

13 % of mean SAU area

### Allocations of the SAU to States

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Alaska	contains	100 % of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
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	contains	% of mean SAU a
Allocations of the S	AU to General Land-Ownership Cate	gories
	AU to General Land-Ownership Cate	% of mean SAU a gories  < 1.0 % of mean SAU a  87 % of mean SAU a
Federal lands	AU to General Land-Ownership Cate	gories < 1.0 % of mean SAU a

Assessment geologist:	M. Merrill, C. Doolan			Date:	3/16/2011	
Assessment region:	Alaska					
Province:	Alaska North Slope			Number:	C5001	
Basin:	Alaska North Slope			Number:	C500101	
Storage Assessment Unit (SAU):	Beaufortian a	and Upper Elle	smerian		Number:	C50010106
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 ft > 13,000 ft	:	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,400	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	14,500,000	most likely:	17,209,000	maximum:	18,000,000
(3) Mean total SAU thickness (ft):	minimum:	2,000	most likely:	3,000	maximum:	4,000
(4) SAU water quality (check one):						
Most of the water in the SAU is saling Water in this SAU is both saling and	_	10,000 mg/L T	DS).			x
Most of the water in the SAU is fresh		000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	-	most likely:	0.85	maximum:	0.95
(6) Mean thickness net porous interval (ft):	minimum:	125	most likely:	225	maximum:	325
(7) Mean porosity net porous interval (fraction):	minimum:	0.09	most likely:	0.13	maximum:	0.17
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
to, buoyant trapping pore volume (withbul).	minimum:	30,000	most likely:	35,000	maximum:	253,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.050	most likely:	50.00	maximum:	1,000

Offshore areas

9.0 % of mean SAU area

		States		
Alaska	c	ontains	100	% of mean SAU
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	ns of the SAU to General Land-(	Ownershi		s
	ns of the SAU to General Land-(			% of mean SAU S % of mean SAU
	ns of the SAU to General Land-(	Ownershi	59	S % of mean SAU
Federal lands	ns of the SAU to General Land-C	Ownershi contain		s

Assessment geologist:	J. Covault				Date:	3/17/2011
Assessment region:	Alaska					
Province:	Alaska North Slope				Number:	C5001
Basin:	Alaska North	Slope			Number:	C500101
Storage Assessment Unit (SAU):	Lower Torok F	ormation			Number:	C50010107
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	8,000	maximum:	11,000
(2) Area of the SAU (acres):	minimum:	21,744,000	most likely:	24,160,000	maximum:	26,576,000
(3) Mean total SAU thickness (ft):	minimum:	2,000	most likely:	3,500	maximum:	5,000
(4) SAU water quality (check one):						
Most of the water in the SAU is salin	e (greater than	10,000 mg/L T	DS).			X
Water in this SAU is both saline and						
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wat	ter has more	than 10,000 mg	J/L TDS):	
	minimum:	0.60	most likely:	0.90	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum: _	1,000	most likely:	1,800	maximum:	2,500
(7) Mean porosity net porous interval (fraction):	minimum: _	0.08	most likely:	0.11	maximum:	0.17
Buoyant Tra	apping Proba	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
to, sasyant aupping pole volunie (wholse).	minimum:	4,900	most likely:	130,000	maximum:	13,000,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.002	most likely:	1.00	maximum:	80

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Storage	Assessment	Unit	(SAU):

Offshore areas

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Number:

2.3 % of mean SAU area

C50010107

### Allocations of the SAU to States

Alaska	contains	100 % of mean SAU a
	contains	% of mean SAU a
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Endonellanda	SAU to General Land-Ownership C	% of mean SAU a ategories 73 % of mean SAU a
Endonellanda	SAU to General Land-Ownership C	ategories
Federal lands	SAU to General Land-Ownership C	ategories  73 % of mean SAU

Assessment geologist:	J. Covault				Date:	3/17/2011
Assessment region:	Alaska					
Province:	Alaska North Slope				Number:	C5001
Basin:	Alaska North	Slope			Number:	C500101
Storage Assessment Unit (SAU):	Upper Torok F	ormation			Number:	C50010108
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteris	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (ch	neck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	5,000	most likely:	8,000	maximum:	10,000
(2) Area of the SAU (acres):	minimum:	3,330,000	most likely:	3,700,000	maximum:	4,070,000
(3) Mean total SAU thickness (ft):	minimum:	1,000	most likely:	2,000	maximum:	3,000
(4) SAU water quality (check one):						
Most of the water in the SAU is saline	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and f	resh.					Х
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, the	ne area where	SAU pore wat	ter has more	than 10,000 mg	/L TDS):	
	minimum: _	0.75	most likely:	0.90	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	500	most likely:	1,000	maximum:	1,500
(7) Mean porosity net porous interval (fraction):	minimum:	0.08	most likely:	0.11	maximum:	0.17
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(10, 2 - 2 ) - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	minimum:	2,300	most likely:	12,000	maximum:	1,100,000
Residual Tra	pping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.002	most likely:	1.00	maximum:	80

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Storage	Assessment	Unit	(SAU):

Offshore areas

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U	ober	Torok	Forma	ation

### Number:

0 % of mean SAU area

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Alaska	contains	100	% of mean SAU
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			s
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Federal lands	the SAU to General Land-Ownership C	9.2	S % of mean SAU

Assessment geologist:	J. Covault				Date:	3/17/2011
Assessment region:	Alaska					
Province:	Alaska North	Slope			Number:	C5001
Basin:	Alaska North				Number:	C500101
Storage Assessment Unit (SAU):	Nanushuk For	mation			Number:	C50010109
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	istics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft	İ	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:		maximum:	6,600
(2) Area of the SAU (acres):	minimum:	1,595,000	most likely:	1,772,000	maximum:	1,949,000
(3) Mean total SAU thickness (ft):	minimum:	190	most likely:	540	maximum:	890
(4) SAU water quality (check one):  Most of the water in the SAU is salin	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					Х
Most of the water in the SAU is fresh	ı (less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	the area where	SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	-	most likely:	0.85	maximum:	0.95
(6) Mean thickness net porous interval (ft):	minimum:	115	most likely:	325	maximum:	535
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.14	maximum:	0.18
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum: _	870	most likely:	4,500	maximum:	810,000
Residual Tr	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum: _	0.020	most likely:	10.00	maximum:	800

Storage	Assessment	Hnit	1001	ı١
Storage	Assessment	UIIIL	ISAU	".

Offshore areas

Nanushuk Formation					
	Man	uchu	l/ Ea	rmatia	n

Number:

19 % of mean SAU area

C50010109

Alaska	contains	100	% of mean SAL
	contains		% of mean SAL
	contains		% of mean SAL
	contains		% of mean SAL
	contains		% of mean SAU
	contains		% of mean SAL
	contains		% of mean SAL
	contains		0/ 6 041
	contains		% of mean SAL
Allocations of t	tontains he SAU to General Land-Ownership		% of mean SAL S % of mean SAL
	he SAU to General Land-Ownership	16	s
Federal lands	he SAU to General Land-Ownership	16 54	<b>S</b> % of mean SAU

Assessment geologist:	W. Craddock				Date:	3/17/2011
Assessment region:	Alaska					
Province:	Alaska North S	lope			Number:	C5001
Basin:	Alaska North S	lope			Number:	C500101
Storage Assessment Unit (SAU):	Tuluvak Format	tion			Number:	C50010110
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the S	torage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	4,100	maximum:	5,200
(2) Area of the SAU (acres):	minimum:	798,000	most likely:	887,000	maximum:	976,000
(3) Mean total SAU thickness (ft):	minimum:	500	most likely:	600	maximum:	700
(4) SAU water quality (check one):						
Most of the water in the SAU is salin		0,000 mg/L T	DS).			X
Water in this SAU is both saline and Most of the water in the SAU is fresh		n ma/L TDS)				
Most of the water in the SAO is fresh	1 (1622 111411 10,000	Jilig/L IDS).				
(5) Area fraction available for storage (generally, t	he area where S	AU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	0.50	most likely:	0.90	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	300	most likely:	360	maximum:	420
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.15	maximum:	0.20
Buoyant Tra	apping Proba	bilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
to, baoyant trapping pore volume (wiwibbi).	minimum:	440	most likely:	2,300	maximum:	80,000
Residual Tra	apping Proba	bilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.050	most likely:	1.00	maximum:	1,000

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Number: C50010110

### Allocations of the SAU to States

AllC	ocations of the SAU to States	
Alaska	contains	100 % of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	SAU to General Land-Ownership C	ategories  11 % of mean SAU area
State lands	contain	87 % of mean SAU area
Tribal lands	contain	2.9 % of mean SAU area
Private and other lands	contain	0 % of mean SAU area
Offshore areas	contain	Ο % of mean SAU area

Assessment geologist:	W. Craddock				Date:	3/17/2011
Assessment region:	Alaska					
Province:	Alaska North S	lope			Number:	C5001
Basin:	Alaska North S	lope			Number:	C500101
Storage Assessment Unit (SAU):	Lower Seabee	Formation			Number:	C50010111
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the S	torage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	4,800	most likely:	5,800	maximum:	6,800
(2) Area of the SAU (acres):	minimum:	207,000	most likely:	230,000	maximum:	253,000
(3) Mean total SAU thickness (ft):	minimum:	350	most likely:	425	maximum:	500
(4) SAU water quality (check one):						
Most of the water in the SAU is salin		0,000 mg/L T	DS).			X
Water in this SAU is both saline and						
Most of the water in the SAU is fresh	ı (less than 10,000	) mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where S	AU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	0.70	most likely:	0.90	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	175	most likely:	210	maximum:	250
(7) Mean porosity net porous interval (fraction):	minimum:	0.14	most likely:	0.18	maximum:	0.21
Buoyant Tra	apping Proba	bilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
to, buoyant trapping pore volume (wiwibbi).	minimum:	140	most likely:	790	maximum:	13,000
Residual Tr	apping Proba	bilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.002	most likely:	0.50	maximum:	300

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(2)

(3)

(4)

(5)

State lands

Tribal lands

Offshore areas

Private and other lands

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Number:

100 % of mean SAU area

0 % of mean SAU area

0 % of mean SAU area

0 % of mean SAU area

C50010111

Allocations of the SAU to States							
Alaska	contains	100 % of mean SAU area					
	contains	% of mean SAU area					
	contains	% of mean SAU area					
	contains	% of mean SAU area					
	contains	% of mean SAU area					
	contains	% of mean SAU area					
	contains	% of mean SAU area					
	contains	% of mean SAU area					
Allocations of the SAU to General Land-Ownership Categories							
Federal lands	contain	0 % of mean SAU area					

contain

contain

contain

Assessment geologist:	R. Drake				Date:	3/17/2011
Assessment region:	Alaska					
Province:	Alaska North	Slope			Number:	C5001
Basin:	Alaska North	•			Number:	C500101
Storage Assessment Unit (SAU):	Middle Schra	der Bluff Forn	nation		Number:	C50010112
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	5,275	maximum:	7,600
(2) Area of the SAU (acres):	minimum:	1,220,000	most likely:	1,355,000	maximum:	1,491,000
(3) Mean total SAU thickness (ft):	minimum:	50	most likely:	100	maximum:	150
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fresh	fresh.					x
(a)					# <b>TD</b> 0\	
(5) Area fraction available for storage (generally, t	ne area where minimum:		ter nas more most likely:	0.90	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	30	most likely:	60	maximum:	90
(7) Mean porosity net porous interval (fraction):	minimum:	0.14	most likely:	0.19	maximum:	0.24
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	125	most likely:	1,000	maximum:	22,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.300	most likely:	50.00	maximum:	3,000

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### Allocations of the SAU to States

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Alaska	contains 100 % of mean SAU a
	contains % of mean SAU a
	contains % of mean SAU a
	contains % of mean SAU a
	contains % of mean SAU a
	contains % of mean SAU a
	contains % of mean SAU a
	contains % of mean SAU a
Allocations of the S	SAU to General Land-Ownership Categories  contain < 1.0 % of mean SAU a
State lands	contain99_ % of mean SAU a
Tribal lands	contain0 % of mean SAU a
Private and other lands	contain0 % of mean SAU a
Offshore areas	contain 0 % of mean SAU a

Assessment geologist:	W. Craddock				Date:	3/17/2011
Assessment region:	Alaska					
Province:	Alaska North S	lope			Number:	C5001
Basin:	Alaska North S	lope			Number:	C500101
Storage Assessment Unit (SAU):	Canning Forma	tion			Number:	C50010113
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the S	torage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	3,900	maximum:	4,850
(2) Area of the SAU (acres):	minimum:	285,000	most likely:	317,000	maximum:	349,000
(3) Mean total SAU thickness (ft):	minimum:	250	most likely:	400	maximum:	550
(4) SAU water quality (check one):  Most of the water in the SAU is salin	o (groator than 1	0 000 mg/L T	.USI)			v
Water in this SAU is both saline and		0,000 mg/L 1	D3).			X
Most of the water in the SAU is fresh		) mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where S	AU pore wa	ter has more	than 10.000 mg	/L TDS):	
(-,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	minimum:	-	most likely:	_	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	130	most likely:	200	maximum:	270
(7) Mean porosity net porous interval (fraction):	minimum:	0.12	most likely:	0.15	maximum:	0.18
Buoyant Tra	apping Proba	bilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(	minimum:	190	most likely:	1,100	maximum:	1,700
Residual Tra	apping Proba	bilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	0.50	maximum:	200

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### Number:

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### Allocations of the SAU to States

Alli	ocations of the SAU to States
Alaska	contains 100 % of mean SAU are
	contains % of mean SAU are
	contains % of mean SAU are
	contains % of mean SAU are
	contains % of mean SAU are
	contains % of mean SAU are
	contains % of mean SAU are
	contains % of mean SAU are
Allocations of the Federal lands	SAU to General Land-Ownership Categoriescontain0 % of mean SAU are
State lands	contain100_ % of mean SAU are
Tribal lands	contain0 % of mean SAU are
Private and other lands	contain0 % of mean SAU are
Offshore areas	contain 0 % of mean SAU are

Assessment geologist:	R. Drake				Date:	3/17/2011
Assessment region:	Alaska					
Province:	Alaska North	Slope			Number:	C5001
Basin:	Alaska North				Number:	C500101
Storage Assessment Unit (SAU):	Staines Tong	ue			Number:	C50010114
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	5,501	maximum:	11,235
(2) Area of the SAU (acres):	minimum:	1,769,000	most likely:	1,966,000	maximum:	2,163,000
(3) Mean total SAU thickness (ft):	minimum:	1,500	most likely:	2,000	maximum:	2,500
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fresh	fresh.					X
(5) Area fraction available for storage (generally, t	he area where minimum:	-	ter has more most likely:	0.90	g/L TDS): maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	675	most likely:	900	maximum:	1,125
(7) Mean porosity net porous interval (fraction):	minimum:	0.13	most likely:	0.18	maximum:	0.23
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	5	most likely:	5,000	maximum:	500,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.300	most likely:	50.00	maximum:	3,000

Storage Assessment Unit (SAU)	
	r

Offshore areas

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### Number:

25 % of mean SAU area

C50010114

	llocations of the SAU to States	
Alaska	contains	100 % of mean SA
	contains	% of mean SA
	contains	% of mean SA
	contains	% of mean SAI
	contains	% of mean SAI
	contains	% of mean SAI
	contains	% of mean SAI
	contains	% of mean SAI
Allocations of the	e SAU to General Land-Ownership C	Categories
	e SAU to General Land-Ownership C	Categories  8.9 % of mean SAI
		-
Federal lands	contain	8.9 % of mean SAI

Assessment geologist:	P. Warwick, R. Drake			Date:	3/8/2012	
Assessment region:	Western Mid-	-Continent				
Province:	Anadarko and	d Southern Ok	lahoma Basi	ns	Number:	C5058
Basin:	Anadarko and			ns	Number:	C505801
Storage Assessment Unit (SAU):	Lower Paleoz	oic Composite	Э		Number:	C50580101
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	9,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	5,295,000	most likely:	5,883,000	maximum:	6,471,000
(3) Mean total SAU thickness (ft):	minimum:	2,000	most likely:	3,000	maximum:	4,500
(4) SAU water quality (check one):  Most of the water in the SAU is salin Water in this SAU is both saline and	fresh.					x
Most of the water in the SAU is fresh	ı (less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	0.90	most likely:	0.95	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	200	most likely:	300	maximum:	450
(7) Mean porosity net porous interval (fraction):	minimum:	0.05	most likely:	0.10	maximum:	0.15
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	1,030	most likely:	1,210	maximum:	164,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	500.00	maximum:	2,500
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Lower F	Paleozoic	Composite
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# Allocations of the SAU to States

Alloc	ations of the SAU to States	
Oklahoma	contains	80 % of mean SAU are
Texas	contains	20 % of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
Allocations of the SA	AU to General Land-Ownership C	
	AU to General Land-Ownership C	ategories
Federal lands	AU to General Land-Ownership C	ategories  1.3 % of mean SAU are  0 % of mean SAU are
Federal lands State lands	AU to General Land-Ownership C  contain  contain	ategories  1.3 % of mean SAU are

Assessment geologist:	P. Warwick, R. Drake			Date:	3/8/2012	
Assessment region:	Western Mid	-Continent				
Province:	Anadarko and Southern Oklahoma Basins			Number:	C5058	
Basin:	Anadarko an	d Southern Ok	lahoma Basi	ns	Number:	C505801
Storage Assessment Unit (SAU):	Lower Paleoz	oic Composite	Deep		Number:	C50580102
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 f	t	
				> 13,000 ft		x
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	17,000	maximum:	30,000
(2) Area of the SAU (acres):	minimum:	5,234,000	most likely:	5,815,000	maximum:	6,397,000
(3) Mean total SAU thickness (ft):	minimum:	2,500	most likely:	3,500	maximum:	5,500
(4) SAU water quality (check one):						
Most of the water in the SAU is saline	_	10,000 mg/L T	DS).			X
Water in this SAU is both saline and t						
Most of the water in the SAU is fresh	(less than 10,0	000 mg/L TDS).				
(5) Area fraction available for storage (generally, the	ne area where	SAU pore wat	er has more	than 10,000 mg	/L TDS):	
	minimum:	-	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	250	most likely:	350	maximum:	550
(7) Mean porosity net porous interval (fraction):	minimum:	0.03	most likely:	0.06	maximum:	0.10
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(O) Durant transition in any column (MANALLI).						
(8) Buoyant trapping pore volume (MMbbl):	minimum:	100	most likely:	180	maximum:	11,000
Residual Tra	apping Prob	abilistic Ca	lculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.001	most likely:	10.00	maximum:	100

### Allocations of the SAII to States

Allo	cations of the SAU to States	
Oklahoma	contains	83 % of mean SAU area
Texas	contains	17 % of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
Endoughloods	SAU to General Land-Ownership C	4.8 % of mean SAU area
State lands	contain	< 1.0 % of mean SAU area
Tribal lands	contain	0 % of mean SAU area
Private and other lands	contain	95 % of mean SAU area
Offshore areas	contain	0 % of mean SAU area

Assessment geologist:	S. Brennan				Date:	3/8/2012
Assessment region:	Western Mid-Continent					
Province:	Anadarko and Southern Oklahoma Basins				Number:	C5058
Basin:	Anadarko and Southern Oklahoma Basins			Number:	C505801	
Storage Assessment Unit (SAU):	Hunton Group	and Misener	Sandstone		Number:	C50580103
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	Storage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	7,011,000	most likely:	7,790,000	maximum:	8,569,000
(3) Mean total SAU thickness (ft):	minimum:	150	most likely:	250	maximum:	350
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fres	fresh.					x
(F) A confirmation with the formation of formation	th	<b>NALL</b>	b	41 10 000	// TDC\-	
(5) Area fraction available for storage (generally,	minimum:	-	most likely:	_		1.00
(6) Mean thickness net porous interval (ft):	minimum: _	60	most likely:	110	maximum:	180
(7) Mean porosity net porous interval (fraction):	minimum: _	0.06	most likely:	0.08	maximum:	0.10
Buoyant Tr	apping Proba	bilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum: _	420	most likely:	560	maximum:	14,000
Residual Tr	apping Proba	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum: _	0.010	most likely:	10.00	maximum:	120

Offshore areas

\_\_\_\_\_0 % of mean SAU area

Oklahoma	contains	73 % of mean SAU ar
Texas	contains	27 % of mean SAU ar
	contains	% of mean SAU ar
	contains	% of mean SAU ar
	contains	% of mean SAU ar
	contains	% of mean SAU ar
	contains	% of mean SAU ar
	contains	% of mean SAU ar
	SAU to General Land-Ownership C	
Federal lands		ategories
Allocations of the Federal lands State lands Tribal lands	contain	ategories < 1.0 % of mean SAU ar

(2) Area of the SAU (acres): (3) Mean total SAU thickness (ft): (4) SAU water quality (check one):  Most of the water in the SAU is saline (greater than 10,000 mg/L TDS).  Water in this SAU is both saline and fresh.  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum:  1.00 most likely:  1.00 maximum:  1.00 most likely:  230 maximum:  320  (6) Mean thickness net porous interval (ft):  minimum:  140 most likely:  230 maximum:  320  Buoyant Trapping Probabilistic Calculation Inputs	Assessment geologist:	S. Brennan			Date:	3/8/2012	
Anadarko and Southern Oklahoma Basins   Number:   C505801	Assessment region:	Western Mid	-Continent				
Notes from assessor:	Province:	Anadarko and Southern Oklahoma Basins			Number:	C5058	
SAU relationship to N0GA AU:    Characteristics of the Storage Assessment Unit	Basin:					Number:	C505801
Characteristics of the Storage Assessment Unit  Lines 1-9 concern data for the SAU at depths of (check one):  (1) SAU depth from surface (ft):  minimum:  3,000 most likely:  18,000 maximum:  29,000  (2) Area of the SAU (acres):  minimum:  350 most likely:  Most of the water in the SAU is saline (greater than 10,000 mg/L TDS).  Water in this SAU is both saline and fresh.  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum:  1.00 most likely:  1.00 maximum:  1.00 most likely:  230 maximum:  1.00 most likely:  230 maximum:  320  (6) Mean thickness net porous interval (ft):  minimum:  140 most likely:  230 maximum:  321  (7) Mean porosity net porous interval (fraction):  minimum:  0.06 most likely:  0.08 maximum:  0.10	Storage Assessment Unit (SAU):	Hunton Group	and Misener	Sandstone I	Deep	Number:	C50580104
Characteristics of the Storage Assessment Unit  Lines 1-9 concern data for the SAU at depths of (check one):  (1) SAU depth from surface (ft):  (2) Area of the SAU (acres):  (3) Mean total SAU thickness (ft):  (4) SAU water quality (check one):  Most of the water in the SAU is saline (greater than 10,000 mg/L TDS).  Water in this SAU is both saline and fresh.  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum:  1.00  most likely:  1.00  maximum:  1.00  most likely:  230  maximum:  1.00  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS):  minimum:  1.00  most likely:  230  maximum:  1.00  Maximum:  1.00  Most likely:  230  maximum:  320  (6) Mean thickness net porous interval (ft):  minimum:  0.06  most likely:  0.08  maximum:  0.10  Buoyant Trapping Probabilistic Calculation Inputs	SAU relationship to NOGA AU:						
Lines 1-9 concern data for the SAU at depths of (check one):  (1) SAU depth from surface (ft): minimum: 13,000 most likely: 18,000 maximum: 29,000 (2) Area of the SAU (acres): minimum: 3,717,000 most likely: 4,130,000 maximum: 4,543,000 (3) Mean total SAU thickness (ft): minimum: 350 most likely: 500 maximum: 650 (4) SAU water quality (check one):  Most of the water in the SAU is saline (greater than 10,000 mg/L TDS).  Water in this SAU is both saline and fresh.  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum: 1.00 most likely: 1.00 maximum: 1.00 maxim	Notes from assessor:						
SAU depth from surface (ft): minimum: 13,000 most likely: 18,000 maximum: 29,000 (2) Area of the SAU (acres): minimum: 3,717,000 most likely: 4,130,000 maximum: 4,543,000 (3) Mean total SAU thickness (ft): minimum: 350 most likely: 500 maximum: 650 (4) SAU water quality (check one):	Characteri	stics of the	Storage As	ssessmen	t Unit		
(1) SAU depth from surface (ft): minimum: 13,000 most likely: 18,000 maximum: 29,000 (2) Area of the SAU (acres): minimum: 3,717,000 most likely: 4,130,000 maximum: 4,543,000 (3) Mean total SAU thickness (ft): minimum: 350 most likely: 500 maximum: 650 (4) SAU water quality (check one):  Most of the water in the SAU is saline (greater than 10,000 mg/L TDS).  Water in this SAU is both saline and fresh.  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum: 1.00 most likely: 1.00 maximum: 1.00 maximum: 320 (6) Mean thickness net porous interval (ft): minimum: 140 most likely: 230 maximum: 320 (7) Mean porosity net porous interval (fraction): minimum: 0.06 most likely: 0.08 maximum: 0.10 (8) Buoyant Trapping Probabilistic Calculation Inputs	Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 ft	t	
(2) Area of the SAU (acres): minimum: 3,717,000 most likely: 4,130,000 maximum: 4,543,000 (3) Mean total SAU thickness (ft): minimum: 350 most likely: 500 maximum: 650 (4) SAU water quality (check one):  Most of the water in the SAU is saline (greater than 10,000 mg/L TDS).  Water in this SAU is both saline and fresh.  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum: 1.00 most likely: 1.00 maximum: 1.00 maximum: 320 (6) Mean thickness net porous interval (ft): minimum: 140 most likely: 230 maximum: 320 (7) Mean porosity net porous interval (fraction): minimum: 0.06 most likely: 0.08 maximum: 0.10 (8) Buoyant Trapping Probabilistic Calculation Inputs					> 13,000 ft		Х
(3) Mean total SAU thickness (ft): minimum: 350 most likely: 500 maximum: 650  (4) SAU water quality (check one):  Most of the water in the SAU is saline (greater than 10,000 mg/L TDS).  Water in this SAU is both saline and fresh.  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum: 1.00 most likely: 1.00 maximum: 1.00  (6) Mean thickness net porous interval (ft): minimum: 140 most likely: 230 maximum: 320  (7) Mean porosity net porous interval (fraction): minimum: 0.06 most likely: 0.08 maximum: 0.10  Buoyant Trapping Probabilistic Calculation Inputs	(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	18,000	maximum:	29,000
(4) SAU water quality (check one):  Most of the water in the SAU is saline (greater than 10,000 mg/L TDS).  Water in this SAU is both saline and fresh.  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum: 1.00 most likely: 1.00 maximum: 1.00  (6) Mean thickness net porous interval (ft): minimum: 140 most likely: 230 maximum: 320  (7) Mean porosity net porous interval (fraction): minimum: 0.06 most likely: 0.08 maximum: 0.10  Buoyant Trapping Probabilistic Calculation Inputs  (8) Buoyant trapping pore volume (MMbbl):	(2) Area of the SAU (acres):	minimum:	3,717,000	most likely:	4,130,000	maximum:	4,543,000
Most of the water in the SAU is saline (greater than 10,000 mg/L TDS).  Water in this SAU is both saline and fresh.  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum: 1.00 most likely: 1.00 maximum: 1.00  (6) Mean thickness net porous interval (ft): minimum: 140 most likely: 230 maximum: 320  (7) Mean porosity net porous interval (fraction): minimum: 0.06 most likely: 0.08 maximum: 0.10  Buoyant Trapping Probabilistic Calculation Inputs	(3) Mean total SAU thickness (ft):	minimum:	350	most likely:	500	maximum:	650
Water in this SAU is both saline and fresh.  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum: 1.00 most likely: 1.00 maximum: 1.00  (6) Mean thickness net porous interval (ft): minimum: 140 most likely: 230 maximum: 320  (7) Mean porosity net porous interval (fraction): minimum: 0.06 most likely: 0.08 maximum: 0.10  Buoyant Trapping Probabilistic Calculation Inputs	(4) SAU water quality (check one):						
Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum: 1.00 most likely: 1.00 maximum: 1.00  (6) Mean thickness net porous interval (ft): minimum: 140 most likely: 230 maximum: 320  (7) Mean porosity net porous interval (fraction): minimum: 0.06 most likely: 0.08 maximum: 0.10  Buoyant Trapping Probabilistic Calculation Inputs  (8) Buoyant trapping pore volume (MMbbl):		_	10,000 mg/L T	DS).			Х
minimum: 1.00 most likely: 1.00 maximum: 1.00  (6) Mean thickness net porous interval (ft): minimum: 140 most likely: 230 maximum: 320  (7) Mean porosity net porous interval (fraction): minimum: 0.06 most likely: 0.08 maximum: 0.10  Buoyant Trapping Probabilistic Calculation Inputs  (8) Buoyant trapping pore volume (MMbbl):			000 mg/L TDS).				
(6) Mean thickness net porous interval (ft): minimum: 140 most likely: 230 maximum: 320 (7) Mean porosity net porous interval (fraction): minimum: 0.06 most likely: 0.08 maximum: 0.10 Buoyant Trapping Probabilistic Calculation Inputs  (8) Buoyant trapping pore volume (MMbbl):	(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
(7) Mean porosity net porous interval (fraction): minimum: 0.06 most likely: 0.08 maximum: 0.10  Buoyant Trapping Probabilistic Calculation Inputs  (8) Buoyant trapping pore volume (MMbbl):			-		_		1.00
Buoyant Trapping Probabilistic Calculation Inputs  (8) Buoyant trapping pore volume (MMbbl):	(6) Mean thickness net porous interval (ft):	minimum:	140	most likely:	230	maximum:	320
(8) Buoyant trapping pore volume (MMbbl):	(7) Mean porosity net porous interval (fraction):	minimum:	0.06	most likely:	0.08	maximum:	0.10
	Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
<u> </u>	(8) Buoyant trapping pore volume (MMbbl):	minimum:	940	most likely:	990	maximum:	32,000
Residual Trapping Probabilistic Calculation Inputs	Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD): minimum: 0.005 most likely: 1.00 maximum: 30	(9) Permeability of the net porous interval (mD):	minimum:	0.005	most likely:	1.00	maximum:	30

C50580104

#### Allocations of the SAU to States

Oklahoma	contains	90 % of mean SAU area
Texas	contains	10 % of mean SAU area
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
Allocations of the S	SAU to General Land-Ownership Ca	ategories  5.6 % of mean SAU are
State lands	contain	0 % of mean SAU area
Tribal lands	contain	0 % of mean SAU are
Private and other lands	contain	94 % of mean SAU are
Offshore areas	contain	0 % of mean SAU are

C. Doolan, W.	Craddock			Date:	3/8/2012
Western Mid-	Continent				
Anadarko and	d Southern Ok	lahoma Basi	ns	Number:	C5058
Anadarko and	d Southern Ok	lahoma Basi	ns	Number:	C505801
Mississippian	Composite			Number:	C50580105
stics of the	Storage As	ssessmen	t Unit		
heck one):			3,000-13,000 ft > 13,000 ft	:	x
minimum:	3,000	most likely:	6,900	maximum:	13,000
minimum:	21,543,000	most likely:	23,937,000	maximum:	26,331,000
minimum:	900	most likely:	1,700	maximum:	2,500
fresh.					x
				" <b>TD</b> 0)	
ne area wnere minimum:	-		_		1.00
minimum:	90	most likely:	255	maximum:	500
minimum:	0.08	most likely:	0.13	maximum:	0.16
apping Prob	abilistic Ca	lculation	Inputs		
minimum:	34,000	most likely:	35,000	maximum:	1,400,000
apping Prob	abilistic Ca	alculation	Inputs		
minimum:	0.010	most likely:	25.00	maximum:	800
	western Mid- Anadarko and Anadarko and Mississippian  stics of the heck one): minimum: minimum: minimum: de (greater than fresh.	Anadarko and Southern Ok Mississippian Composite  stics of the Storage As heck one):  minimum: 3,000 minimum: 21,543,000 minimum: 900  e (greater than 10,000 mg/L T fresh. l (less than 10,000 mg/L TDS). he area where SAU pore war minimum: 0.90 minimum: 90 minimum: 0.08 apping Probabilistic Ca minimum: 34,000 apping Probabilistic Ca	Western Mid-Continent  Anadarko and Southern Oklahoma Basi Anadarko and Southern Oklahoma Basi Mississippian Composite  stics of the Storage Assessment heck one):  minimum: 3,000 most likely: minimum: 21,543,000 most likely: minimum: 900 most likely: e (greater than 10,000 mg/L TDS). fresh. fless than 10,000 mg/L TDS).  the area where SAU pore water has more minimum: 0.90 most likely: minimum: 90 most likely: minimum: 0.08 most likely: apping Probabilistic Calculation minimum: 34,000 most likely: apping Probabilistic Calculation	Western Mid-Continent  Anadarko and Southern Oklahoma Basins  Anadarko and Southern Oklahoma Basins  Mississippian Composite  stics of the Storage Assessment Unit  heck one):  3,000-13,000 ft > 13,000 ft > 13,000 ft	Western Mid-Continent         Anadarko and Southern Oklahoma Basins       Number:         Anadarko and Southern Oklahoma Basins       Number:         Mississippian Composite       Number:         stics of the Storage Assessment Unit       Number:         heck one):       3,000-13,000 ft         minimum:       3,000 most likely:       6,900 maximum:         minimum:       21,543,000 most likely:       23,937,000 maximum:         minimum:       900 most likely:       1,700 maximum:         e (greater than 10,000 mg/L TDS).       fresh.         e) (less than 10,000 mg/L TDS).         the area where SAU pore water has more than 10,000 mg/L TDS):         minimum:       0.90 most likely:       1.00 maximum:         minimum:       90 most likely:       255 maximum:         apping Probabilistic Calculation Inputs

Ctorogo	Assessment	l Ini+	(CAII	١
Storage	Assessment	Unit	ISAU	,

Offshore areas

Micc	iccin	nian	Comp	ocito
IVIISS	SISSID	bian	Comp	osite

#### Number:

0 % of mean SAU area

C50580105

Allocation	ns of the SAU to States	
Colorado	contains	31 % of mean SAU area
Kansas	contains	24 % of mean SAU area
Oklahoma	contains	30 % of mean SAU area
Texas	contains	14 % of mean SAU area
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU area
Allocations of the SAU to	o General Land-Ownership C	Categories
Federal lands	contain	1.8 % of mean SAU are
State lands	contain	2.0 % of mean SAU are:
T-2b-11-a-da	contain	0 % of mean SAU are
Tribal lands		

Assessment geologist:	C. Doolan, W	. Craddock			Date:	3/8/2012
Assessment region:	Western Mid	-Continent				
Province:	Anadarko an	d Southern Ok	lahoma Basi	ns	Number:	C5058
Basin:		d Southern Ok		ns	Number:	C505801
Storage Assessment Unit (SAU):	Mississippiar	n Composite D	eep		Number:	C50580106
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage A	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 f	t	
				> 13,000 ft		Х
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	15,400	maximum:	22,700
(2) Area of the SAU (acres):	minimum:	3,674,000	most likely:	4,082,000	maximum:	4,490,000
(3) Mean total SAU thickness (ft):	minimum:	2,900	most likely:	3,500	maximum:	4,300
(4) SAU water quality (check one):						
Most of the water in the SAU is saling Water in this SAU is both saline and the saline and the saline are saline as the saline are saline are saline as the saline are saline as the saline are saline are saline as the saline are saline as the saline are saline as the saline are saline are saline are saline are saline as the saline are saline are saline are saline are sa	-	10,000 mg/L T	DS).			X
Most of the water in the SAU is fresh		000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	ne area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	-	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	175	most likely:	250	maximum:	325
(7) Mean porosity net porous interval (fraction):	minimum:	0.04	most likely:	0.06	maximum:	0.09
Buoyant Tra	ipping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	4,000	most likely:	5,000	maximum:	65,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.001	most likely:	1.00	maximum:	100

C+	A	11:4	/C A I	ı١	١.
Storage	Assessment	Unit	(SA)	U	ı.

Offshore areas

		_
Mississippian	Composite	Deep

# Number:

contain

C50580106

0 % of mean SAU area

#### Allocations of the SAU to States (1) Oklahoma contains 84 % of mean SAU area (2) Texas contains 16 % of mean SAU area (3) % of mean SAU area contains % of mean SAU area (4) contains % of mean SAU area (5) contains (6) contains % of mean SAU area % of mean SAU area (7) contains % of mean SAU area (8) contains Allocations of the SAU to General Land-Ownership Categories (1) Federal lands contain 6.5 % of mean SAU area (2) < 1.0 % of mean SAU area State lands contain (3) Tribal lands 0 % of mean SAU area contain (4) Private and other lands 93 % of mean SAU area contain

Assessment geologist:	T. Roberts-As	shby			Date:	8/11/2011
Assessment region:	Western Mid	-Continent				
Province:	Anadarko an	d Southern Ok	lahoma Basi	ns	Number:	C5058
Basin:	Anadarko an	d Southern Ok	lahoma Basi	ns	Number:	C505801
Storage Assessment Unit (SAU):	Lower Virgilia	an			Number:	C50580107
SAU relationship to NOGA AU:						
Notes from assessor:						
<b>0</b> 1		0: 1				
Characteris	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (ch	neck one):			3,000-13,000 f	t	X
				> 13,000 ft		
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	5,900	maximum:	8,800
(2) Area of the SAU (acres):	minimum:	2,473,000	most likely:	2,748,000	maximum:	3,023,000
(3) Mean total SAU thickness (ft):	minimum:	400	most likely:	700	maximum:	1,000
(4) SAU water quality (check one):						
Most of the water in the SAU is saline	e (greater than	10,000 mg/L T	DS).			X
Water in this SAU is both saline and f	fresh.					
Most of the water in the SAU is fresh	(less than 10,0	000 mg/L TDS).				
(5) Area fraction available for storage (generally, the	ne area where	SAU pore wat	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	-	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	220	most likely:	380	maximum:	540
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.15	maximum:	0.18
Buoyant Tra	ipping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(to, ===)	minimum:	0	most likely:	18	maximum:	31,000
Residual Tra	apping Prob	abilistic Ca	lculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	1.000	most likely:	11.00	maximum:	500

Storage Assessment I	Jnit (	(SAU):
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Offshore areas

Lower	vIIIu	maı

#### Number:

0 % of mean SAU area

contain

C50580107

# Allocations of the SAU to States

011.1		400 0/ 6
Oklahoma	contains	100 % of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains e SAU to General Land-Ownership C	% of mean SAU ategories < 1.0 % of mean SAU
Allocations of the Federal lands State lands	e SAU to General Land-Ownership C	ategories
Federal lands	e SAU to General Land-Ownership C contain	ategories  < 1.0 % of mean SAU

Assessment geologist:	M. Merrill				Date:	8/11/2011
Assessment region:	Western Mid-Continent					
Province:	Anadarko and Southern Oklahoma Basins				Number:	C5058
Basin:	Anadarko and	Southern Ok	lahoma Basi	ns	Number:	C505801
Storage Assessment Unit (SAU):	Chase and Cou	ıncil Grove G	iroups		Number:	C50580108
SAU relationship to NOGA AU:				_		
Notes from assessor:						
Character	istics of the S	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	3,750	maximum:	5,500
(2) Area of the SAU (acres):	minimum:	8,569,000	most likely:	9,521,000	maximum:	10,473,000
(3) Mean total SAU thickness (ft):	minimum:	950	most likely:	1,050	maximum:	1,150
(4) SAU water quality (check one):						
Most of the water in the SAU is salin	e (greater than 1	0,000 mg/L T	DS).			X
Water in this SAU is both saline and	fresh.					
Most of the water in the SAU is fresh	ı (less than 10,00	0 mg/L TDS).				
(5) Area fraction available for storage (generally,	the area where S	SAU pore wa	ter has more	than 10,000 mg	J/L TDS):	
	minimum:	1.00	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	380	most likely:	420	maximum:	460
(7) Mean porosity net porous interval (fraction):	minimum: _	0.08	most likely:	0.12	maximum:	0.16
Buoyant Tr	apping Proba	bilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(o) Daoyant trapping pore volume (with but).	minimum:	670	most likely:	710	maximum:	215,000
Residual Tr	apping Proba	bilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.001	most likely:	1.00	maximum:	250

Offshore areas

0 % of mean SAU area

Allocatio	ns of the SAU to States	
Oklahoma	contains	66 % of mean SAU area
Texas	contains	34 % of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
Allocations of the SAU t	o General Land-Ownership C	ategories
Federal lands	contain	3.1 % of mean SAU area
State lands	contain	< 1.0 % of mean SAU area
State lalius		
Tribal lands	contain	0 % of mean SAU area

Assessment geologist:	E. Slucher			Date:	2/1/2012	
Assessment region:	Eastern Mid-Continent					
Province:	Appalachian	Basin			Number:	C5067
Basin:	Appalachian	Basin			Number:	C506701
Storage Assessment Unit (SAU):	Ordovician ar	nd Cambrian (	Composite		Number:	C50670101
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the	Storage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	check one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,500	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	36,430,000	most likely:	40,478,000	maximum:	44,526,000
(3) Mean total SAU thickness (ft):	minimum:	1,500	most likely:	2,000	maximum:	3,000
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fresl	fresh.	_				X
(5) Area fraction available for storage (generally,	the area where minimum:	-	ter has more most likely:	than 10,000 mg 1.00	J/L TDS): maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	75	most likely:	100	maximum:	150
(7) Mean porosity net porous interval (fraction):	minimum:	0.04	most likely:	0.08	maximum:	0.12
Buoyant Tr	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	500	most likely:	750	maximum:	39,000
Residual Tr	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.001	most likely:	3.00	maximum:	2,000

(2)

(3)

(4)

(5)

State lands

Tribal lands

Offshore areas

Private and other lands

3.3 % of mean SAU area

< 1.0 % of mean SAU area

87 % of mean SAU area

5.9 % of mean SAU area

#### Allocations of the SAU to States

(1)	New York	contains 27	% of mean SAU area
(2)	Ohio	contains 34	% of mean SAU area
(3)	Pennsylvania	contains 26	% of mean SAU area
(4)	West Virginia	contains 13	% of mean SAU area
(5)		contains	% of mean SAU area
(6)		contains	% of mean SAU area
(7)		contains	% of mean SAU area
(8)		contains	% of mean SAU area
	Allocations of the SAU to General Land	-Ownership Categorie	s
(1)	Federal lands	contain3.9	% of mean SAU area

contain

contain

contain

Assessment geologist:	C. Doolan			Date:	2/1/2012	
Assessment region:	Eastern Mid-Continent					
Province:	Appalachian	Basin			Number:	C5067
Basin:	Appalachian				Number:	C506701
Storage Assessment Unit (SAU):	Clinton, Medi	na, and Tusca	ırora Formati	ons	Number:	C50670102
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,500	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	44,000,000	most likely:	48,890,000	maximum:	53,780,000
(3) Mean total SAU thickness (ft):	minimum:	100	most likely:	200	maximum:	250
(4) SAU water quality (check one):  Most of the water in the SAU is saling Water in this SAU is both saline and Most of the water in the SAU is fresh	fresh.					x
(E) A ( , , , , , , , , , , , , , , , , , ,		0.411		.1 10.000	(I TDO)	
(5) Area fraction available for storage (generally, the	ne area wnere minimum:	· ·	ter nas more most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	65	most likely:	100	maximum:	150
(7) Mean porosity net porous interval (fraction):	minimum:	0.06	most likely:	0.09	maximum:	0.13
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	28	most likely:	400	maximum:	20,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	13.00	maximum:	200

Offshore areas

0 % of mean SAU area

#### Allocations of the SAU to States

	Allocations of the SAU t	.u states	
(1)	Kentucky	contains 4.2	% of mean SAU area
(2)	Maryland	contains < 1.0	% of mean SAU area
(3)	New Jersey	contains < 1.0	% of mean SAU area
(4)	New York	contains 17	% of mean SAU area
(5)	Ohio	contains 15	% of mean SAU area
(6)	Pensylvania	contains 35	% of mean SAU area
(7)	Virginia	contains 1.2	% of mean SAU area
(8)	West Virginia	contains 27	% of mean SAU area
	Allocations of the SAU to General Land	I-Ownership Categorie	9S
(1)	Federal lands	_ contain 5.7	% of mean SAU area
(2)	State lands	_ contain5.9	% of mean SAU area
(3)	Tribal lands	contain < 1.0	% of mean SAU area
(4)	Private and other lands	_contain88	% of mean SAU area

Assessment geologist:	C. Doolan				Date:	2/1/2012
Assessment region:	Eastern Mid-Continent					
Province:	Appalachian Basin				Number:	C5067
Basin:	Appalachian Basin				Number:	C506701
Storage Assessment Unit (SAU):	McKenzie, Lockport, and Newburg Formations			nations	Number:	C50670103
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the	Storage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,000	maximum:	11,500
(2) Area of the SAU (acres):	minimum:	17,560,000	most likely:	19,510,000	maximum:	21,460,000
(3) Mean total SAU thickness (ft):	minimum:	200	most likely:	250	maximum:	300
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fres	fresh.					x
		_				
(5) Area fraction available for storage (generally,	the area where the minimum:	-	ter has more most likely:	_		1.00
(6) Mean thickness net porous interval (ft):	minimum:	20	most likely:	30	maximum:	40
(7) Mean porosity net porous interval (fraction):	minimum: _	0.06	most likely:	0.10	maximum:	0.14
Buoyant Tr	apping Proba	abilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum: _	6	most likely:	59	maximum:	3,000
Residual Tr	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	16.00	maximum:	50

C50670103

#### Allocations of the SAU to States

(1)	Maryland	contains	< 1.0 % of mean SAU area
(2)	New York	contains	16 % of mean SAU area
(3)	Ohio	contains	22 % of mean SAU area
(4)	Pennsylvania	contains	49 % of mean SAU area
(5)	West Virginia	contains	13 % of mean SAU area
(6)		contains	% of mean SAU area
(7)		contains	% of mean SAU area
(8)		contains	% of mean SAU area
	Allocations of the SAU to Gener	al Land-Ownership (	Categories
(1)	Federal lands	contain	4.5 % of mean SAU area
(2)	State lands	contain	8.1 % of mean SAU area
(3)	Tribal lands	contain	< 1.0 % of mean SAU area
(4)	Private and other lands	contain	87 % of mean SAU area
(5)	Offshore areas	contain	0 % of mean SAU area

Assessment geologist:	M. Buursink				Date:	2/1/2012
Assessment region:	Eastern Mid-Continent					
Province:	Appalachian Basin				Number:	C5067
Basin:	Appalachian Basin				Number:	C506701
Storage Assessment Unit (SAU):	Oriskany San	dstone			Number:	C50670104
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,000	maximum:	9,500
(2) Area of the SAU (acres):	minimum:	34,008,000	most likely:	37,787,000	maximum:	41,566,000
(3) Mean total SAU thickness (ft):	minimum:	50	most likely:	200	maximum:	300
(4) SAU water quality (check one):						
Most of the water in the SAU is salin	e (greater than	10,000 mg/L T	DS).			Х
Water in this SAU is both saline and	fresh.					
Most of the water in the SAU is fresh	(less than 10,0	000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	g/L TDS):	
	minimum:	0.90	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	5	most likely:	20	maximum:	40
(7) Mean porosity net porous interval (fraction):	minimum:	0.02	most likely:	0.07	maximum:	0.10
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(e) 2 a 5 y a 11 a a p p 11 g p 5 1 5 1 a 11 5 2 1 j 1	minimum:	300	most likely:	500	maximum:	40,000
Residual Tr	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.001	most likely:	1.00	maximum:	185

contain

contain

contain

contain

7.1 % of mean SAU area

< 1.0~% of mean SAU area

88 % of mean SAU area

0 % of mean SAU area

(2)

(3)

(4)

(5)

State lands

Tribal lands

Offshore areas

Private and other lands

Assessment geologist:	M. Buursink			Date:	//5/2011	
Assessment region:	Western Mid-Continent					
Province:	Arkoma Basin				Number:	C5062
Basin:	Arkoma Basin				Number:	C506201
Storage Assessment Unit (SAU):	Ordovician Co	mposite			Number:	C50620101
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	Storage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 ft > 13,000 ft	:	x
(1) SAU depth from surface (ft):	minimum: _	3,000	most likely:	8,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	2,067,000	most likely:	2,297,000	maximum:	2,527,000
(3) Mean total SAU thickness (ft):	minimum: _	3,500	most likely:	4,700	maximum:	6,000
(4) SAU water quality (check one):  Most of the water in the SAU is salin Water in this SAU is both saline and Most of the water in the SAU is fres	fresh.					x
(5) Area fraction available for storage (generally,	the area where S	SAII nore wa	tar has mora	than 10 000 mg	/I TDS):	
(a) Area maction available for storage (generally,	minimum:	-	most likely:	_	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum: _	800	most likely:	1,100	maximum:	1,400
(7) Mean porosity net porous interval (fraction):	minimum: _	0.05	most likely:	0.10	maximum:	0.15
Buoyant Tr	apping Proba	ıbilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum: _	180	most likely:	200	maximum:	16,000
Residual Tr	apping Proba	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.001	most likely:	10.00	maximum:	1,000

Storage Assessment Unit (SAU)	
	r

Offshore areas

0	C:
Ordovician	Composite

#### Number:

0 % of mean SAU area

C50620101

	ocations of the SAU to States	
Oklahoma	contains	100 % of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
_	contains	% of mean SAU a
Allocations of the	SAU to General Land-Ownership C	ategories
	SAU to General Land-Ownership C	ategories  5.8 % of mean SAU a
		- -
Federal lands	contain	5.8 % of mean SAU a

Assessment geologist:	W. Craddock				Date:	//5/2011
Assessment region:	Western Mid-Continent					
Province:	Arkoma Basin				Number:	C5062
Basin:	Arkoma Basin				Number:	C506201
Storage Assessment Unit (SAU):	Hunton Group				Number:	C50620102
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	Storage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 ft		x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	8,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	6,934,000	most likely:	7,704,000	maximum:	8,474,000
(3) Mean total SAU thickness (ft):	minimum:	220	most likely:	270	maximum:	320
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fres	fresh.					x
(5) Area fraction available for storage (generally,	tho area where	SAII noro wa	tor has more	than 10 000 mg	/I TD\$)·	
(3) Area fraction available for Storage (generally,	minimum:	-	most likely:	_	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum: _	20	most likely:	30	maximum:	40
(7) Mean porosity net porous interval (fraction):	minimum: _	0.04	most likely:	0.07	maximum:	0.10
Buoyant Tr	apping Proba	ıbilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum: _	0	most likely:	330	maximum:	2,900
Residual Tr	apping Proba	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum: _	0.010	most likely:	5.00	maximum:	200

Storage	Assessment	Unit	SAII	١.
Storage	ASSESSIIICIIL	UIIIL	JAU	ı.

Offshore areas

	I	nton	. ^		
-	11 I I	ารกร	17	rnı	ır

Number:

0 % of mean SAU area

C50620102

# Allocations of the SAU to States

Arkansas	contains	52	% of mean SAU area
Oklahoma	contains	48	% of mean SAU area
	contains		% of mean SAU area
	contains		% of mean SAU area
	contains		% of mean SAU area
	contains		% of mean SAU area
	contains		% of mean SAU area
	contains		% of mean SAU area
Allocatio	ns of the SAU to General Land-Ownershi	ip Categorie	s
Federal lands	contain		% of mean SAU area
Federal lands State lands	containcontain	5.8	
		< 1.0	% of mean SAU area

Assessment geologist:	vv. Craddock				Date:	7/5/2011
Assessment region:	Western Mid-Continent					
Province:	Arkoma Basin		Number:	C5062		
Basin:	Arkoma Basin		Number:	C506201		
Storage Assessment Unit (SAU):	Batesville San Member	dstone and \	Wedington Sa	ndstone	Number:	C50620103
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	Storage A	ssessment	Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:		maximum:	13,000
(2) Area of the SAU (acres):	minimum:			1,781,000	maximum:	1,959,000
(3) Mean total SAU thickness (ft):	minimum:	200	most likely:	250	maximum:	300
(4) SAU water quality (check one):  Most of the water in the SAU is salin Water in this SAU is both saline and Most of the water in the SAU is fres	l fresh.					x
(5) Area fraction available for storage (generally,	the area where <b>!</b>	SAU nore wa	ter has more t	than 10 000 mo	ı/l TDS):	
(o) / nod nasalon aranapis for storage (gonorany)	minimum: _		most likely:	_	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum: _	5	most likely:	10	maximum:	20
(7) Mean porosity net porous interval (fraction):	minimum: _	0.08	most likely:	0.11	maximum:	0.14
Buoyant Tr	apping Proba	abilistic Ca	alculation I	nputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum: _	0	most likely:	260	maximum:	770
Residual Tr	apping Proba	abilistic Ca	alculation I	nputs		
(9) Permeability of the net porous interval (mD):	minimum: _	0.010	most likely:	10.00	maximum:	100

Number:

C50620103

# Member Allocations of the SAU to States

Arkansas	contains	100 % of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
Allocations of the Federal lands	e SAU to General Land-Ownership Ca	ategories  8.3 % of mean SAU area
		8.3 % of mean SAU area
Federal lands	contain	
Federal lands State lands	contain contain	8.3 % of mean SAU area

Assessment geologist:	W. Craddock				Date:	4/10/2012
Assessment region:	Coastal Plains					
Province:	Atlantic Coastal Plain				Number:	C5070
Basin:	Atlantic Coasta	al Plain			Number:	C507001
Storage Assessment Unit (SAU):	Lower Cretace	ous Compos	ite		Number:	C50700101
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the S	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	3,750	maximum:	5,200
(2) Area of the SAU (acres):	minimum:	12,758,000	most likely:	14,176,000	maximum:	15,594,000
(3) Mean total SAU thickness (ft):	minimum:	530	most likely:	700	maximum:	830
(4) SAU water quality (check one):						
Most of the water in the SAU is salin	e (greater than 1	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					Х
Most of the water in the SAU is fresh	(less than 10,00	0 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where S	SAU pore wat	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	-	most likely:	_		0.80
(6) Mean thickness net porous interval (ft):	minimum: _	150	most likely:	245	maximum:	335
(7) Mean porosity net porous interval (fraction):	minimum: _	0.17	most likely:	0.27	maximum:	0.31
Buoyant Tra	apping Proba	bilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(	minimum: _	0	most likely:	3,100	maximum:	18,000
Residual Tra	apping Proba	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	500.00	maximum:	5,000

(4)

(5)

Private and other lands

Offshore areas

76 % of mean SAU area

15 % of mean SAU area

# Allocations of the SAU to States

Allocations of the SAU to States				
(1)	Florida	contains	16 % of mean SAU area	
(2)	Georgia	contains	72 % of mean SAU area	
(3)	North Carolina	contains	9.2 % of mean SAU area	
(4)	South Carolina	contains	3.4 % of mean SAU area	
(5)		contains	% of mean SAU area	
(6)		contains	% of mean SAU area	
(7)		contains	% of mean SAU area	
(8)		contains	% of mean SAU area	
	Allocations of the SAU to General Land	d-Ownership Categ	ories	
(1)	Federal lands	contain	6.9 % of mean SAU area	
(2)	State lands	contain	1.9 % of mean SAU area	
(3)	Tribal lands	contain	0 % of mean SAU area	

contain

Assessment geologist:	I. Roberts-Ash	by			Date:	4/10/2012
Assessment region:	Coastal Plains					
Province:	Atlantic Coastal Plain		Number:	C5070		
Basin:	Atlantic Coastal Plain		Number:	C507001		
Storage Assessment Unit (SAU):	Upper Cretaced	ous Compos	ite		Number:	C50700102
SAU relationship to NOGA AU:						
Notes from assessor:	-					
Character	istics of the S	torage A	ssessment	Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:		maximum:	4,000
(2) Area of the SAU (acres):	minimum:			300,000	maximum:	330,000
(3) Mean total SAU thickness (ft):	minimum:	575	most likely:	600	maximum:	625
(4) SAU water quality (check one):  Most of the water in the SAU is salin Water in this SAU is both saline and Most of the water in the SAU is fres	l fresh.	-				x
(5) Area fraction available for storage (generally,	the area where S	All nore wa	ter has more	than 10 000 mc	ı/I TDS):	
(o) / nod nasalon aranapis for storage (gonorany)	minimum:	-	most likely:		maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	180	most likely:	230	maximum:	300
(7) Mean porosity net porous interval (fraction):	minimum:	0.28	most likely:	0.32	maximum:	0.34
Buoyant Tr	apping Proba	bilistic Ca	alculation I	nputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	0	most likely:	1	maximum:	350
Residual Tr	apping Proba	bilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	1,100.00	maximum:	4,500

Storag	e Assessment	Unit	(SΔΗ	١.
Sturay	e Assessillelli	UIIIL	I SAU	١.

	_	
Upper	Cretaceous	Composite

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C50700102

Alloca	tions of the SAU to States	
North Carolina	contains	100 % of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	U to General Land-Ownership C	ategories  5.0 % of mean SAU are
State lands	contain	0 % of mean SAU are
Tribal lands	contain	0 % of mean SAU are
Private and other lands	contain	2.3 % of mean SAU are

Assessment geologist:	M. Merrill				Date:	7/5/2011
Assessment region:	Western Mid-Continent Bend Arch and Fort Worth Basin					
Province:					Number:	C5045
Basin:	Bend Arch and	Fort Worth	Basin		Number:	C504501
Storage Assessment Unit (SAU):	Chappel Limes	tone and Elle	enburger Gro	up	Number:	C50450101
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	check one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	4,500	maximum:	10,000
(2) Area of the SAU (acres):	minimum:	9,763,000	most likely:	10,848,000	maximum:	11,933,000
(3) Mean total SAU thickness (ft):	minimum:	1,000	most likely:	2,000	maximum:	3,000
(4) SAU water quality (check one):						
Most of the water in the SAU is salir	ne (greater than 1	0,000 mg/L T	DS).			Х
Water in this SAU is both saline and	fresh.					
Most of the water in the SAU is fresh	h (less than 10,00	0 mg/L TDS).				
(5) Area fraction available for storage (generally,	the area where S	AU pore wa	ter has more	than 10,000 mg	J/L TDS):	
	minimum:	1.00	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum: _	200	most likely:	300	maximum:	800
(7) Mean porosity net porous interval (fraction):	minimum: _	0.05	most likely:	0.10	maximum:	0.15
Buoyant Tr	apping Proba	bilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(e) zao jant trapping poro rotanio (minos),	minimum: _	153	most likely:	294	maximum:	10,400
Residual Tr	apping Proba	bilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	0.10	maximum:	1,000

#### Number:

C50450101

#### Allocations of the SAU to States

Oklahoma	contains	< 1.0 % of mean SAU area
Texas	contains	100 % of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
Allocations of the S	SAU to General Land-Ownership C	Categories  1.7 % of mean SAU are
State lands	contain	< 1.0 % of mean SAU are
Tribal lands	contain	0 % of mean SAU are
Private and other lands	contain	98 % of mean SAU are
Offshore areas	contain	0 % of mean SAU are

Assessment geologist:	T. Roberts-Ashby				Date:	7/5/2011
Assessment region:	Western Mid-Continent					
Province:	Bend Arch and Fort Worth Basin				Number:	C5045
Basin:	Bend Arch and Fort Worth Basin				Number:	C504501
Storage Assessment Unit (SAU):	Bend Group and Comyn Formation				Number:	C50450102
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	5,750	maximum:	8,500
(2) Area of the SAU (acres):	minimum:	15,593,000	most likely:	17,326,000	maximum:	19,059,000
(3) Mean total SAU thickness (ft):	minimum:	200	most likely:	400	maximum:	600
(4) SAU water quality (check one):  Most of the water in the SAU is saling Water in this SAU is both saline and Most of the water in the SAU is fresh	fresh.	-				X
(5) Area fraction available for storage (generally, the storage (generally, th	he area where minimum:	-	ter has more most likely:	than 10,000 mg	g/L TDS): maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	100	most likely:	200	maximum:	300
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.12	maximum:	0.17
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	10,000	most likely:	10,100	maximum:	238,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	25.00	maximum:	3,000

Offshore areas

0 % of mean SAU area

# Allocations of the SAU to States

Oklahoma	contains	< 1.0	% of mean SAU
Texas	contains	100	% of mean SAU
	contains		% of mean SAU
	contains		% of mean SAU
	contains		% of mean SAU
	contains		% of mean SAU
	contains		% of mean SAU
	contains		% of mean SAU
Allocations of the S	contains  SAU to General Land-Ownership Ca  contain	tegories	% of mean SAU  S  % of mean SAU
	SAU to General Land-Ownership Ca	tegories	S
Federal lands	SAU to General Land-Ownership Ca contain	1.0 < 1.0	S % of mean SAU

Assessment geologist:	M. Merrill			Date:	10/21/2010		
Assessment region:	Rocky Mountains and Northern Great Plains						
Province:	Bighorn Basin				Number:	C5034	
Basin:	Bighorn Basin Tensleep Sandstone				Number:	C503401	
Storage Assessment Unit (SAU):					Number:	C50340101	
SAU relationship to NOGA AU:							
Notes from assessor:							
Characteri	istics of the	Storage As	ssessmen	t Unit			
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft > 13,000 ft	t	x	
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,200	maximum:	13,000	
(2) Area of the SAU (acres):	minimum:	2,735,000	most likely:	3,039,000	maximum:	3,343,000	
(3) Mean total SAU thickness (ft):	minimum:	100	most likely:	175	maximum:	250	
(4) SAU water quality (check one):  Most of the water in the SAU is salin Water in this SAU is both saline and	_	10,000 mg/L T	DS).				
Most of the water in the SAU is fresh	ı (less than 10,0	00 mg/L TDS).				Х	
(5) Area fraction available for storage (generally, t	the area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):		
	minimum:	-	most likely:	0.00	maximum:	0.18	
(6) Mean thickness net porous interval (ft):	minimum:	30	most likely:	50	maximum:	90	
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.15	maximum:	0.20	
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs			
(8) Buoyant trapping pore volume (MMbbl):							
	minimum: _	1,230	most likely:	1,330	maximum:	2,000	
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs			
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	60.00	maximum:	1,000	

Storage	Assessment	Unit	(SAU):
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Offshore areas

Tens	I	C			_
Tens	IPPN	San	เกรา	nn	ρ

#### Number:

0 % of mean SAU area

C50340101

	Allocations of the SAU to States	
Montana	contains	11 % of mean SAU ar
Wyoming	contains	89 % of mean SAU ar
	contains	% of mean SAU ar
	contains	% of mean SAU ar
	contains	% of mean SAU ar
	contains	% of mean SAU ar
	contains	% of mean SAU ar
	contains	% of mean SAU ar
	s of the SAU to General Land-Ownership	-
	s of the SAU to General Land-Ownership	-
		55 % of mean SAU ard 7.4 % of mean SAU ard 7
Federal lands	contain	55 % of mean SAU ar

Assessment geologist:	M. Merrill			Date:	10/21/2010	
Assessment region:	Rocky Mountains and Northern Great Plains					
Province:	Bighorn Basin				Number:	C5034
Basin:	Bighorn Basin				Number:	C503401
Storage Assessment Unit (SAU):	Tensleep San	dstone Deep			Number:	C50340102
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteris	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (ch	neck one):			3,000-13,000 f	t	
(1)				> 13,000 ft		Х
(1) SAU depth from surface (ft):	minimum: _		most likely:			22,000
<ul><li>(2) Area of the SAU (acres):</li><li>(3) Mean total SAU thickness (ft):</li></ul>	minimum: _ minimum:		most likely: most likely:	1,256,000	maximum: maximum:	1,382,000 150
	_		,			
(4) SAU water quality (check one):		10 000 // T	.D.C.)			
Most of the water in the SAU is saline Water in this SAU is both saline and f		10,000 mg/L 1	DS).			
Most of the water in the SAU is fresh		00 ma/l TDC\				
Most of the water in the SAO is fresh	(1622 tildil 10,0	oo mg/L 103).				X
(5) Area fraction available for storage (generally, th	ne area where	SAU nore wat	ter has more	than 10 000 mg	ı/I TDS)·	
(a) / trou fraction available for storage (generally, an	minimum:	-	most likely:		maximum:	0.62
	-					
(6) Mean thickness net porous interval (ft):	minimum:	25	most likely:	35	maximum:	50
(7) Mean porosity net porous interval (fraction):	minimum:	0.02	most likely:	0.04	maximum:	0.07
Buoyant Tra	pping Proba	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):		_				
	minimum: _	0	most likely:	16	maxımum:	108
Residual Tra	pping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	0.10	maximum:	3

Storage	Assessment	Unit	(SAII)	١
Sturage	ASSESSINEIL	UIIIL	UHU.	I.

Toneloon	Sandstone	Doon
rensieeb	Sanastone	Deep

#### Number:

C50340102

Alloca	tions of the SAU to States	
Montana	contains	4.1 % of mean SAU area
Wyoming	contains	96 % of mean SAU area
	contains	% of mean SAU are
	contains	% of mean SAU area
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU area
Allocations of the SAI	J to General Land-Ownership C	ategories 71 % of mean SAU are
State lands	contain	4.7 % of mean SAU are:
Tribal lands	contain	0 % of mean SAU are
Private and other lands	contain	24 % of mean SAU are

Assessment geologist:	M. Buursink				Date:	11/1/2010			
Assessment region:	Rocky Mountains and Northern Great Plains								
Province:	Bighorn Basin				Number:	C5034			
Basin:	Bighorn Basin			Number:	C503401				
Storage Assessment Unit (SAU):	Ervay Membe	r			Number:	C50340103			
SAU relationship to NOGA AU:									
Notes from assessor:									
Characteri	stics of the	Storage As	ssessmen	t Unit					
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 ft	t	x			
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,000	maximum:	13,000			
(2) Area of the SAU (acres):	minimum:	2,408,000	most likely:	2,676,000	maximum:	2,944,000			
(3) Mean total SAU thickness (ft):	minimum:	30	most likely:	60	maximum:	120			
(4) SAU water quality (check one):  Most of the water in the SAU is saling	e (greater than	10,000 mg/L T	DS).						
Water in this SAU is both saline and	fresh.					Х			
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).							
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):				
	minimum:	0.35	most likely:	0.40	maximum:	0.55			
(6) Mean thickness net porous interval (ft):	minimum:	20	most likely:	40	maximum:	60			
(7) Mean porosity net porous interval (fraction):	minimum:	0.05	most likely:	0.10	maximum:	0.15			
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs					
(8) Buoyant trapping pore volume (MMbbl):									
	minimum:	700	most likely:	750	maximum:	10,000			
Residual Trapping Probabilistic Calculation Inputs									
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	10.00	maximum:	100			

Storage Ass	ressment Unit (SAU):	Ervay Member		Number:	C50340103
	Al	locations of the SAU to States			
(1)	Montana	contains	13	% of mean S	SAU area
(2)	Wyoming	contains	87	% of mean S	SAU area
(3)		contains		% of mean S	SAU area
(4)		contains		% of mean S	SAU area
(5)		contains		% of mean S	SAU area
(6)		contains		% of mean S	SAU area
(7)		contains		% of mean S	SAU area
(8)		contains		% of mean S	SAU area
	Allocations of the	e SAU to General Land-Ownership	Categorie	s	
(1)	Federal lands	contain	56	% of mean S	SAU area
(2)	State lands	contain _	7.1	% of mean S	SAU area

contain

contain

contain

0 % of mean SAU area

36 % of mean SAU area

0 % of mean SAU area

Tribal lands

Offshore areas

Private and other lands

(3)

(4)

(5)

Assessment geologist:	M. Buursink			Date:	11/1/2010	
Assessment region:	Rocky Mountains and Northern Great Plains					
Province:	Bighorn Basii	1			Number:	C5034
Basin:	Bighorn Basin				Number:	C503401
Storage Assessment Unit (SAU):	Ervay Member Deep				Number:	C50340104
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 fr	t	
				> 13,000 ft		Х
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	16,000	maximum:	21,500
(2) Area of the SAU (acres):	minimum:	1,046,000	most likely:	1,162,000	maximum:	1,278,000
(3) Mean total SAU thickness (ft):	minimum:	30	most likely:	60	maximum:	120
(4) SAU water quality (check one):						
Most of the water in the SAU is saling Water in this SAU is both saline and the saline and the saline are saline as the saline are saline are saline as the saline are saline are saline as the saline are saline as the saline are saline	_	10,000 mg/L T	DS).			x
Most of the water in the SAU is fresh		00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	no aroa whoro	SAII noro was	tor has more	than 10 000 mg	/I TD\$\·	
(3) Area fraction available for Storage (generally, in	minimum:	-	most likely:	0.85	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	20	most likely:	40	maximum:	60
(7) Mean porosity net porous interval (fraction):	minimum:	0.02	most likely:	0.03	maximum:	0.07
Buoyant Tra	ipping Prob	abilistic Ca	lculation	Inputs		
(0) D (0.00						
(8) Buoyant trapping pore volume (MMbbl):	minimum:	0	most likely:	20	maximum:	2,100
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	1.00	maximum:	10

Storage Assessment	Unit	(SAU):
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Ervov	Member	Daar
civav	wellber	Deer

#### Number:

C50340104

	Allocations of the SAU to States		
Montana	contains	3.9	% of mean SAU area
Wyoming	contains	96	% of mean SAU area
	contains		% of mean SAU area
	contains		% of mean SAU area
	contains		% of mean SAU area
	contains		% of mean SAU area
	contains		% of mean SAU area
	contains		% of mean SAU area
Codoral landa	he SAU to General Land-Ownership Ca	J	S . % of mean SAU area
State lands	contain	4.7	% of mean SAU area
Tribal lands	contain	0	% of mean SAU area
Private and other lands	contain	24	% of mean SAU area
Offshore areas	contain		

Assessment geologist:	M. Buursink			Date:	11/1/2010	
Assessment region:	Rocky Mountains and Northern Great Plains					
Province:	Bighorn Basii	า			Number:	C5034
Basin:	Bighorn Basii				Number:	C503401
Storage Assessment Unit (SAU):	Crow Mountain Sandstone				Number:	C50340105
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	2,325,000	most likely:	2,583,000	maximum:	2,841,000
(3) Mean total SAU thickness (ft):	minimum:	40	most likely:	60	maximum:	80
(4) SAU water quality (check one):  Most of the water in the SAU is saling	e (greater than	10.000 ma/L T	DS).			
Water in this SAU is both saline and	_	, 0,	•			Х
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	-	most likely:	0.80	maximum:	0.90
(6) Mean thickness net porous interval (ft):	minimum:	15	most likely:	20	maximum:	30
(7) Mean porosity net porous interval (fraction):	minimum:	0.12	most likely:	0.15	maximum:	0.18
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	0	most likely:	60	maximum:	1,800
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	10.00	maximum:	120

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Storage	Assessment	Unit	(SA)	U	ı.

Offshore areas

Crow	Mount	nin Cr	andstan	_

Numher:	C5

0 % of mean SAU area

C50340105

Allocations of the SAU to States							
Montana	contains	14 % of mean SAU are					
Wyoming	contains	86 % of mean SAU are					
	contains	% of mean SAU are					
	contains	% of mean SAU are					
	contains	% of mean SAU are					
	contains	% of mean SAU are					
	contains	% of mean SAU are					
	contains	% of mean SAU are					
Allocations of the S	SAU to General Land-Ownership C	ategories					
Allocations of the S	SAU to General Land-Ownership C	ategories57_ % of mean SAU are					
	·						
Federal lands	contain	57 % of mean SAU are					

Assessment geologist:	M. Buursink			Date:	11/1/2010	
Assessment region:	Rocky Mountains and Northern Great Plains					
Province:	Bighorn Basii	า			Number:	C5034
Basin:	Bighorn Basii				Number:	C503401
Storage Assessment Unit (SAU):	Crow Mountain Sandstone Deep				Number:	C50340106
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 f	t	
				> 13,000 ft		Х
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	16,000	maximum:	21,000
(2) Area of the SAU (acres):	minimum:	958,000	most likely:	1,064,000	maximum:	1,170,000
(3) Mean total SAU thickness (ft):	minimum:	40	most likely:	60	maximum:	80
(4) SAU water quality (check one):						
Most of the water in the SAU is saling Water in this SAU is both saline and the saline and the saline are saline as the saline are saline are saline as the saline are saline as the saline are saline as the saline are saline are saline as the saline are saline are saline are saline as the saline are saline are saline are saline are saline are sa	_	10,000 mg/L T	DS).			x
Most of the water in the SAU is fresh		00 mg/L TDS).				^
(5) Area fraction available for storage (generally, t	no oron whore	CALL para was	tar baa mara	than 10 000 ma	// TDC).	
(3) Area fraction available for Storage (generally, ii	minimum:	-	most likely:	0.90	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	15	most likely:	20	maximum:	30
(7) Mean porosity net porous interval (fraction):	minimum:	0.03	most likely:	0.06	maximum:	0.10
Buoyant Tra	ipping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
to baoyant trapping pore volume (wholse).	minimum:	0	most likely:	20	maximum:	500
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	1.00	maximum:	10

Storage Assessment U	nit (	(SAU)	:
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Offshore areas

0	N A	Sandstone	<b>D</b>
I row	NACHINTSIN	Annethna	IIDDD

#### Number:

0 % of mean SAU area

C50340106

## actions of the CALL to Ctate

Montana	contains	3.6 % of mean SAU are
Wyoming	contains	96 % of mean SAU ar
	contains	% of mean SAU ar
	contains	% of mean SAU ar
	contains	% of mean SAU ar
	contains	% of mean SAU ar
	contains	% of mean SAU ar
	contains	% of mean SAU ar
	AU to General Land-Ownership C	ategories
	AU to General Land-Ownership C	
Allocations of the SA Federal lands State lands	·	ategories
Federal lands	contain	ategories 71 % of mean SAU ar

Assessment geologist:	J. Covault				Date:	10/22/2010
Assessment region:	Rocky Mount	ains and Nortl	hern Great P	lains		
Province:	Bighorn Basi	n			Number:	C5034
Basin:	Bighorn Basi	n			Number:	C503401
Storage Assessment Unit (SAU):	Cloverly Form	nation			Number:	C50340107
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	2,073,000	most likely:		maximum:	2,533,000
(3) Mean total SAU thickness (ft):	minimum:	200	most likely:	240	maximum:	280
(4) SAU water quality (check one):  Most of the water in the SAU is saline	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	_	. 0	•			X
Most of the water in the SAU is fresh	(less than 10,0	000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	ne area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	-	most likely:	0.03	maximum:	0.96
(6) Mean thickness net porous interval (ft):	minimum:	100	most likely:	120	maximum:	140
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.15	maximum:	0.20
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	18	most likely:	34	maximum:	92,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	50.00	maximum:	1,000

Storage Asse	essment Unit (SAU):	Cloverly Formation		Number:	C50340107
		Allocations of the SAU to States			
(1)	Montana	contains	14	% of mean S	SAU area
(2)	Wyoming	contains	86	% of mean S	SAU area
(3)		contains		% of mean S	SAU area
(4)		contains	_	% of mean S	SAU area
(5)		contains	_	% of mean S	SAU area
(6)	_	contains		% of mean S	SAU area
(7)	_	contains		% of mean S	SAU area
(8)		contains	_	% of mean S	SAU area
	Allocations of t	he SAU to General Land-Ownership	Categorie	s	
(1)	Federal lands	contain	60	% of mean S	SAU area

contain

contain

contain

contain

6.2 % of mean SAU area

0 % of mean SAU area

34 % of mean SAU area

0 % of mean SAU area

(2)

(3)

(4)

(5)

State lands

Tribal lands

Offshore areas

Private and other lands

J. Covault				Date:	10/22/2010
Rocky Mounta	ins and Nort	hern Great P	lains		
Bighorn Basin				Number:	C5034
Bighorn Basin				Number:	C503401
Cloverly Forma	ntion Deep			Number:	C50340108
stics of the S	Storage A	ssessmen	t Unit		
heck one):			3,000-13,000 f	t	
			> 13,000 ft		X
_				maximum:	20,500
_		-			1,040,000
minimum: _	200	most likely:	220	maximum:	240
_	10,000 mg/L T	DS).			
ı (less than 10,00	00 mg/L TDS).				Х
he area where S	SAU pore wa	ter has more	than 10.000 mc	ı/L TDS):	
	-		_		1.00
minimum: _	100	most likely:	110	maximum:	120
minimum: _	0.06	most likely:	0.08	maximum:	0.10
apping Proba	ıbilistic Ca	alculation	Inputs		
minimum: _	0	most likely:	3	maximum:	6,600
apping Proba	abilistic Ca	alculation	Inputs		
minimum: _	0.100	most likely:	0.50	maximum:	1
	Rocky Mounta  Bighorn Basin  Cloverly Forma  Cloverly Forma  istics of the S heck one):  minimum: minimum: minimum: cle (greater than fresh. n (less than 10,00) the area where S minimum: minimum: minimum: apping Proba	Rocky Mountains and Nort  Bighorn Basin  Cloverly Formation Deep  istics of the Storage Astheck one):  minimum: 13,000 minimum: 851,000 minimum: 200  de (greater than 10,000 mg/L Tops).  in (less than 10,000 mg/L Tops).  the area where SAU pore was minimum: 0.00 minimum: 100 minimum: 0.06 apping Probabilistic Caminimum: 0 apping Probabilistic Caminimum: 0 apping Probabilistic Caminimum: 0	Rocky Mountains and Northern Great P Bighorn Basin  Cloverly Formation Deep  istics of the Storage Assessment heck one):  minimum: 13,000 most likely: minimum: 851,000 most likely: minimum: 200 most likely: minimum: 200 most likely: he (greater than 10,000 mg/L TDS). fresh. In (less than 10,000 mg/L TDS).  the area where SAU pore water has more minimum: 0.00 most likely: minimum: 100 most likely: minimum: 0.06 most likely:	Rocky Mountains and Northern Great Plains Bighorn Basin Cloverly Formation Deep  Strics of the Storage Assessment Unit  Strics of the Storage Assessment Unit  Strics of the Storage Assessment Unit  Strick one):   Rocky Mountains and Northern Great Plains Bighorn Basin	

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Storage	Assessment	Unit	(SA)	U	ı.

		_
Cloverly	Formation	Deep

#### Number:

C50340108

Alloca	itions of the SAU to States	
Montana	contains	3.1 % of mean SAU area
Wyoming	contains	97 % of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
Allocations of the SA	U to General Land-Ownership C	ategories  72 % of mean SAU are
State lands	contain	5.0 % of mean SAU are
Tribal lands	contain	0 % of mean SAU are
Private and other lands	_ contain	23 % of mean SAU are

Assessment geologist:	J. Covault				Date:	10/22/2010
Assessment region:	Rocky Mounta	ins and Nortl	nern Great Pl	lains		
Province:	Bighorn Basin	1			Number:	C5034
Basin:	Bighorn Basin	1			Number:	C503401
Storage Assessment Unit (SAU):	Muddy Sands	tone			Number:	C50340109
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 ft > 13,000 ft	:	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	2,094,000	most likely:	2,327,000	maximum:	2,560,000
(3) Mean total SAU thickness (ft):	minimum:	20	most likely:	30	maximum:	40
(4) SAU water quality (check one):						
Most of the water in the SAU is saling	-	10,000 mg/L T	DS).			
Water in this SAU is both saline and						X
Most of the water in the SAU is fresh	(less than 10,00	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wat	ter has more	than 10,000 mg	/L TDS):	
	minimum: _	0.01	most likely:	0.09	maximum:	0.78
(6) Mean thickness net porous interval (ft):	minimum:	12	most likely:	18	maximum:	24
(7) Mean porosity net porous interval (fraction):	minimum:	0.12	most likely:	0.15	maximum:	0.18
Buoyant Tra	pping Proba	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(o) Dao yant dapping polo volumo (minasi).	minimum:	270	most likely:	280	maximum:	11,000
Residual Tra	apping Prob	abilistic Ca	lculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum: _	0.010	most likely:	20.00	maximum:	300

Storage Assessment I	Jnit (	(SAU):
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ΝЛ		Sand	a+a n a
IVI	man	Sano	ISTOHE

#### Number:

C50340109

Alloca	ations of the SAU to States	
Montana	contains	13 % of mean SAU area
Wyoming	contains	87 % of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
Allocations of the SA	AU to General Land-Ownership C	ategories 61 % of mean SAU area
State lands	contain	5.7 % of mean SAU area
Tribal lands	contain	0 % of mean SAU area
Private and other lands	contain	33 % of mean SAU area

Assessment geologist:	J. Covault				Date:	10/22/2010
Assessment region:	Rocky Mountains and Northern Great Plains			lains		
Province:	Bighorn Basin				Number:	C5034
Basin:	Bighorn Basin				Number:	C503401
Storage Assessment Unit (SAU):	Muddy Sandsto	one Deep			Number:	C50340110
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	torage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	:heck one):			3,000-13,000 f	t	-
				> 13,000 ft		X
(1) SAU depth from surface (ft):	minimum:			15,000	maximum:	19,000
(2) Area of the SAU (acres):	minimum:		•	737,000	maximum:	811,000
(3) Mean total SAU thickness (ft):	minimum:	20	most likely:	30	maximum:	40
(4) SAU water quality (check one):  Most of the water in the SAU is salin Water in this SAU is both saline and		0,000 mg/L T	DS).			
Most of the water in the SAU is fres		) mg/L TDS).				Х
(5) Area fraction available for storage (generally,	the area where S	AU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	0.00	most likely:	0.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	12	most likely:	18	maximum:	24
(7) Mean porosity net porous interval (fraction):	minimum:	0.05	most likely:	0.07	maximum:	0.09
Buoyant Tr	apping Probal	bilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	3	most likely:	4	maximum:	680
Residual Tr	apping Proba	bilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	0.10	maximum:	10

Storage	Assessment	Hnit	1001	ı١
Storage	Assessment	Unit	ISAU	"

Muddy	Sandstone	Doon
wuaav	Sandstone	Deeb

#### Number:

C50340110

Alloc	ations of the SAU to States	
Montana	contains	1.5 % of mean SAU are
Wyoming	contains	99 % of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	AU to General Land-Ownership Cat	tegories 75_% of mean SAU are
State lands	contain	5.3 % of mean SAU are
Tribal lands	contain	0 % of mean SAU are
Private and other lands	contain	19 % of mean SAU are

Assessment geologist:	W. Craddock				Date:	10/22/2010
Assessment region:	Rocky Mounta	ains and Nortl	hern Great P	lains		
Province:	Bighorn Basin	1			Number:	C5034
Basin:	Bighorn Basin				Number:	C503401
Storage Assessment Unit (SAU):	Frontier Sands	stone			Number:	C50340111
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft > 13,000 ft	t	X
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	8,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	1,941,000	most likely:	2,157,000	maximum:	2,373,000
(3) Mean total SAU thickness (ft):	minimum: _	700	most likely:	750	maximum:	800
(4) SAU water quality (check one):						
Most of the water in the SAU is salin	-	10,000 mg/L T	DS).			
Water in this SAU is both saline and						Х
Most of the water in the SAU is fresh	(less than 10,00	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	0.19	most likely:	0.31	maximum:	0.65
(6) Mean thickness net porous interval (ft):	minimum:	75	most likely:	100	maximum:	125
(7) Mean porosity net porous interval (fraction):	minimum:	0.09	most likely:	0.13	maximum:	0.17
Buoyant Tra	pping Proba	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
to, buoyant aupping polo volumo (minus),.	minimum:	550	most likely:	620	maximum:	23,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	30.00	maximum:	500

Storage Assessment Unit (SAU):	Frontier Sandstone

Offshore areas

Storage	Assessment Unit (SAU):	Frontier Sandstone		Number:	C50340111
		Allocations of the SAU to States			
(1)	Montana	contains	13	% of mean	SAU area
(2)	Wyoming	contains	87	% of mean	SAU area
(3)		contains		% of mean	SAU area
(4)		contains		% of mean	SAU area
(5)		contains		% of mean	SAU area
(6)		contains		% of mean	SAU area
(7)		contains		% of mean	SAU area
(8)		contains		% of mean	SAU area
	Allocations	s of the SAU to General Land-Ownership	Categorie	S	
(1)	Federal lands	contain	62	% of mean	SAU area
(2)	State lands	_ contain	5.4	% of mean	SAU area
(3)	Tribal lands	contain	0	% of mean	SAU area
(4)	Private and other lands	contain	32	% of mean	SAU area

contain

0 % of mean SAU area

Assessment geologist:	W. Craddock				Date:	10/22/2010
Assessment region:	Rocky Mounta	ins and Nortl	nern Great P	lains		
Province:	Bighorn Basin				Number:	C5034
Basin:	Bighorn Basin				Number:	C503401
Storage Assessment Unit (SAU):	Frontier Sands	stone Deep			Number:	C50340112
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the S	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 f	t	
				> 13,000 ft		Х
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	15,500	maximum:	18,000
(2) Area of the SAU (acres):	minimum:	588,000	most likely:	653,000	maximum:	718,000
(3) Mean total SAU thickness (ft):	minimum: _	650	most likely:	680	maximum:	710
(4) SAU water quality (check one):						
Most of the water in the SAU is saling Water in this SAU is both saline and the saline and the saline are saline as the saline are saline are saline as the saline are saline as the saline are saline are saline as the saline are saline as the saline are saline as the saline are salin	_	10,000 mg/L T	DS).			x
Most of the water in the SAU is fresh		00 mg/L TDS).				
/C) Avec function and leble for stone of transmitted		2011		th 10 000	./I TDC\.	
(5) Area fraction available for storage (generally, the	minimum:	•	most likely:	0.83	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum: _	90	most likely:	115	maximum:	140
(7) Mean porosity net porous interval (fraction):	minimum:	0.04	most likely:	0.07	maximum:	0.10
Buoyant Tra	ipping Proba	nbilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	0	most likely:	41	maximum:	2,400
Residual Tra	apping Proba	abilistic Ca	lculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	0.50	maximum:	10

Storage	Assessment	Unit	IIAP	١.
Storage	ASSESSIIIEIIL	UIIIL	ISAU	ı.

Offshore areas

Frontier	Sandstone	Deen

#### Number:

0 % of mean SAU area

C50340112

Montana	contains	1.2	% of mean SAU
Wyoming	contains	99	% of mean SAU a
	contains		% of mean SAU a
	contains		% of mean SAU a
	contains		% of mean SAU a
	contains		% of mean SAU a
	contains		% of mean SAU a
	contains		% of mean SAU a
Allocations of the SA	AU to General Land-Ownership C	ategorie	s
Federal lands	contain	77	% of mean SAU a
Federal lands State lands	containcontain		% of mean SAU a
		5.5	

Assessment geologist:	W. Craddock				Date:	2/1/2012
Assessment region:	Eastern Mid-Co	ntinent				
Province:	Black Warrior Basin				Number:	C5065
Basin:	Black Warrior Basin				Number:	C506501
Storage Assessment Unit (SAU):	Lewis Sandstor	ne			Number:	C50650101
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	torage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,000	maximum:	11,000
(2) Area of the SAU (acres):	minimum:	643,000	most likely:	804,000	maximum:	884,000
(3) Mean total SAU thickness (ft):	minimum:	100	most likely:	200	maximum:	400
(4) SAU water quality (check one):						
Most of the water in the SAU is salin	e (greater than 1	0,000 mg/L T	DS).			Х
Water in this SAU is both saline and	fresh.					
Most of the water in the SAU is fresh	n (less than 10,000	) mg/L TDS).				
(5) Area fraction available for storage (generally, t	the area where S	AU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	0.90	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	10	most likely:	20	maximum:	40
(7) Mean porosity net porous interval (fraction):	minimum:	0.07	most likely:	0.10	maximum:	0.13
Buoyant Tr	apping Proba	bilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(e) zao jant a apping poro Totalio (ilinios),	minimum:	2	most likely:	9	maximum:	200
Residual Tr	apping Proba	bilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	20.00	maximum:	200

Storage Assessment I	Jnit (	(SAU):
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(4)

(5)

Private and other lands

Offshore areas

		_	
- 1	SIMA	Sand	lstone

Number

96 % of mean SAU area

0 % of mean SAU area

C50650101

Assessment unit (SAU):	Lewis Sandstone		Number:	C00000101	
	Allocations of the SAU to States				
Mississippi	contains	100	% of mean	SAU area	
	contains		% of mean	SAU area	
	contains		% of mean	SAU area	
	contains		% of mean	SAU area	
	contains		% of mean	SAU area	
	contains		% of mean	SAU area	
	contains		% of mean	SAU area	
	contains		% of mean	SAU area	
Allocation	s of the SAU to General Land-Ownership Cate	gories	s		
Federal lands	contain	4.1	% of mean	SAU area	
State lands	contain	0	% of mean	SAU area	
Tribal lands	contain	0	% of mean	SAU area	

contain

Assessment geologist:	W. Craddock			Date:	2/1/2012	
Assessment region:	Eastern Mid-0	Continent				
Province:	Black Warrior Basin				Number:	C5065
Basin:	Black Warrior Basin				Number:	C506501
Storage Assessment Unit (SAU):	Parkwood For	rmation			Number:	C50650102
SAU relationship to NOGA AU:				_		
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:		maximum:	10,500
(2) Area of the SAU (acres):	minimum:	1,447,000	most likely:	1,608,000	maximum:	1,769,000
(3) Mean total SAU thickness (ft):	minimum:	350	most likely:	450	maximum:	550
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fresh	fresh.					x
					>	
(5) Area fraction available for storage (generally, t	he area where minimum:	-	ter has more most likely:	1.00	g/L TDS): maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	20	most likely:	35	maximum:	70
(7) Mean porosity net porous interval (fraction):	minimum:	0.07	most likely:	0.10	maximum:	0.13
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	470	most likely:	490	maximum:	5,800
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	20.00	maximum:	200

Storage Asse	essment Unit (SAU):	Parkwood Formation		Number:	C50650102
	Allo	ocations of the SAU to States			
(1)	Alabama	contains	31	% of mean S	SAU area
(2)	Mississippi	contains	69	% of mean S	SAU area
(3)		contains		% of mean S	SAU area
(4)		contains		% of mean S	SAU area
(5)		contains		% of mean S	SAU area
(6)		contains		% of mean S	SAU area
(7)		contains		% of mean S	SAU area
(8)		contains		% of mean S	SAU area
	Allocations of the	SAU to General Land-Ownershi	p Categorie	S	

#### (1) Federal lands contain < 1.0 $\,$ % of mean SAU area < 1.0 % of mean SAU area (2) State lands contain (3) Tribal lands 0 % of mean SAU area contain 99 % of mean SAU area (4) Private and other lands contain

contain

0 % of mean SAU area

(5)

Offshore areas

Assessment geologist:	J. Covault				Date:	7/5/2011
Assessment region:	Rocky Mount	ains and Nortl	hern Great P	lains		
Province:	Denver Basin				Number:	C5039
Basin:	Denver Basin				Number:	C503901
Storage Assessment Unit (SAU):	Plainview and	d Lytle Format	ions		Number:	C50390101
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	i	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,000	maximum:	11,000
(2) Area of the SAU (acres):	minimum:	21,960,000	most likely:	24,400,000	maximum:	26,840,000
(3) Mean total SAU thickness (ft):	minimum:	110	most likely:	140	maximum:	170
(4) SAU water quality (check one):  Most of the water in the SAU is saling	a (greater than	10 000 mg/L T	'ne)			
Water in this SAU is both saline and	_	10,000 mg/L 1	D3).			x
Most of the water in the SAU is fresh		000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	ne area where	SAII nore was	ter has more	than 10 000 mg	/I TDS)·	
(a) Area traction available for storage (generally, in	minimum:	-	most likely:	0.30	maximum:	0.70
(6) Mean thickness net porous interval (ft):	minimum:	80	most likely:	100	maximum:	120
(7) Mean porosity net porous interval (fraction):	minimum:	0.04	most likely:	0.10	maximum:	0.16
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	9	most likely:	1,000	maximum:	200,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.001	most likely:	0.10	maximum:	150

Storage Assessment I	Jnit (	(SAU):
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Offshore areas

Plainview	and	lvtle	Form	ations
I Iaiiivievv	allu	LVUC	I UI III	ฉนบทจ

#### Number:

0 % of mean SAU area

C50390101

Allocations of the SAU to States							
(1)	Colorado	contains 59	% of mean SAU area				
(2)	Nebraska	contains 29	% of mean SAU area				
(3)	Wyoming	contains 12	% of mean SAU area				
(4)		contains	% of mean SAU area				
(5)		contains	% of mean SAU area				
(6)		contains	% of mean SAU area				
(7)		contains	% of mean SAU area				
(8)		contains	% of mean SAU area				
	Allocations of the SAU to General Land	I-Ownership Categorie	s				
(1)	Federal lands	contain1.9	% of mean SAU area				
(2)	State lands	contain 5.7	% of mean SAU area				
(3)	Tribal lands	contain0	% of mean SAU area				
(4)	Private and other lands	contain 92	% of mean SAU area				

Assessment geologist:	J. Covault				Date:	7/5/2011
Assessment region:	Rocky Mount	ains and Nortl	hern Great P	lains		
Province:	Denver Basin				Number:	C5039
Basin:	Denver Basin				Number:	C503901
Storage Assessment Unit (SAU):	Muddy Sands	stone			Number:	C50390102
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	5,500	maximum:	10,000
(2) Area of the SAU (acres):	minimum:	21,150,000	most likely:	23,500,000	maximum:	25,850,000
(3) Mean total SAU thickness (ft):	minimum:	160	most likely:	200	maximum:	240
(4) SAU water quality (check one):  Most of the water in the SAU is saline	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					Х
Most of the water in the SAU is fresh	(less than 10,0	000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	ne area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	0.05	most likely:	0.30	maximum:	0.80
(6) Mean thickness net porous interval (ft):	minimum:	80	most likely:	100	maximum:	120
(7) Mean porosity net porous interval (fraction):	minimum:	0.13	most likely:	0.18	maximum:	0.23
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	3,640	most likely:	3,707	maximum:	270,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	100.00	maximum:	2,000

Storage Assessment I	Jnit (	(SAU):
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M	uddv	' Sanc	Istone

#### Number:

C50390102

	Alloca	itions of the SAU to States	
)	Colorado	contains	60 % of mean SAU area
)	Nebraska	contains	28 % of mean SAU area
)	Wyoming	contains	12 % of mean SAU area
		contains	% of mean SAU area
		contains	% of mean SAU area
		contains	% of mean SAU area
		contains	% of mean SAU area
		contains	% of mean SAU area
		U to General Land-Ownership C	ategories  1.7 % of mean SAU area
	State lands	contain	5.7 % of mean SAU area
	Tribal lands	contain	0 % of mean SAU area
	Private and other lands	contain	93 % of mean SAU area
	Offshore areas	contain	0 % of mean SAU area

Assessment geologist:	R. Drake			Date:	7/5/2011	
Assessment region:	Rocky Mountains and Northern Great Plains			lains		
Province:	Denver Basin			Number:	C5039	
Basin:	Denver Basin				Number:	C503901
Storage Assessment Unit (SAU):	Greenhorn Lin	nestone			Number:	C50390103
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft > 13,000 ft	:	X
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	5,730	maximum:	10,000
(2) Area of the SAU (acres):	minimum:	18,022,000	most likely:	20,024,000	maximum:	22,026,000
(3) Mean total SAU thickness (ft):	minimum:	50	most likely:	125	maximum:	200
(4) SAU water quality (check one):  Most of the water in the SAU is salin	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	_					Х
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAII nore wat	ter has more	than 10 000 mg	/I TDS)·	
(o) Thou hadden available for elerage (generally, e	minimum:	-	most likely:	0.30	maximum:	0.50
(6) Mean thickness net porous interval (ft):	minimum: _	5	most likely:	13	maximum:	20
(7) Mean porosity net porous interval (fraction):	minimum:	0.07	most likely:	0.09	maximum:	0.12
Buoyant Tra	apping Proba	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(	minimum: _	0	most likely:	10	maximum:	3,000
Residual Tra	apping Prob	abilistic Ca	lculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	0.10	maximum:	2

Ctorogo	Assessment	l Ini+	(CAII	١
Storage	Assessment	Unit	ISAU	,

Offshore areas

_			
Green	horn	Limesto	ne

Number:

0 % of mean SAU area

C50390103

Colorado	contains	59 % of mean SAU
Nebraska	contains	27 % of mean SAU
Wyoming	contains	14 % of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
Allocations of the S.	AU to General Land-Ownership Cat	egories
Federal lands	contain	1.6 % of mean SAU
Federal lands State lands	contain	
	contain	1.6 % of mean SAU

Assessment geologist:	R. Drake			Date:	7/5/2011	
Assessment region:	Rocky Mountains and Northern Great Plains			lains		
Province:	Denver Basin			Number:	C5039	
Basin:	Denver Basin				Number:	C503901
Storage Assessment Unit (SAU):	Niobrara Formation and Codell Sandstone			ne	Number:	C50390104
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	5,000	maximum:	9,300
(2) Area of the SAU (acres):	minimum:	15,335,000	most likely:	17,039,000	maximum:	18,743,000
(3) Mean total SAU thickness (ft):	minimum:	300	most likely:	350	maximum:	400
(4) SAU water quality (check one):  Most of the water in the SAU is saling	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					Х
Most of the water in the SAU is fresh	(less than 10,0	000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	0.10	most likely:	0.30	maximum:	0.50
(6) Mean thickness net porous interval (ft):	minimum:	10	most likely:	20	maximum:	40
(7) Mean porosity net porous interval (fraction):	minimum:	0.08	most likely:	0.10	maximum:	0.12
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	660	most likely:	1,000	maximum:	19,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	0.10	maximum:	2

Offshore areas

0 % of mean SAU area

#### Allocations of the SAU to States

Colorado	contains	63 % of mean SAU area
Nebraska	contains	22 % of mean SAU area
Wyoming	contains	15 % of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	U to General Land-Ownership C	ategories  1.7 % of mean SAU area
Federal lands		_
Allocations of the SA Federal lands  State lands  Tribal lands	contain	1.7 % of mean SAU area

Assessment geologist:	S. Brennan			Date:	7/5/2011	
Assessment region:	Rocky Mount	ains and Nortl	nern Great Pl	lains		
Province:	Denver Basin			Number:	C5039	
Basin:	Denver Basin				Number:	C503901
Storage Assessment Unit (SAU):	Terry and Hy	giene Sandsto	ne Members		Number:	C50390105
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	i	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	4,500	maximum:	7,300
(2) Area of the SAU (acres):	minimum:	5,760,000	most likely:		maximum:	7,040,000
(3) Mean total SAU thickness (ft):	minimum:	300	most likely:	500	maximum:	700
(4) SAU water quality (check one):						
Most of the water in the SAU is saling Water in this SAU is both saline and the saline and the saline are saline as the saline are saline are saline as the saline are saline are saline as the saline are saline as the saline are saline	_	10,000 mg/L T	DS).			x
Most of the water in the SAU is fresh		00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	ne area where	SAU pore wa	ter has more	than 10.000 mg	/L TDS):	
(1)	minimum:	-	most likely:	0.30	maximum:	0.50
(6) Mean thickness net porous interval (ft):	minimum:	20	most likely:	35	maximum:	50
(7) Mean porosity net porous interval (fraction):	minimum:	0.06	most likely:	0.08	maximum:	0.10
Buoyant Tra	ipping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(o) Dao Jane a apping poro volumo (minosi).	minimum:	350	most likely:	380	maximum:	6,300
Residual Tra	apping Prob	abilistic Ca	lculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	1.00	maximum:	10

Offshore areas

0 % of mean SAU area

#### Allocations of the SAU to States

	Allocations of the SAU	to States	
(1)	Colorado	contains 60	% of mean SAU area
(2)	Nebraska	contains 2.9	% of mean SAU area
(3)	Wyoming	contains 37	% of mean SAU area
(4)		contains	% of mean SAU area
(5)		contains	% of mean SAU area
(6)		contains	% of mean SAU area
(7)		contains	% of mean SAU area
(8)		contains	% of mean SAU area
	Allocations of the SAU to General Land	d-Ownership Categorie	s
(1)	Federal lands	contain 3.2	% of mean SAU area
(2)	State lands	contain6.5	% of mean SAU area
(3)	Tribal lands	contain0	% of mean SAU area
(4)	Private and other lands	contain90	% of mean SAU area

Assessment geologist:	R. Drake			Date:	8/11/2011	
Assessment region:	Rocky Mount	ains and Nort	hern Great P	lains		
Province:	Eastern Great Basin				Number:	C5019
Basin:	Eastern Great Basin				Number:	C501901
Storage Assessment Unit (SAU):	Navajo Sand	stone			Number:	C50190102
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	4,000	most likely:	7,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	765,000	most likely:	850,000	maximum:	935,000
(3) Mean total SAU thickness (ft):	minimum:	1,200	most likely:	1,400	maximum:	1,600
(4) SAU water quality (check one):  Most of the water in the SAU is saline	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and f	fresh.					Х
Most of the water in the SAU is fresh	(less than 10,0	000 mg/L TDS).				
(5) Area fraction available for storage (generally, the	ne area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	-	most likely:	0.70	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	300	most likely:	400	maximum:	500
(7) Mean porosity net porous interval (fraction):	minimum:	0.05	most likely:	0.08	maximum:	0.13
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(6) Buoyant trapping pore volume (Minibol).	minimum:	46	most likely:	83	maximum:	13,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	1.00	maximum:	300

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Storage	Assessment	Unit	(SA)	U	ı.

Nava	in Can	dstone
INGVG	io Saii	ustone

#### Number:

C50190102

Allocations of the SAU to State	Allocation	s of the	SAU t	o State
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	Allocations of the SAU to States	
Utah	contains	100 % of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	the SAU to General Land-Ownership C	sategories  52 % of mean SAU area
State lands	contain	6.4 % of mean SAU area
Tribal lands	contain	< 1.0 % of mean SAU area
Private and other lands	contain	42 % of mean SAU area
Offshore areas	contain	0 % of mean SAU area

Assessment geologist:	S. Brennan			Date:	4/11/2012	
Assessment region:	Eastern Mesozoic Rift Basins					
Province:	Eastern Mesozoic Rift Basins			Number:	C5068	
Basin:	Newark Basin				Number:	C506801
Storage Assessment Unit (SAU):	Stockton For	mation			Number:	C50680101
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,500	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	798,000	most likely:	997,000	maximum:	1,097,000
(3) Mean total SAU thickness (ft):	minimum:	2,000	most likely:	3,000	maximum:	4,000
(4) SAU water quality (check one):						
Most of the water in the SAU is salin	_	10,000 mg/L T	DS).			
Water in this SAU is both saline and Most of the water in the SAU is fresh		)00 mg/L TDS).				X
(5) Area fraction available for storage (generally, t	he area where minimum:	-	ter has more most likely:	than 10,000 mg 0.70	/L TDS): maximum:	1.00
	·	0.10	most iikory.	0.70	muximum.	1.00
(6) Mean thickness net porous interval (ft):	minimum:	350	most likely:	550	maximum:	750
(7) Mean porosity net porous interval (fraction):	minimum:	0.05	most likely:	0.07	maximum:	0.10
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(0) D						
(8) Buoyant trapping pore volume (MMbbl):	minimum:	48	most likely:	65	maximum:	13,000
Residual Tr	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.001	most likely:	0.10	maximum:	100

Storage	Assessment	Unit	(SAU)
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Offshore areas

Stockton	F	
STOCKTOD	Formation	าท

Number:

0 % of mean SAU area

C50680101

	Allocations of the SAU to States							
(1)	New Jersey	contains 59	% of mean SAU area					
(2)	New York	contains 3.0	% of mean SAU area					
(3)	Pennsylvania	contains 38	% of mean SAU area					
(4)		contains	% of mean SAU area					
(5)		contains	% of mean SAU area					
(6)		contains	% of mean SAU area					
(7)		contains	% of mean SAU area					
(8)		contains	% of mean SAU area					
	Allocations of the SAU to General Land	l-Ownership Categorie	s					
(1)	Federal lands	contain < 1.0	% of mean SAU area					
(2)	State lands	_ contain2.4	% of mean SAU area					
(3)	Tribal lands	contain0	% of mean SAU area					
(4)	Private and other lands	_contain98	% of mean SAU area					

Assessment geologist:	E. Slucher, M	. Buursink			Date:	12/16/2010
Assessment region:	Rocky Mount	ains and Nort	hern Great P	lains		
Province:	Greater Green River Basin			Number:	C5037	
Basin:	Greater Green River Basin			Number:	C503701	
Storage Assessment Unit (SAU):	Paleozoic Cor	nposite			Number:	C50370101
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	neck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	5,900	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	4,195,000	most likely:	4,661,000	maximum:	5,127,000
(3) Mean total SAU thickness (ft):	minimum:	500	most likely:	800	maximum:	1,000
(4) SAU water quality (check one):						
Most of the water in the SAU is salin	-	10,000 mg/L T	DS).			
Water in this SAU is both saline and		00 ma/L TDC\				X
Most of the water in the SAU is fresh	(less than 10,0	บบ mg/L Tบอ).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	-	most likely:	0.40	maximum:	0.60
(6) Mean thickness net porous interval (ft):	minimum:	300	most likely:	500	maximum:	700
(7) Mean porosity net porous interval (fraction):	minimum:	0.05	most likely:	0.09	maximum:	0.13
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(0) D (MAMILLI)						
(8) Buoyant trapping pore volume (MMbbl):	minimum:	490	most likely:	630	maximum:	7,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	1.00	maximum:	300

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Storage	Assessment	Unit	(SA)	U	ı.

Offshore areas

Dal	leozoic	Cam	nacita
гα	IUUZUIU	GUIII	มบอเเษ

Number:

0 % of mean SAU area

C50370101

	ocations of the SAU to States	
Colorado	contains	26 % of mean SAU a
Utah	contains	< 1.0 % of mean SAU a
Wyoming	contains	74 % of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
Allocations of the	SAU to General Land-Ownership (	Categories
	SAU to General Land-Ownership (	Categories 54 % of mean SAU a
Federal lands	contain	54 % of mean SAU a

Assessment geologist:	E. Slucher, M	. Buursink			Date:	12/16/2010
Assessment region:	Rocky Mount	ains and Nort	hern Great P	lains		
Province:	Greater Green River Basin			Number:	C5037	
Basin:	Greater Green River Basin			Number:	C503701	
Storage Assessment Unit (SAU):	Paleozoic Co	mposite Deep			Number:	C50370102
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 f	t	
				> 13,000 ft		Х
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	16,000	maximum:	24,500
(2) Area of the SAU (acres):	minimum:	8,538,000	most likely:	9,487,000	maximum:	10,436,000
(3) Mean total SAU thickness (ft):	minimum:	900	most likely:	1,400	maximum:	2,100
(4) SAU water quality (check one):						
Most of the water in the SAU is salin Water in this SAU is both saline and	_	10,000 mg/L T	DS).			x
Most of the water in the SAU is fresh		00 mg/L TDS).				^
IT) Area frontier and labor for atomical from and the smaller to	h	CAIL		th 10 000	.// TDC\.	
(5) Area fraction available for storage (generally, t	ne area wnere minimum:	-	ter nas more most likely:	0.50	maximum:	0.90
			,.			
(6) Mean thickness net porous interval (ft):	minimum:	700	most likely:	900	maximum:	1200
(7) Mean porosity net porous interval (fraction):	minimum:	0.02	most likely:	0.06	maximum:	0.09
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(2) 2						
(8) Buoyant trapping pore volume (MMbbl):	minimum:	310	most likely:	650	maximum:	270,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	0.30	maximum:	10

Storage	Assessment	Unit	(SAII)	١
Sturage	ASSESSINEIL	UIIIL	UHU.	I.

Offshore areas

D. L	0	D
Paleozoic	Composite	Deep

### Number:

0 % of mean SAU area

C50370102

	ations of the SAU to States		
Colorado	contains	13	% of mean SAU are
Utah	contains	3.0	% of mean SAU ar
Wyoming	contains	84	% of mean SAU ar
	contains		% of mean SAU ar
	contains		% of mean SAU ar
	contains		% of mean SAU ar
	contains		% of mean SAU ar
	contains		% of mean SAU ar
Allocations of the SA	AU to General Land-Ownership C		
	·	68	S % of mean SAU ar % of mean SAU ar
Federal lands	contain	3.9	% of mean SAU ar

Assessment geologist:	M. Buursink				Date:	12/16/2010
Assessment region:	Rocky Mount	ains and Nort	hern Great P	lains		
Province:	Greater Green River Basin			Number:	C5037	
Basin:	Greater Green River Basin			Number:	C503701	
Storage Assessment Unit (SAU):	Nugget Sand	stone			Number:	C50370103
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	5,200	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	611,000	most likely:	679,000	maximum:	747,000
(3) Mean total SAU thickness (ft):	minimum:	800	most likely:	850	maximum:	900
(4) SAU water quality (check one):  Most of the water in the SAU is saling Water in this SAU is both saline and	-	10,000 mg/L T	DS).			
Most of the water in the SAU is fresh		000 mg/L TDS).				Х
(5) Area fraction available for storage (generally, t	ne area where	SAU pore wa	ter has more	than 10.000 mg	ı/L TDS):	
(*, *, *, *, *, *, *, *, *, *, *, *, *, *	minimum:	-	most likely:	0.60	maximum:	0.90
(6) Mean thickness net porous interval (ft):	minimum:	270	most likely:	280	maximum:	300
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.13	maximum:	0.15
Buoyant Tra	ipping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	20	most likaly:	100	mavimum:	1,700
,					muzimum.	1,700
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	10.00	maximum:	200

Storage	Assessment	Hnit	1001	ı١
Storage	Assessment	Unit	ISAU	"

Offshore areas

Nuo	net	Sand	dstone
INUU	ıueı	Sant	<b>JOLUII</b> E

### Number:

0 % of mean SAU area

C50370103

Utah	contains < 1.0 % of mean SAU
Wyoming	contains 99 % of mean SAU
	contains % of mean SAU
	contains % of mean SAU
	contains % of mean SAU
	contains % of mean SAU
	contains % of mean SAU
	contains % of mean SAL
Allocations of t	he SAU to General Land-Ownership Categories
	,
	contain 54 % of mean SAU
Federal lands	contain 54 % of mean SAU

Assessment geologist:	M. Buursink			Date:	12/16/2010	
Assessment region:	Rocky Mountains and Northern Great Plains					
Province:	Greater Green River Basin				Number:	C5037
Basin:	Greater Green River Basin				Number:	C503701
Storage Assessment Unit (SAU):	Nugget Sand	stone Deep			Number:	C50370104
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 f	t	
				> 13,000 ft		Х
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	15,200	maximum:	22,500
(2) Area of the SAU (acres):	minimum:	5,378,000	most likely:	5,975,000	maximum:	6,573,000
(3) Mean total SAU thickness (ft):	minimum:	800	most likely:	900	maximum:	1,200
(4) SAU water quality (check one):						
Most of the water in the SAU is saling Water in this SAU is both saline and the saline and the saline are saline as the saline are saline are saline as the saline are saline as the saline are saline are saline as the saline are saline as the saline are saline as the saline are salin	_	10,000 mg/L T	DS).			x
Most of the water in the SAU is fresh		00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	no area where	SAII nore wa	tar has mora	than 10 000 mc	ı/I TDS):	
(3) Area fraction available for Storage (generally, in	minimum:	-	most likely:	0.80	maximum:	0.95
(6) Mean thickness net porous interval (ft):	minimum:	270	most likely:	300	maximum:	400
(7) Mean porosity net porous interval (fraction):	minimum:	0.06	most likely:	0.10	maximum:	0.12
Buoyant Tra	ipping Prob	abilistic Ca	lculation	Inputs		
(0) D (MAMILLI)						
(8) Buoyant trapping pore volume (MMbbl):	minimum:	50	most likely:	220	maximum:	80,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	1.00	maximum:	10

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### Number:

C50370104

Alloca	ations of the SAU to States	
Utah	contains	4.5 % of mean SAU are
Wyoming	contains	96 % of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	AU to General Land-Ownership Cato	egories 69 % of mean SAU ar
State lands	contain	3.3 % of mean SAU are
Tribal lands	contain	0 % of mean SAU ar
Private and other lands	contain	28 % of mean SAU ar

Assessment geologist:	R. Drake			Date:	12/16/2010	
Assessment region:	Rocky Mountains and Northern Great Plains					
Province:	Greater Green River Basin				Number:	C5037
Basin:	Greater Green River Basin				Number:	C503701
Storage Assessment Unit (SAU):	Muddy Sands	stone and Clov	erly Formation	on	Number:	C50370105
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	8,400	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	8,326,000	most likely:		maximum:	10,176,000
(3) Mean total SAU thickness (ft):	minimum:	150	most likely:	240	maximum:	320
(4) SAU water quality (check one):  Most of the water in the SAU is saline	e (greater than	10.000 mg/L T	DS).			
Water in this SAU is both saline and	_	. o,ooo g,	201.			X
Most of the water in the SAU is fresh		000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	ne area where	SAU pore wa	ter has more	than 10.000 mg	ı/L TDS):	
(1)	minimum:	-	most likely:	0.10	maximum:	0.40
(6) Mean thickness net porous interval (ft):	minimum:	60	most likely:	96	maximum:	128
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.15	maximum:	0.18
Buoyant Tra	ipping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	3,335	most likely:	3,400	maximum:	19,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	11.00	maximum:	500

Offshore areas

0 % of mean SAU area

### Allocations of the SAU to States

Colorado	contains	24	% of mean SAU
Utah	contains	< 1.0	% of mean SAU
Wyoming	contains	75	% of mean SAU
	contains		% of mean SAU
	contains		% of mean SAU
	contains		% of mean SAU
	contains		% of mean SAU
	contains		% of mean SAU
Allocations of the S	contains  SAU to General Land-Ownership Cat  contain		s
	SAU to General Land-Ownership Cat	60	% of mean SAU  % of mean SAU  % of mean SAU
Federal lands	SAU to General Land-Ownership Cat	4.8	S % of mean SAU

Assessment geologist:	R. Drake			Date:	12/16/2010	
Assessment region:	Rocky Mountains and Northern Great Plains					
Province:	Greater Green River Basin			Number:	C5037	
Basin:	Greater Green River Basin				Number:	C503701
Storage Assessment Unit (SAU):	Muddy Sands	stone and Clov	erly Formation	on Deep	Number:	C50370106
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 f	t	
				> 13,000 ft		Х
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	15,100	maximum:	21,166
(2) Area of the SAU (acres):	minimum:	4,282,000	most likely:	4,758,000	maximum:	5,234,000
(3) Mean total SAU thickness (ft):	minimum:	200	most likely:	270	maximum:	350
(4) SAU water quality (check one):  Most of the water in the SAU is saling	_	10,000 mg/L T	DS).			
Water in this SAU is both saline and t		000 ma/L TDC\				
Most of the water in the SAU is fresh	(less than 10,t	100 HIg/L 1D3).				X
(5) Area fraction available for storage (generally, tl	ne area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	0.05	most likely:	0.10	maximum:	0.40
(6) Mean thickness net porous interval (ft):	minimum:	80	most likely:	110	maximum:	140
(7) Mean porosity net porous interval (fraction):	minimum:	0.07	most likely:	0.12	maximum:	0.14
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	160	most likely:	180	maximum:	6,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	12.00	maximum:	100

C50370106

# Allocations of the SAU to States

1)	Colorado	contains	8.1	% of mean SAU area
2)	<u>Utah</u>	contains	4.6	% of mean SAU area
3)	Wyoming	contains	87	% of mean SAU area
4)		contains		% of mean SAU area
5)		contains		% of mean SAU area
6)		contains		% of mean SAU area
7)		contains		% of mean SAU area
3)		contains		% of mean SAU area
	Allocations of the SAU to Gene	eral Land-Ownership C	Categorie	s
	Federal lands	contain	69	% of mean SAU area
	State lands	contain	3.4	% of mean SAU area
	Tribal lands	contain	0	% of mean SAU area
	Private and other lands	contain	27	% of mean SAU area
	Offshore areas	contain	0	% of mean SAU area

Assessment geologist:	R. Drake			Date:	12/16/2010	
Assessment region:	Rocky Mountains and Northern Great Plains					
Province:	Greater Green River Basin				Number:	C5037
Basin:	Greater Green River Basin				Number:	C503701
Storage Assessment Unit (SAU):	Frontier Sand	stone			Number:	C50370107
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	8,800	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	5,410,000	most likely:	6,011,000	maximum:	6,612,000
(3) Mean total SAU thickness (ft):	minimum:	200	most likely:	400	maximum:	700
(4) SAU water quality (check one):  Most of the water in the SAU is saline Water in this SAU is both saline and the saline and	_	10,000 mg/L T	DS).			
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				Х
(5) Area fraction available for storage (generally, t	ne area where	SAU pore wa	ter has more	than 10.000 mc	ı/L TDS):	
(-,	minimum:		most likely:	0.10	maximum:	0.40
(6) Mean thickness net porous interval (ft):	minimum:	50	most likely:	100	maximum:	200
(7) Mean porosity net porous interval (fraction):	minimum:	0.12	most likely:	0.15	maximum:	0.18
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	8,400	most likely:	8,466	maximum:	125,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	1.00	maximum:	250

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Storage	Assessment	Unit	ISAU	):

Frontier Sandstone			
	Erontin	r Cana	detane

Number:

C50370107

Allocations	of the	CVII	ltο	Ctatac
AHOCAHOUS	or me	SAU		orares

Allocation	is of the SAU to States			
Colorado	contains	20 %	% of mean SAU area	
Utah	contains	< 1.0 %	% of mean SAU area	
Wyoming	contains	79 %	% of mean SAU area	
	contains	%	% of mean SAU area	
	contains	9	% of mean SAU area	
	contains	%	% of mean SAU area	
	contains	9	% of mean SAU area	
	contains	%	% of mean SAU area	
Allocations of the SAU to	General Land-Ownership C	-	% of mean SAU area	
-		,		
State lands	contain	4.8 %	% of mean SAU area	
Tribal lands	contain	<u> </u>	6 of mean SAU area	
Private and other lands	contain	38 %	% of mean SAU area	
Offshore areas	contain	0 %	% of mean SAU area	

Assessment geologist:	R. Drake				Date:	12/16/2010
Assessment region:	Rocky Mountains and Northern Great Plains			lains		
Province:	Greater Green	River Basin			Number:	C5037
Basin:	Greater Green	River Basin			Number:	C503701
Storage Assessment Unit (SAU):	Frontier Sands	tone Deep			Number:	C50370108
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	Storage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	:heck one):			3,000-13,000 f	t	
				> 13,000 ft		X
(1) SAU depth from surface (ft):	minimum: _	13,000	most likely:	14,900	maximum:	20,700
(2) Area of the SAU (acres):	minimum:			7,134,000	maximum:	7,847,000
(3) Mean total SAU thickness (ft):	minimum: _	200	most likely:	400	maximum:	600
(4) SAU water quality (check one):  Most of the water in the SAU is salin Water in this SAU is both saline and		10,000 mg/L T	<sup>-</sup> DS).			
Most of the water in the SAU is fresh	h (less than 10,00	00 mg/L TDS)				Х
(5) Area fraction available for storage (generally,	the area where S	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum: _	0.05	most likely:	0.10	maximum:	0.60
(6) Mean thickness net porous interval (ft):	minimum:	50	most likely:	100	maximum:	200
(7) Mean porosity net porous interval (fraction):	minimum: _	0.05	most likely:	0.07	maximum:	0.09
Buoyant Tr	apping Proba	ıbilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum: _	10	most likely:	60	maximum:	7,200
Residual Tr	apping Proba	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	0.10	maximum:	1

Storage	Assessment	Hnit	1001	ı١
Storage	Assessment	Unit	ISAU	"

Offshore areas

Farmer's and	0 1 - 4	D
Frontier	Sandstone	veed

### Number:

0 % of mean SAU area

C50370108

	Allocations of the SAU to	o States	
(1)	Colorado	contains 13	% of mean SAU area
(2)	Utah	contains 2.6	% of mean SAU area
(3)	Wyoming	contains 84	% of mean SAU area
(4)		contains	% of mean SAU area
(5)		contains	% of mean SAU area
(6)		contains	% of mean SAU area
(7)		contains	% of mean SAU area
(8)		contains	% of mean SAU area
	Allocations of the SAU to General Land	-Ownership Categorie	s
(1)	Federal lands	contain 70	% of mean SAU area
(2)	State lands	contain 3.6	% of mean SAU area
(3)	Tribal lands	contain 0	% of mean SAU area
(4)	Private and other lands	contain 27	% of mean SAU area

Assessment geologist:	S. Brennan				Date:	12/17/2010
Assessment region:	Rocky Mount	ains and Nort	hern Great P	lains		
Province:	Greater Gree	n River Basin			Number:	C5037
Basin:	Greater Gree	n River Basin			Number:	C503701
Storage Assessment Unit (SAU):	Hilliard, Baxto	er, and Manco	s Shales		Number:	C50370109
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	8,500	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	7,623,000	most likely:	8,470,000	maximum:	9,317,000
(3) Mean total SAU thickness (ft):	minimum:	3,500	most likely:	5,000	maximum:	6,000
(4) SAU water quality (check one):  Most of the water in the SAU is salin	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					Х
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	0.30	most likely:	0.60	maximum:	0.80
(6) Mean thickness net porous interval (ft):	minimum:	200	most likely:	300	maximum:	400
(7) Mean porosity net porous interval (fraction):	minimum:	0.13	most likely:	0.15	maximum:	0.17
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	102	most likely:	116	maximum:	30,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	1.00	maximum:	70

Offshore areas

0 % of mean SAU area

		States	
Colorado	co	ntains 16	% of mean SAU a
Utah	co	ntains < 1.0	% of mean SAU a
Wyoming	co	ntains 84	% of mean SAU a
	co	ntains	% of mean SAU a
	co	ntains	% of mean SAU a
	co	ntains	% of mean SAU a
	co	ntains	% of mean SAU a
	co	ntains	_ % of mean SAU a
Allocation	ns of the SAU to General Land-Ov	wnersnip Categorie	es
Allocation			es 8_% of mean SAU a
	co	ntain <u>63</u>	
Federal lands	co	ontain 63	3 % of mean SAU a

Assessment geologist:	S. Brennan				Date:	12/17/2010
Assessment region:	Rocky Mounta	ins and Nort	hern Great P	lains		
Province:	Greater Green	River Basin			Number:	C5037
Basin:	Greater Green	River Basin			Number:	C503701
Storage Assessment Unit (SAU):	Hilliard, Baxter	r, and Manco	s Shales De	ер	Number:	C50370110
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	:heck one):			3,000-13,000 f	t	
				> 13,000 ft		X
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	16,000	maximum:	20,000
(2) Area of the SAU (acres):	minimum:			1,244,000	maximum:	1,368,000
(3) Mean total SAU thickness (ft):	minimum: _	3,500	most likely:	5,000	maximum:	6,000
(4) SAU water quality (check one):						
Most of the water in the SAU is salir	ne (greater than 1	10,000 mg/L T	DS).			
Water in this SAU is both saline and						X
Most of the water in the SAU is fresh	n (less than 10,00	0 mg/L TDS).				
(5) Area fraction available for storage (generally,	the area where S	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	0.00	most likely:	0.80	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	200	most likely:	300	maximum:	400
(7) Mean porosity net porous interval (fraction):	minimum: _	0.06	most likely:	0.08	maximum:	0.10
Buoyant Tr	apping Proba	bilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(o) Daoyant trapping pore volume (trivibbi).	minimum: _	0	most likely:	1	maximum:	2,000
Residual Tr	apping Proba	ıbilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.001	most likely:	0.10	maximum:	5

### Allocations of the SAU to States

711000		
Utah	contains	12 % of mean SAU are
Wyoming	contains	88 % of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
Allocations of the SA	U to General Land-Ownership Ca	ategories 71 % of mean SAU are
State lands	contain	5.1 % of mean SAU are
Tribal lands	contain	0 % of mean SAU are
Private and other lands	contain	24 % of mean SAU are
Offshore areas	contain	0 % of mean SAU are

Assessment geologist:	P. Warwick				Date:	12/17/2010
Assessment region:	Rocky Mount	ains and Nortl	hern Great P	lains		
Province:	Greater Gree	n River Basin			Number:	C5037
Basin:	Greater Gree	n River Basin			Number:	C503701
Storage Assessment Unit (SAU):	Mesaverde G	roup			Number:	C50370111
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft	i	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	9,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	3,978,000	most likely:	4,420,000	maximum:	4,862,000
(3) Mean total SAU thickness (ft):	minimum:	2,100	most likely:	2,600	maximum:	3,100
(4) SAU water quality (check one):  Most of the water in the SAU is saling	e (areater than	10.000 mg/L T	DS).			
Water in this SAU is both saline and	-	3,	-,			X
Most of the water in the SAU is fresh	(less than 10,0	000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	· ·	most likely:	0.45	maximum:	0.70
(6) Mean thickness net porous interval (ft):	minimum:	590	most likely:	730	maximum:	870
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.12	maximum:	0.16
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	870	most likely:	890	maximum:	100,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	3.00	maximum:	100

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Storage	Assessment	Unit	(SA)	U	ı.

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### Number:

C50370111

Alloca	ations of the SAU to States	
Colorado	contains	30 % of mean SAU are
Wyoming	contains	70 % of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	AU to General Land-Ownership Cateo	gories 66 % of mean SAU are
State lands	contain	4.5 % of mean SAU are
Tribal lands	contain	0 % of mean SAU are
Private and other lands	contain	30 % of mean SAU are

Assessment geologist:	P. Warwick				Date:	12/17/2010
Assessment region:	Rocky Mountains and Northern Great Plains					
Province:	Greater Green River Basin				Number:	C5037
Basin:	Greater Green River Basin				Number:	C503701
Storage Assessment Unit (SAU):	Mesaverde Gr	oup Deep			Number:	C50370112
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	check one):			3,000-13,000 f	t	
				> 13,000 ft		X
(1) SAU depth from surface (ft):	minimum: _	13,000	most likely:	15,000	maximum:	18,000
(2) Area of the SAU (acres):	minimum: _	601,000	most likely:	668,000	maximum:	735,000
(3) Mean total SAU thickness (ft):	minimum: _	2,000	most likely:	2,500	maximum:	2,900
(4) SAU water quality (check one):						
Most of the water in the SAU is salir	ne (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					X
Most of the water in the SAU is fresh	h (less than 10,00	00 mg/L TDS).				
(5) Area fraction available for storage (generally,	the area where S	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum: _	0.25	most likely:	0.50	maximum:	0.70
(6) Mean thickness net porous interval (ft):	minimum:	560	most likely:	700	maximum:	810
(7) Mean porosity net porous interval (fraction):	minimum:	0.04	most likely:	0.08	maximum:	0.12
Buoyant Tr	apping Proba	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(o) Daoyant trapping pore volume (trivibbi).	minimum: _	0	most likely:	18	maximum:	20,000
Residual Tr	apping Proba	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum: _	0.010	most likely:	0.08	maximum:	10

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Storage	Assessment	Unit	(SA)	U	ı.

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C50370112

Allo	cations of the SAU to States	
Wyoming	contains	100 % of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	SAU to General Land-Ownership Ca	ategories  83 % of mean SAU are
State lands	contain	2.0 % of mean SAU are
Tribal lands	contain	0 % of mean SAU are
Private and other lands	contain	15 % of mean SAU are

Assessment geologist:	S. Brennan				Date:	12/17/2010
Assessment region:	Rocky Mount	ains and Nortl	hern Great P	lains		
Province:	Greater Green River Basin				Number:	C5037
Basin:	Greater Gree	n River Basin			Number:	C503701
Storage Assessment Unit (SAU):	Dad Member				Number:	C50370113
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	8,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	3,769,000	most likely:		maximum:	4,607,000
(3) Mean total SAU thickness (ft):	minimum:	1,600	most likely:	2,000	maximum:	2,400
(4) SAU water quality (check one):  Most of the water in the SAU is saling	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.	_				Х
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	0.10	most likely:	0.20	maximum:	0.45
(6) Mean thickness net porous interval (ft):	minimum:	150	most likely:	200	maximum:	250
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.15	maximum:	0.17
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	1,349	most likely:	1,444	maximum:	8,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	3.00	maximum:	60

Offshore areas

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### Number:

0 % of mean SAU area

C50370113

	ations of the SAU to States	
Colorado	contains	25 % of mean SAU a
Wyoming	contains	75 % of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	AU to General Land-Ownership C	-
	AU to General Land-Ownership Ca	ategories 68 % of mean SAU a
		-
Federal lands	contain	68 % of mean SAU a

Assessment geologist:	S. Brennan				Date:	12/17/2010
Assessment region:	Rocky Mount	ains and Nortl	hern Great P	lains		
Province:	Greater Gree	n River Basin			Number:	C5037
Basin:	Greater Gree	n River Basin			Number:	C503701
Storage Assessment Unit (SAU):	Dad Member	Deep			Number:	C50370114
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 ft	t	
				> 13,000 ft		Х
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	15,000	maximum:	17,000
(2) Area of the SAU (acres):	minimum:	306,000	most likely:	340,000	maximum:	374,000
(3) Mean total SAU thickness (ft):	minimum:	1,800	most likely:	2,000	maximum:	2,500
(4) SAU water quality (check one):						
Most of the water in the SAU is saling Water in this SAU is both saling and	_	10,000 mg/L T	DS).			x
Most of the water in the SAU is fresh		00 mg/L TDS).				^
del A. C. di Citation de la constant		0.411			(I TDO)	
(5) Area fraction available for storage (generally, t	ne area wnere minimum:	· ·	ter nas more most likely:	than 10,000 mg	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	300	most likely:	450	maximum:	550
(.,			,.			
(7) Mean porosity net porous interval (fraction):	minimum:	0.04	most likely:	0.06	maximum:	0.09
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	3	most likely:	5	maximum:	1,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.001	most likely:	0.10	maximum:	10

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Storage	Assessment	Unit	(SA)	U	ı.

		_	
Dad	Memb	ner D	leer

### Number:

C50370114

# Allocations of the SAU to States

All	ocations of the SAU to States	
Wyoming	contains	100 % of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	SAU to General Land-Ownership Cate	egories  87 % of mean SAU area
State lands	contain	2.4 % of mean SAU area
Tribal lands	contain	0 % of mean SAU area
Private and other lands	contain	11_ % of mean SAU area
Offshore areas	contain	0 % of mean SAU area

Assessment geologist:	E. Slucher, P.	Warwick			Date:	12/15/2010
Assessment region:	Rocky Mount	ains and Nort	hern Great P	lains		
Province:	Hanna, Laran	nie, and Shirle	y Basins		Number:	C5030
Basin:	Hanna, Laran	nie, and Shirle	y Basins		Number:	C503001
Storage Assessment Unit (SAU):	Paleozoic Co	mposite			Number:	C50300101
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	6,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	1,997,000	most likely:		maximum:	2,441,000
(3) Mean total SAU thickness (ft):	minimum:	400	most likely:	600	maximum:	800
(4) SAU water quality (check one):						
Most of the water in the SAU is saling Water in this SAU is both saline and	_	10,000 mg/L T	DS).			x
Most of the water in the SAU is fresh		)00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	ne area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	-	most likely:	0.20	maximum:	0.30
(6) Mean thickness net porous interval (ft):	minimum:	120	most likely:	180	maximum:	240
(7) Mean porosity net porous interval (fraction):	minimum:	0.06	most likely:	0.12	maximum:	0.17
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	18	most likely:	70	maximum:	7,024
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.005	most likely:	100.00	maximum:	1,500

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Storage	Assessment	Unit	(SA)	U	ı.

Palanznic	Composite
Paleozoic	Composite

Number:

C50300101

## Allocations of the SAU to States

Allo	cations of the SAU to States	
Wyoming	contains	100 % of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
Allocations of the S	AU to General Land-Ownership Ca	ategories  31 % of mean SAU are
State lands	contain	7.8 % of mean SAU are
Tribal lands	contain	0 % of mean SAU are
Private and other lands	contain	61 % of mean SAU are

Assessment geologist:	E. Slucher, P. V	Varwick			Date:	12/15/2010
Assessment region:	Rocky Mountai	ins and Nort	hern Great P	lains		
Province:	Hanna, Larami	e, and Shirle	y Basins		Number:	C5030
Basin:	Hanna, Larami	e, and Shirle	y Basins		Number:	C503001
Storage Assessment Unit (SAU):	Paleozoic Com				Number:	C50300102
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	istics of the S	Storage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 f	t	
	•			> 13,000 ft		X
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:		maximum:	38,000
(2) Area of the SAU (acres):	minimum:		-	388,000		427,000
(3) Mean total SAU thickness (ft):	minimum:		most likely:			900
(4) SAU water quality (check one):						
Most of the water in the SAU is salin	e (greater than 1	0.000 ma/L T	DS).			
Water in this SAU is both saline and		0,000 mg/ L 1	501.			X
Most of the water in the SAU is fresh		0 mg/L TDS).				
(5) Area fraction available for storage (generally, t		-				
	minimum:	0.00	most likely:	0.20	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	150	most likely:	210	maximum:	270
(7) Mean porosity net porous interval (fraction):	minimum:	0.03	most likely:	0.07	maximum:	0.09
Puovant Tr	— apping Proba	hilictic Co	laulation	Innute		
Buoyant III	apping Proba	DIIISTIC CE	ilculation	inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	0	most likely:	7	maximum:	730
Residual Tra	apping Proba	bilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.001	most likely:	1.00	maximum:	100

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Storage	Assessment	Unit	(SA)	U	ı.

	_	_
Dolograia	Composite	Daan
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Paleozoic Composite Deep			Number:	C50300102
Allocations of the SAU to	States			
c	contains _	100	% of mean S	SAU area

(1)	Wyoming	contains 100	% of mean SAU area
(2)		contains	% of mean SAU area
(3)		contains	% of mean SAU area
(4)		contains	% of mean SAU area
(5)		contains	% of mean SAU area
(6)		contains	% of mean SAU area
(7)		contains	% of mean SAU area
(8)		contains	% of mean SAU area
	Allocations of the SAU to General Land-	Ownership Categorie	s
(1)	Federal lands	contain 42	% of mean SAU area
(2)	State lands	contain 2.8	% of mean SAU area

(1)	Federallands	contain	42 % of mean SAU area
(2)	State lands	contain	2.8 % of mean SAU area
(3)	Tribal lands	contain	0 % of mean SAU area
(4)	Private and other lands	contain	56 % of mean SAU area
(5)	Offshore areas	contain	0 % of mean SAU area

Assessment geologist:	J. Covault			Date:	12/20/2010	
Assessment region:	Rocky Mountains and Northern Great Plains					
Province:	Hanna, Laran	nie, and Shirle	y Basins		Number:	C5030
Basin:	Hanna, Laran	nie, and Shirle	y Basins		Number:	C503001
Storage Assessment Unit (SAU):	Muddy Sands	stone and Clov	erly Formation	on	Number:	C50300103
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	6,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	1,051,000	most likely:	1,168,000	maximum:	1,285,000
(3) Mean total SAU thickness (ft):	minimum:	200	most likely:	230	maximum:	260
(4) SAU water quality (check one):  Most of the water in the SAU is saline	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					Х
Most of the water in the SAU is fresh	(less than 10,0	000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	ne area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	-	most likely:	0.00	maximum:	0.94
(6) Mean thickness net porous interval (ft):	minimum:	70	most likely:	80	maximum:	90
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.15	maximum:	0.20
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
to buoyant trapping pore volume (wholse).	minimum:	15	most likely:	19	maximum:	35,200
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	40.00	maximum:	1,000

### Number:

C50300103

### Allocations of the SAU to States

Wyoming	contains	100 % of mean SAU area
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
Allocations of the SA	U to General Land-Ownership Ca	ategories  26 % of mean SAU are
State lands	contain	6.9 % of mean SAU area
Tribal lands	contain	0 % of mean SAU are
Private and other lands	contain	67 % of mean SAU are
Offshore areas	contain	0 % of mean SAU are

Assessment geologist:	J. Covault			Date:	12/20/2010	
Assessment region:	Rocky Mountains and Northern Great Plains					
Province:	Hanna, Laramie, and Shirley Basins			Number:	C5030	
Basin:	Hanna, Laramie	e, and Shirle	y Basins		Number:	C503001
Storage Assessment Unit (SAU):	Muddy Sandsto	one and Clov	erly Formati	on Deep	Number:	C50300104
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	torage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 f	t	-
				> 13,000 ft		X
(1) SAU depth from surface (ft):	minimum:		most likely:	1	maximum:	35,000
(2) Area of the SAU (acres):	minimum:	290,000		322,000	maximum:	354,000
(3) Mean total SAU thickness (ft):	minimum:	200	most likely:	230	maximum:	260
(4) SAU water quality (check one):  Most of the water in the SAU is salin Water in this SAU is both saline and		0,000 mg/L T	DS).			
Most of the water in the SAU is fres	h (less than 10,000	) mg/L TDS).				Х
(5) Area fraction available for storage (generally,	the area where S	AU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	-	most likely:	_	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	70	most likely:	80	maximum:	90
(7) Mean porosity net porous interval (fraction):	minimum:	0.05	most likely:	0.07	maximum:	0.10
Buoyant Tr	apping Probal	bilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	0	most likely:	1	maximum:	2,800
Residual Tr	apping Proba	bilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	0.50	maximum:	10

C50300104

## Allocations of the SAU to States

(1)	Wyoming	contains	100 % of mean SAU area
(2)		contains	% of mean SAU area
(3)		contains	% of mean SAU area
(4)		contains	% of mean SAU area
(5)		contains	% of mean SAU area
(6)		contains	% of mean SAU area
(7)		contains	% of mean SAU area
(8)		contains	% of mean SAU area
	Allocations of the SAU to Gene	ral Land-Ownership C	Categories
(1)	Federal lands	contain	42 % of mean SAU area
(2)	State lands	contain	2.5 % of mean SAU area
(3)	Tribal lands	contain	0 % of mean SAU area
(4)	Private and other lands	contain	55 % of mean SAU area
(5)	Offshore areas	contain	0 % of mean SAU area

essment geologist: M. Merrill				Date:	12/15/2010	
Assessment region:	Rocky Mountains and Northern Great Plains			ains		
Province:	Hanna, Laram	ie, and Shirle	y Basins		Number:	C5030
Basin:	Hanna, Laram		y Basins		Number:	C503001
Storage Assessment Unit (SAU):	Frontier Sands	stone			Number:	C50300105
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	914,000	most likely:	1,015,000	maximum:	1,117,000
(3) Mean total SAU thickness (ft):	minimum: _	600	most likely:	700	maximum:	730
(4) SAU water quality (check one):						
Most of the water in the SAU is salin	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					Х
Most of the water in the SAU is fresh	(less than 10,00	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	0.30	most likely:	0.60	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	20	most likely:	45	maximum:	60
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.12	maximum:	0.16
Buoyant Tra	apping Proba	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(o) Daoyant trapping pore volume (vinibbl).	minimum:	0	most likely:	2	maximum:	200
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	10.00	maximum:	100

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Storage	Assessment	Unit	ISAU	"

Offshore areas

Frontier Sandstone

Number:

0 % of mean SAU area

C50300105

## of the CAII to Ctete

Wyoming	contains	100 % of mean S	SAU
	contains	% of mean S	SAU
	contains	% of mean S	SAU
	contains	% of mean S	SAU a
	contains	% of mean S	SAU a
	contains	% of mean S	SAU a
	contains	% of mean S	SAU a
	contains	% of mean S	SAU
Allocations of the	SAU to General Land-Ownership C		
	SAU to General Land-Ownership C	ategories	SAU a
Federal lands	SAU to General Land-Ownership C	ategories 27 % of mean S	SAU i

Assessment geologist:	nent geologist: M. Merrill				Date:	12/15/2010
Assessment region:	Rocky Mountai	ns and Nort	hern Great P	lains		
Province:	Hanna, Laramie	e, and Shirle	y Basins		Number:	C5030
Basin:	Hanna, Laramie	e, and Shirle	y Basins		Number:	C503001
Storage Assessment Unit (SAU):	Frontier Sandst	one Deep			Number:	C50300106
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	torage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	check one):			3,000-13,000 f	t	
				> 13,000 ft		X
(1) SAU depth from surface (ft):	minimum:			22,000		34,000
(2) Area of the SAU (acres):	minimum:			273,000		300,000
(3) Mean total SAU thickness (ft):	minimum:	700	most likely:	715	maximum:	730
(4) SAU water quality (check one):						
Most of the water in the SAU is salir	ne (greater than 1	0,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					Х
Most of the water in the SAU is fresh	h (less than 10,000	) mg/L TDS).				-
(5) Area fraction available for storage (generally,	the area where S	AU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	0.50	most likely:	0.75	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	40	most likely:	45	maximum:	60
(7) Mean porosity net porous interval (fraction):	minimum:	0.05	most likely:	0.07	maximum:	0.09
Buoyant Tr	apping Proba	bilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	0	most likely:	2	maximum:	7
Residual Tr	apping Proba	bilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	0.10	maximum:	10

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Storage	Assessment	Unit	(SA)	U	ı.

Frontier	Sandstone	Deen

#### Number:

C50300106

Allo	cations of the SAU to States	
Wyoming	contains	100 % of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	SAU to General Land-Ownership Cat	egories  43 % of mean SAU ar
State lands	contain	2.2 % of mean SAU are
Tribal lands	contain	0 % of mean SAU are
Private and other lands	contain	55 % of mean SAU are
Offshore areas	contain	0 % of mean SAU are

Assessment geologist:	essment geologist: M. Merrill			Date:	12/15/2010	
Assessment region:	Rocky Mountains and Northern Great Plains					
Province:	Hanna, Laram	ie, and Shirle	y Basins		Number:	C5030
Basin:	Hanna, Laram	ie, and Shirle	y Basins		Number:	C503001
Storage Assessment Unit (SAU):	Shannon Sandstone Member				Number:	C50300107
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	443,000	most likely:	492,000	maximum:	541,000
(3) Mean total SAU thickness (ft):	minimum:	600	most likely:	800	maximum:	1,000
(4) SAU water quality (check one):						
Most of the water in the SAU is saling	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					Х
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, tl	ne area where	SAU pore wat	ter has more	than 10,000 mg	/L TDS):	
	minimum:	0.00	most likely:	0.20	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	100	most likely:	160	maximum:	210
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.13	maximum:	0.16
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(1),, (1)	minimum:	0	most likely:	11	maximum:	136
Residual Tra	apping Prob	abilistic Ca	lculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	5.00	maximum:	300

Storage Assessment U	Jnit (	(SAU)	١
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Offshore areas

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\_\_\_\_\_0 % of mean SAU area

C50300107

# Allocations of the SAU to States

Wyoming	contains	100 % of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
Allocations of the	SAU to General Land-Ownership Contains	% of mean SAU and an sauden sa
	SAU to General Land-Ownership Ca	ategories
Federal lands	SAU to General Land-Ownership Ca	ategories 33 % of mean SAU a

Assessment geologist:	M. Merrill				Date:	12/15/2010
Assessment region:	Rocky Mountai	ins and Nort	hern Great P	lains		
Province:	Hanna, Larami	e, and Shirle	y Basins		Number:	C5030
Basin:	Hanna, Larami	e, and Shirle	y Basins		Number:	C503001
Storage Assessment Unit (SAU):	Shannon Sand				Number:	C50300108
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the S	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 f	t	
(1) CALL don'th from ourfo as /ft).	minimum:	12 000	maat likaku	> 13,000 ft	maximum:	X 21 000
<ul><li>(1) SAU depth from surface (ft):</li><li>(2) Area of the SAU (acres):</li></ul>	_	13,000 174,000	-	22,000 193,000		31,000
(3) Mean total SAU thickness (ft):	minimum: minimum:	600	most likely:		maximum: maximum:	212,000 1,000
(6) Mount total 6) to anomoso (11).			moot mory.		maximam.	1,000
(4) SAU water quality (check one):						
Most of the water in the SAU is saling	e (greater than 1	0,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					х
Most of the water in the SAU is fresh	(less than 10,00	0 mg/L TDS).				
(5) Area fraction available for storage (generally, t	ho aroa whoro S	All noro wa	tor has more	than 10 000 mc	ı/I TDS):	
(3) Area fraction available for Storage (generally, in	minimum:	-	most likely:			1.00
		0.00	most incry.	0.03	maximum.	1.00
(6) Mean thickness net porous interval (ft):	minimum:	100	most likely:	160	maximum:	210
(7) Mean porosity net porous interval (fraction):	minimum:	0.04	most likely:	0.05	maximum:	0.08
	_		·			
Buoyant Tra	apping Proba	bilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
,,,,,,,, .	minimum:	0	most likely:	5	maximum:	23
Residual Tra	apping Proba	bilistic Ca	alculation	Inputs		
				-		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	0.10	maximum:	10

Offshore areas

0 % of mean SAU area

## Allocations of the SAU to States

Wyoming	contains	100 % of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
Allocations of the S	SAU to General Land-Ownership Ca	% of mean SAU and tegories  43 % of mean SAU and the same saudates
	SAU to General Land-Ownership Ca	tegories
Federal lands	SAU to General Land-Ownership Ca contain	tegories  43 % of mean SAU a

Assessment geologist:	W. Craddock				Date:	12/15/2010
Assessment region:	Rocky Mounta	ains and Nortl	nern Great P	lains		
Province:	Hanna, Laram	ie, and Shirle	y Basins		Number:	C5030
Basin:	Hanna, Laram	ie, and Shirle	y Basins		Number:	C503001
Storage Assessment Unit (SAU):	Mesaverde Fo	ormation			Number:	C50300109
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteris	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (ch	neck one):			3,000-13,000 ft	i	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	5,500	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	293,000	most likely:	326,000	maximum:	359,000
(3) Mean total SAU thickness (ft):	minimum:	4,400	most likely:	4,700	maximum:	5,000
(4) SAU water quality (check one):						
Most of the water in the SAU is saline	_	10,000 mg/L T	DS).			
Water in this SAU is both saline and f	resh.					X
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, the	ne area where	SAU pore wat	ter has more	than 10,000 mg	/L TDS):	
	minimum:	0.00	most likely:	0.35	maximum:	0.90
(6) Mean thickness net porous interval (ft):	minimum: _	850	most likely:	1000	maximum:	1150
(7) Mean porosity net porous interval (fraction):	minimum:	0.09	most likely:	0.13	maximum:	0.17
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(o) Buoyant trapping pore volume (wholibil).	minimum:	0	most likely:	1,100	maximum:	46,000
Residual Tra	pping Prob	abilistic Ca	lculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.050	most likely:	40.00	maximum:	1,000

Storage Assessment I	Jnit (	(SAU):
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(3)

(4)

(5)

Tribal lands

Offshore areas

Private and other lands

N A	F 4'
Mesaverde	Formation

Number:

0 % of mean SAU area

61 % of mean SAU area

0 % of mean SAU area

C50300109

		<u> </u>
Alloca	ations of the SAU to States	
Wyoming	contains	100 % of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
Allocations of the SA	.U to General Land-Ownership Ca	ategories
Federal lands	contain	35 % of mean SAU

contain

contain

Assessment geologist:	W. Craddock				Date:	12/15/2010
Assessment region:	Rocky Mounta	ains and North	nern Great P	ains		
Province:	Hanna, Laram	ie, and Shirle	y Basins		Number:	C5030
Basin:	Hanna, Laram	ie, and Shirle	y Basins		Number:	C503001
Storage Assessment Unit (SAU):	Mesaverde Fo	ormation Deep	)		Number:	C50300110
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 ft > 13,000 ft	:	x
(1) SAU depth from surface (ft):	minimum:	13.000	most likely:		maximum:	28,000
(2) Area of the SAU (acres):	minimum:		most likely:		maximum:	98,000
(3) Mean total SAU thickness (ft):	minimum:		most likely:		maximum:	4,600
(4) SAU water quality (check one):						
Most of the water in the SAU is saling	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					X
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wat	er has more	than 10,000 mg	/L TDS):	
	minimum: _	0.00	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum: _	1070	most likely:	1120	maximum:	1170
(7) Mean porosity net porous interval (fraction):	minimum:	0.05	most likely:	0.07	maximum:	0.09
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum: _	0	most likely:	91	maximum:	7,400
Residual Tra	apping Prob	abilistic Ca	lculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	5.00	maximum:	100

Storage Assessment U	nit (	(SAU)	١:
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		n
Mesaverde	Formation	Deep

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C50300110

#### Allocations of the SAU to States

Allot	cations of the SAU to States	
Wyoming	contains	100 % of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	AU to General Land-Ownership Ca	ategories  47 % of mean SAU area
State lands	contain	1.3 % of mean SAU area
Tribal lands	contain	0 % of mean SAU area
Private and other lands	contain	52 % of mean SAU area
Offshore areas	contain	0 % of mean SAU area

Assessment geologist:	W. Craddock				Date:	12/15/2010
Assessment region:	Rocky Mount	ains and Nortl	nern Great P	lains		
Province:	Hanna, Laramie, and Shirley Basins				Number:	C5030
Basin:	Hanna, Laran	nie, and Shirle	y Basins		Number:	C503001
Storage Assessment Unit (SAU):	Dad Member				Number:	C50300111
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	5,500	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	168,000	most likely:	187,000	maximum:	206,000
(3) Mean total SAU thickness (ft):	minimum:	480	most likely:	520	maximum:	560
(4) SAU water quality (check one):						
Most of the water in the SAU is saling	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					X
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, tl	ne area where	SAU pore wat	ter has more	than 10,000 mg	/L TDS):	
	minimum:	0.00	most likely:	0.35	maximum:	0.90
(6) Mean thickness net porous interval (ft):	minimum:	260	most likely:	275	maximum:	290
(7) Mean porosity net porous interval (fraction):	minimum:	0.09	most likely:	0.13	maximum:	0.17
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(1) /	minimum:	0	most likely:	510	maximum:	11,000
Residual Tra	apping Prob	abilistic Ca	lculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.050	most likely:	40.00	maximum:	1,000

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Storage	Assessment	Unit	ISAU	"

Offshore areas

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Number:

0 % of mean SAU area

C50300111

#### Allocations of the SAU to States

Wyoming	contains	100 % of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
Allocations of the	SAU to General Land-Ownership Cate	egories  40 % of mean SAU
	·	
Federal lands	contain	40 % of mean SAU

Assessment geologist:	W. Craddock				Date:	12/15/2010
Assessment region:	Rocky Mountai	ins and Nortl	hern Great P	lains		
Province:	Hanna, Laramie, and Shirley Basins				Number:	C5030
Basin:	Hanna, Larami	e, and Shirle	y Basins		Number:	C503001
Storage Assessment Unit (SAU):	Dad Member D	)eep			Number:	C50300112
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	:heck one):			3,000-13,000 f	t	
				> 13,000 ft		X
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	17,000	maximum:	26,000
(2) Area of the SAU (acres):	minimum:	55,000	most likely:	61,000	maximum:	67,000
(3) Mean total SAU thickness (ft):	minimum:	500	most likely:	530	maximum:	560
(4) SAU water quality (check one):						
Most of the water in the SAU is salir	ne (greater than 1	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					X
Most of the water in the SAU is fresh	h (less than 10,00	0 mg/L TDS).				
(5) Area fraction available for storage (generally,	the area where S	SAU pore wa	ter has more	than 10,000 mg	J/L TDS):	
	minimum:	0.00	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	225	most likely:	250	maximum:	275
(7) Mean porosity net porous interval (fraction):	minimum: _	0.03	most likely:	0.06	maximum:	0.09
Buoyant Tr	apping Proba	bilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(o) Dao Jant Rapping poro Volamo (minos),	minimum:	0	most likely:	46	maximum:	1,700
Residual Tr	apping Proba	bilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	0.10	maximum:	100

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Storage	Assessment	Unit	(SA)	U	ı.

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#### Number:

C50300112

## Allocations of the SAII to States

Alloc	cations of the SAU to States	
Wyoming	contains	100 % of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	AU to General Land-Ownership Car	tegories  47 % of mean SAU a
State lands	contain	1.4 % of mean SAU are
Tribal lands	contain	0 % of mean SAU are
Private and other lands	contain	52 % of mean SAU are
Offshore areas	contain	0 % of mean SAU are

Assessment geologist:	S. Brennan			Date:	12/19/2011	
Assessment region:	Eastern Mid-	Continent				
Province:	Illinois Basin				Number:	C5064
Basin:	Illinois Basin				Number:	C506401
Storage Assessment Unit (SAU):	Mount Simon	Sandstone			Number:	C50640101
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft	i	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	4,500	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	31,889,000	most likely:	35,432,000	maximum:	38,975,000
(3) Mean total SAU thickness (ft):	minimum:	900	most likely:	1,200	maximum:	1,500
(4) SAU water quality (check one):						
Most of the water in the SAU is saling	_	10,000 mg/L T	DS).			X
Water in this SAU is both saline and to Most of the water in the SAU is fresh		100 mg/L TDS)				
Most of the water in the one is nest	(1033 111111 10,0	100 mg/L 100/.				
(5) Area fraction available for storage (generally, the	ne area where	SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	1.00	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	540	most likely:	720	maximum:	900
(7) Mean porosity net porous interval (fraction):	minimum:	0.07	most likely:	0.11	maximum:	0.14
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
to baoyant trapping pore volume (wholse).	minimum:	250	most likely:	6,000	maximum:	120,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.005	most likely:	20.00	maximum:	1,300

Storage Assessment	Unit	(SAU):
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Offshore areas

#### Mount Simon Sandstone

Number: C50640101

0 % of mean SAU area

	Allocations of the SAU to States								
(1)	Illinois	contains	50	% of mean SAU area					
(2)	Indiana	_contains	42	% of mean SAU area					
(3)	Kentucky	_contains	7.3	% of mean SAU area					
(4)	Missouri	_contains	< 1.0	% of mean SAU area					
(5)	Ohio	_contains	< 1.0	% of mean SAU area					
(6)		_contains		% of mean SAU area					
(7)		contains		% of mean SAU area					
(8)		contains		% of mean SAU area					
	Allocations of the SAU to General Land	I-Ownership	Categorie	s					
(1)	Federal lands	_contain	2.9	% of mean SAU area					
(2)	State lands	_contain	0	% of mean SAU area					
(3)	Tribal lands	_ contain	0	% of mean SAU area					
(4)	Private and other lands	_contain _	97	% of mean SAU area					

Assessment geologist:	R. Drake, M. Merrill			Date:	12/19/2011	
Assessment region:	Eastern Mid-0	Continent				
Province:	Illinois Basin				Number:	C5064
Basin:	Illinois Basin				Number:	C506401
Storage Assessment Unit (SAU):	Ordovician Co	omposite			Number:	C50640102
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	4,650	maximum:	7,200
(2) Area of the SAU (acres):	minimum:	11,606,000	most likely:	14,508,000	maximum:	15,959,000
(3) Mean total SAU thickness (ft):	minimum:	2,900	most likely:	4,200	maximum:	5,500
(4) SAU water quality (check one):						
Most of the water in the SAU is saling	e (greater than	10,000 mg/L T	DS).			Х
Water in this SAU is both saline and	fresh.					
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	0.95	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	1015	most likely:	1470	maximum:	1925
(7) Mean porosity net porous interval (fraction):	minimum:	0.06	most likely:	0.09	maximum:	0.12
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(A)	minimum:	828	most likely:	874	maximum:	67,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	10.00	maximum:	400

Storage Assessment Unit (S	AU)	:
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Offshore areas

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# Number:

0 % of mean SAU area

C50640102

Allocations	of the SAU to States	
Illinois	contains	62 % of mean SAU a
Indiana	contains	16 % of mean SAU a
Kentucky	contains	22 % of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
Allocations of the SAU to G	eneral Land-Ownership C	ategories
Federal lands	contain	5.5 % of mean SAU a
		3.3 // of filedit GAO d
State lands	contain	
State lands Tribal lands		0 % of mean SAU a

Assessment geologist:	J. East				Date:	12/19/2011
Assessment region:	Eastern Mid-C	ontinent				
Province:	Illinois Basin				Number:	C5064
Basin:	Illinois Basin				Number:	C506401
Storage Assessment Unit (SAU):	Devonian and	Silurian Com	iposite		Number:	C50640103
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	Storage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	4,100	maximum:	5,500
(2) Area of the SAU (acres):	minimum:	7,595,000	most likely:	8,439,000	maximum:	9,283,000
(3) Mean total SAU thickness (ft):	minimum:	750	most likely:	1,100	maximum:	1,500
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fres	fresh.					X
(5) Area fraction available for storage (generally,	the area where S minimum: 	-	ter has more most likely:	_		1.00
(6) Mean thickness net porous interval (ft):	minimum: _	150	most likely:	240	maximum:	300
(7) Mean porosity net porous interval (fraction):	minimum: _	0.04	most likely:	0.08	maximum:	0.12
Buoyant Tr	apping Proba	bilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum: _	150	most likely:	175	maximum:	1,750
Residual Tr	apping Proba	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum: _	0.001	most likely:	10.00	maximum:	1,500

Offshore areas

0 % of mean SAU area

	ions of the SAU to States	
Illinois	contains	67 % of mean SAU a
Indiana	contains	13 % of mean SAU a
Kentucky	contains	20 % of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
Allocations of the SAU	to General Land-Ownership C	ategories
Allocations of the SAU	to General Land-Ownership Ca	ategories  5.5 % of mean SAU a
		-
Federal lands	contain	5.5 % of mean SAU a

Assessment geologist:	M. Buursink				Date:	3/17/2011
Assessment region:	Alaska					
Province:	Central Alaska	ì			Number:	C5002
Basin:	Kandik Basin				Number:	C500201
Storage Assessment Unit (SAU):	Nation River F	ormation			Number:	C50020101
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	check one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	6,000	maximum:	8,000
(2) Area of the SAU (acres):	minimum:	1,076,000	most likely:	1,195,000	maximum:	1,315,000
(3) Mean total SAU thickness (ft):	minimum:	3,000	most likely:	4,000	maximum:	5,000
(4) SAU water quality (check one):		40.000 # T	(D.Q.)			
Most of the water in the SAU is salin	_	10,000 mg/L 1	DS).			
Water in this SAU is both saline and Most of the water in the SAU is fresl		00 mg/L TDS)				X
Most of the water in the SAO is fresh	11 (1633 111411 10,00	10 mg/L 103/.				
(5) Area fraction available for storage (generally,	the area where S	SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum: _	0.00	most likely:	0.50	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum: _	1500	most likely:	2000	maximum:	2500
(7) Mean porosity net porous interval (fraction):	minimum: _	0.04	most likely:	0.10	maximum:	0.15
Buoyant Tr	apping Proba	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum: _	0	most likely:	150	maximum:	20,000
Residual Tr	apping Proba	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	1.00	maximum:	100

Storage	Assessment	Unit	(SAU):
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Nation	River	Form	ation

Number:

C50020101

Allocations of	the	SAU	to	States
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Allo	ocations of the SAU to States	
Alaska	contains	100 % of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	SAU to General Land-Ownership Ca	tegories  79 % of mean SAU are
State lands	contain	1.9 % of mean SAU are
Tribal lands	contain	19 % of mean SAU are
Private and other lands	contain	0 % of mean SAU are

Assessment geologist:	M. Buursink				Date:	3/17/2011
Assessment region:	Alaska					
Province:	Central Alaska				Number:	C5002
Basin:	Kandik Basin				Number:	C500201
Storage Assessment Unit (SAU):	Step Conglome	rate and Ta	hkandit Lime	stone	Number:	C50020102
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	Storage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	4,000	maximum:	6,000
(2) Area of the SAU (acres):	minimum:	1,040,000	most likely:	1,156,000	maximum:	1,272,000
(3) Mean total SAU thickness (ft):	minimum:	1,500	most likely:	2,000	maximum:	2,500
(4) SAU water quality (check one):						
Most of the water in the SAU is salin	e (greater than 1	0,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					Х
Most of the water in the SAU is fresh	ı (less than 10,000	0 mg/L TDS).				
(5) Area fraction available for storage (generally, t	:he area where S	AU pore wa	ter has more	than 10,000 mc	ı/L TDS):	
	minimum:	-	most likely:	0.50	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	750	most likely:	1000	maximum:	1250
(7) Mean porosity net porous interval (fraction):	minimum:	0.04	most likely:	0.10	maximum:	0.15
Buoyant Tra	apping Proba	bilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	0	most likely:	170	maximum:	40,000
Residual Tr	apping Proba	bilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	1.00	maximum:	1,000

#### Number:

C50020102

#### Allocations of the SAU to States

Alaska	contains	100 % of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
Fodoral lands	AU to General Land-Ownership Ca	ategories81_% of mean SAU ar
State lands	contain	2.0 % of mean SAU are
Tribal lands	contain	17 % of mean SAU are
Private and other lands	contain	0 % of mean SAU are
Offshore areas	contain	0 % of mean SAU are

Assessment geologist:	M. Buursink				Date:	3/1/2012
Assessment region:	Western Mid-Continent					
Province:	Kansas Basins	i			Number:	C5056
Basin:	Kansas Basins	i			Number:	C505601
Storage Assessment Unit (SAU):	Lower Paleozo	ic Composit	е		Number:	C50560101
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	Storage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	3,330	maximum:	4,000
(2) Area of the SAU (acres):	minimum:	2,174,000	most likely:	2,415,226	maximum:	2,657,000
(3) Mean total SAU thickness (ft):	minimum: _	200	most likely:	400	maximum:	800
(4) SAU water quality (check one):						
Most of the water in the SAU is salin Water in this SAU is both saline and		10,000 mg/L T	DS).			x
Most of the water in the SAU is fres		0 mg/L TDS).				
(5) Area fraction available for storage (generally,	the area where S	SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
( , , , , , , , , , , , , , , , , , , ,	minimum:	-	most likely:	_		0.90
(6) Mean thickness net porous interval (ft):	minimum: _	70	most likely:	150	maximum:	250
(7) Mean porosity net porous interval (fraction):	minimum:	0.05	most likely:	0.10	maximum:	0.15
Buoyant Tr	apping Proba	bilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(o) Buoyant trapping pore volume (whitibbly.	minimum: _	220	most likely:	230	maximum:	1,700
Residual Tr	apping Proba	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum: _	0.010	most likely:	10.00	maximum:	1,000

Storage Assessment I	Jnit (	(SAU):
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Offshore areas

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0 % of mean SAU area

C50560101

Kansas	contains	100 % of mean SAU
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
Allocations of the S	SAU to General Land-Ownership C	ategories  1.1 % of mean SAU a
Federal lands	contain	1.1 % of mean SAU a

Assessment geologist:	M. Buursink				Date:	3/7/2012
Assessment region:	Western Mid-Continent					
Province:	Kansas Basins				Number:	C5056
Basin:	Kansas Basir	ıs			Number:	C505601
Storage Assessment Unit (SAU):	Hunton Group	0			Number:	C50560102
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	3,330	maximum:	3,700
(2) Area of the SAU (acres):	minimum:	924,000	most likely:	1,026,922	maximum:	1,130,000
(3) Mean total SAU thickness (ft):	minimum:	55	most likely:	120	maximum:	210
(4) SAU water quality (check one):  Most of the water in the SAU is saline Water in this SAU is both saline and Most of the water in the SAU is fresh	fresh.	-				X
	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, o c g, o , .				
(5) Area fraction available for storage (generally, the	he area where minimum:	-	ter has more most likely:	than 10,000 mg 1.00	/L TDS): maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	20	most likely:	50	maximum:	90
(7) Mean porosity net porous interval (fraction):	minimum:	0.06	most likely:	0.08	maximum:	0.10
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	35	most likely:	40	maximum:	140
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	10.00	maximum:	120

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Storage	Assessment	Unit	(SAU):

Offshore areas

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0 % of mean SAU area

Storage A	Assessment Unit (SAU):	Hunton Group	Number:	C50560102
		Allocations of the SAU to States		
(1)	Kansas	contains	100 % of mean	SAU area
(2)		contains	% of mean	SAU area
(3)		contains	% of mean	SAU area
(4)		contains	% of mean	SAU area
(5)		contains	% of mean	SAU area
(6)		contains	% of mean	SAU area
(7)		contains	% of mean	SAU area
(8)		contains	% of mean	SAU area
	Allocations	of the SAU to General Land-Ownership Cate	gories	
(1)	Federal lands	contain	1.3 % of mean	SAU area
(2)	State lands	contain	0 % of mean	SAU area
(3)	Tribal lands	contain	0 % of mean	SAU area
(4)	Private and other lands	contain	99 % of mean	SAU area

Assessment geologist:	W. Rouse, W. Craddock				Date:	9/7/2011
Assessment region:	California					
Province:	Los Angeles Basin			Number:	C5014	
Basin:	Los Angeles Basin				Number:	C501401
Storage Assessment Unit (SAU):	Repetto and	Puente Format	tions		Number:	C50140101
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	4,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	225,000	most likely:	250,000	maximum:	275,000
(3) Mean total SAU thickness (ft):	minimum:	4,000	most likely:	6,000	maximum:	8,000
(4) SAU water quality (check one):  Most of the water in the SAU is saline	e (greater than	10,000 mg/L T	DS).			x
Water in this SAU is both saline and f	resh.					
Most of the water in the SAU is fresh	(less than 10,0	000 mg/L TDS).				
(5) Area fraction available for storage (generally, the	ne area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	0.70	most likely:	0.90	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	2000	most likely:	3000	maximum:	4000
(7) Mean porosity net porous interval (fraction):	minimum:	0.12	most likely:	0.17	maximum:	0.22
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
**	minimum:	520	most likely:	3,100	maximum:	9,400
Residual Tra	opping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	200.00	maximum:	1,500

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Storage	Assessment	Unit	ISAU	):

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#### Number:

C50140101

Allo	cations of the SAU to States	
California	contains	100 % of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	AU to General Land-Ownership C	ategories  1.2 % of mean SAU are
State lands	contain	< 1.0 % of mean SAU are
Tribal lands	contain	0 % of mean SAU are
Private and other lands	contain	99 % of mean SAU are
Offshore areas	contain	< 1.0 % of mean SAU are

Assessment geologist:	W. Rouse, W. Craddock			Date:	9/7/2011	
Assessment region:	California					
Province:	Los Angeles	Basin			Number:	C5014
Basin:	Los Angeles	Basin			Number:	C501401
Storage Assessment Unit (SAU):	Repetto and	Puente Format	ions Deep		Number:	C50140102
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	:	x
(1) SAU depth from surface (ft):	minimum:	13 000	most likely:		maximum:	15,500
(2) Area of the SAU (acres):	minimum:		most likely:		maximum:	22,000
(3) Mean total SAU thickness (ft):	minimum:		most likely:	8,600	maximum:	9,200
(4) SAU water quality (check one):  Most of the water in the SAU is saline Water in this SAU is both saline and the saline water in the SAU is fresh	fresh.					x
(5) Area fraction available for storage (generally, the	ne area where minimum:	-	ter has more most likely:	than 10,000 mg 1.00	/L TDS): maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	4800	most likely:	5300	maximum:	5700
(7) Mean porosity net porous interval (fraction):	minimum:	0.07	most likely:	0.10	maximum:	0.13
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	0	most likely:	60	maximum:	530
Residual Trapping Probabilistic Calculation Inputs						
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	50.00	maximum:	500

Storage Assessment U	Init (	(SAU):
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Number:	C50140102
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All	ocations of the SAU to States	
California	contains	100 % of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
<b>.</b>	SAU to General Land-Ownership Ca	otegories  O % of mean SAU area
State lands	contain	0 % of mean SAU area
Tribal lands	contain	0 % of mean SAU area
Private and other lands	contain	100 % of mean SAU area
Offshore areas	contain	0 % of mean SAU area

Assessment geologist:	M. Buursink			Date:	12/19/2011	
Assessment region:	Eastern Mid-Continent					
Province:	Michigan Bas	sin			Number:	C5063
Basin:	Michigan Bas	sin			Number:	C506301
Storage Assessment Unit (SAU):	Ordovician ar	nd Cambrian C	Composite		Number:	C50630101
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 ft > 13,000 ft	:	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	6,500	maximum:	11,000
(2) Area of the SAU (acres):	minimum:	27,236,000	most likely:	30,262,000	maximum:	33,288,000
(3) Mean total SAU thickness (ft):	minimum:	2,500	most likely:	3,000	maximum:	4,000
(4) SAU water quality (check one):		10 000 ··· ·· // T	(DC)			
Most of the water in the SAU is saling Water in this SAU is both saling and	-	10,000 mg/L 1	DS).			X
Most of the water in the SAU is fresh		000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAII nore wa	ter has more	than 10 000 mg	/I TDS)·	
(o) Thou much a validation of acting o (generally, a	minimum:	-	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	400	most likely:	600	maximum:	800
(7) Mean porosity net porous interval (fraction):	minimum:	0.06	most likely:	0.09	maximum:	0.11
Buoyant Trapping Probabilistic Calculation Inputs						
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	1,400	most likely:	2,400	maximum:	67,000
Residual Trapping Probabilistic Calculation Inputs						
(9) Permeability of the net porous interval (mD):	minimum:	0.008	most likely:	10.00	maximum:	10,000

Offshore areas

22 % of mean SAU area

Allocations of the SAU to States							
(1)	Michigan	contains1	00 % of mean SAU area				
(2)		contains	% of mean SAU area				
(3)		contains	% of mean SAU area				
(4)		contains	% of mean SAU area				
(5)		contains	% of mean SAU area				
(6)		contains	% of mean SAU area				
(7)		contains	% of mean SAU area				
(8)		contains	% of mean SAU area				
	Allocations of the SAU to General Land	-Ownership Categor	ries				
(1)	Federal lands	_contain6	6.3 % of mean SAU area				
(2)	State lands	_contain8	8.6 % of mean SAU area				
(3)	Tribal lands	contain < 1	1.0 % of mean SAU area				
(4)	Private and other lands	_contain	63 % of mean SAU area				

Assessment geologist:	T. Roberts-Ashby			Date:	12/19/2011	
Assessment region:	Eastern Mid-Continent					
Province:	Michigan Basin				Number:	C5063
Basin:	Michigan Bas	sin			Number:	C506301
Storage Assessment Unit (SAU):	Salina Group	and Middle S	ilurian Comp	osite	Number:	C50630102
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 ft > 13,000 ft	İ	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	5,100	maximum:	9,700
(2) Area of the SAU (acres):	minimum:	19,889,000	most likely:	22,099,000	maximum:	24,309,000
(3) Mean total SAU thickness (ft):	minimum:	800	most likely:	1,100	maximum:	1,300
(4) SAU water quality (check one):  Most of the water in the SAU is saline Water in this SAU is both saline and the saline water in the SAU is fresh	fresh.					X
(5) Area fraction available for storage (generally, the	he area where minimum:	-	ter has more most likely:	than 10,000 mg	/L TDS): maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	320	most likely:	460	maximum:	520
(7) Mean porosity net porous interval (fraction):	minimum:	0.05	most likely:	0.07	maximum:	0.11
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	2,900	most likely:	3,900	maximum:	49,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	10.00	maximum:	321

### Number:

C50630102

## Allocations of the SAU to States

Michigan	contains	100 % of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
Allocations of the	SAU to General Land-Ownership Contain	ategories  8.5 % of mean SAU area
State lands	contain	10 % of mean SAU area
Tribal lands	contain	< 1.0 % of mean SAU area
Private and other lands	contain	67 % of mean SAU area
Offshore areas	contain	14 % of mean SAU area

Assessment geologist:	W. Craddock			Date:	12/19/2011	
Assessment region:	Eastern Mid-Continent					
Province:	Michigan Basin				Number:	C5063
Basin:	Michigan Bas	sin			Number:	C506301
Storage Assessment Unit (SAU):	Dundee Form	ation			Number:	C50630104
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:		maximum:	4,300
(2) Area of the SAU (acres):	minimum:	4,112,000	most likely:	4,569,000	maximum:	5,025,900
(3) Mean total SAU thickness (ft):	minimum:	250	most likely:	275	maximum:	300
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fresh	fresh.					X
(5) Area fraction available for storage (generally, t	he area where minimum:	-	ter has more most likely:	than 10,000 mg	/L TDS): maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	80	most likely:	100	maximum:	120
(7) Mean porosity net porous interval (fraction):	minimum:	0.06	most likely:	0.09	maximum:	0.12
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum: _	320	most likely:	360	maximum:	4,600
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	10.00	maximum:	4,000

Storage	Assessment	Unit	SAU	١
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Offshore areas

**Dundee Formation** 

Number:

2.5 % of mean SAU area

C50630104

Allocations of the SAU to States									
(1)	Michigan	contains 100	% of mean SAU area						
(2)		contains	% of mean SAU area						
(3)		contains	% of mean SAU area						
(4)		contains	% of mean SAU area						
(5)		contains	% of mean SAU area						
(6)		contains	% of mean SAU area						
(7)		contains	% of mean SAU area						
(8)		contains	% of mean SAU area						
	Allocations of the SAU to General Land-Ownership Categories								
(1)	Federal lands	contain9.5	% of mean SAU area						
(2)	State lands	_ contain16	% of mean SAU area						
(3)	Tribal lands	contain 2.9	. % of mean SAU area						
(4)	Private and other lands	_contain69	% of mean SAU area						

Assessment geologist:	ent geologist: M. Merrill			Date:	3/7/2012	
Assessment region:	Western Mid-Continent					
Province:	Palo Duro Basin				Number:	C5043
Basin:	Palo Duro Ba	sin			Number:	C504301
Storage Assessment Unit (SAU):	Basin Center	Paleozoic Cor	nposite		Number:	C50430101
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	: Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 ft > 13,000 ft	t	X
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	6,500	maximum:	8,400
(2) Area of the SAU (acres):	minimum:	4,182,000	most likely:	4,647,000	maximum:	5,112,000
(3) Mean total SAU thickness (ft):	minimum:	1,750	most likely:	2,300	maximum:	2,900
(4) SAU water quality (check one):						
Most of the water in the SAU is saling	_	10,000 mg/L T	DS).			X
Water in this SAU is both saline and		00 mg/L TDC\				
Most of the water in the SAU is fresh	(1622 HIAII 10,0	oo ilig/L TDS).				
(5) Area fraction available for storage (generally, the	he area where	SAU pore wat	ter has more	than 10,000 mg	/L TDS):	
	minimum:	-	most likely:	1.00		1.00
(6) Mean thickness net porous interval (ft):	minimum:	50	most likely:	125	maximum:	230
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.13	maximum:	0.18
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
to, baoyant trapping pore volume (wiwibbi).	minimum:	50	most likely:	60	maximum:	6,200
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.040	most likely:	90.00	maximum:	1,600

Offshore areas

\_\_\_\_\_0 % of mean SAU area

Texas	contains	100 % of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
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	ne SAU to General Land-Ownership	Categories
Allocations of th		
	ne SAU to General Land-Ownership	Categories
Federal lands	ne SAU to General Land-Ownership contain	Categories  < 1.0 % of mean SAU

Assessment geologist:	gist: M. Merrill			Date:	3/7/2012	
Assessment region:	Western Mid-Continent					
Province:	Palo Duro Basi	n			Number:	C5043
Basin:	Palo Duro Basi	n			Number:	C504301
Storage Assessment Unit (SAU):	Basin Flank Pa	leozoic Com	posite		Number:	C50430102
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,300	most likely:	4,800	maximum:	5,600
(2) Area of the SAU (acres):	minimum:	2,752,000	most likely:	3,058,000	maximum:	3,364,000
(3) Mean total SAU thickness (ft):	minimum:	2,800	most likely:	3,300	maximum:	4,100
(4) SAU water quality (check one):						
Most of the water in the SAU is salin	e (greater than 1	0,000 mg/L T	DS).			X
Water in this SAU is both saline and	fresh.					
Most of the water in the SAU is fresh	ı (less than 10,000	0 mg/L TDS).				
(5) Area fraction available for storage (generally, t	the area where S	AU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	1.00	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	150	most likely:	250	maximum:	300
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.13	maximum:	0.18
Buoyant Tr	apping Proba	bilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(	minimum:	0	most likely:	30	maximum:	2,500
Residual Tr	apping Proba	bilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.030	most likely:	77.00	maximum:	1,600

Alloc	ations of the SAU to States	
New Mexico	contains	30 % of mean SAU area
Texas	contains	70 % of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	AU to General Land-Ownership C	ategories < 1.0 % of mean SAU are
State lands	contain	2.3 % of mean SAU area
Tribal lands	contain	0 % of mean SAU are:
Private and other lands	contain	97 % of mean SAU area

Assessment geologist:	M. Merrill			Date:	3/7/2012	
Assessment region:	Western Mid-Continent					
Province:	Palo Duro Basi	n			Number:	C5043
Basin:	Palo Duro Basi	n			Number:	C504301
Storage Assessment Unit (SAU):	Basin Center P	ermian			Number:	C50430103
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	3,700	maximum:	5,500
(2) Area of the SAU (acres):	minimum:	3,848,000	most likely:	4,275,000	maximum:	4,703,000
(3) Mean total SAU thickness (ft):	minimum:	1,800	most likely:	2,500	maximum:	3,000
(4) SAU water quality (check one):						
Most of the water in the SAU is salin	e (greater than 1	0,000 mg/L T	DS).			X
Water in this SAU is both saline and						
Most of the water in the SAU is fresh	n (less than 10,00	0 mg/L TDS).				
(5) Area fraction available for storage (generally, 1	the area where S	AU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	1.00	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	200	most likely:	300	maximum:	500
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.15	maximum:	0.20
Buoyant Tr	apping Proba	bilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(	minimum:	0	most likely:	20	maximum:	11,000
Residual Tr	apping Proba	bilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.030	most likely:	20.00	maximum:	262

Storage Assessment I	Unit	(SAU)	):
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Offshore areas

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Number: C50

0 % of mean SAU area

C50430103

	Allocations of t	he SAU to States		
Texas		contains	100	% of mean SAU ar
		contains		% of mean SAU ar
		contains		% of mean SAU a
		contains		% of mean SAU a
		contains		% of mean SAU a
		contains		% of mean SAU a
		contains		% of mean SAU a
		contains		% of mean SAU a
All	ocations of the SAU to Gene	eral Land-Ownership C	ategorie	s
Federal lands		contain	< 1.0	% of mean SAU a
0		contain	< 1.0	% of mean SAU a
State lands				
Tribal lands		contain	0	% of mean SAU a

Assessment geologist:	M. Buursink				Date:	10/19/2011
Assessment region:	Rocky Mount	ains and Nort	hern Great P	lains		
Province:	Paradox Bas	in			Number:	C5021
Basin:	Paradox Bas	in			Number:	C502101
Storage Assessment Unit (SAU):	Paleozoic Co	mposite			Number:	C50210101
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	8,000	maximum:	12,500
(2) Area of the SAU (acres):	minimum:	5,506,000	most likely:	6,118,000	maximum:	6,730,000
(3) Mean total SAU thickness (ft):	minimum:	1,000	most likely:	2,500	maximum:	4,000
(4) SAU water quality (check one):						
Most of the water in the SAU is saline		10,000 mg/L T	DS).			
Water in this SAU is both saline and f		000 ma/L TDC)				X
Most of the water in the SAU is fresh	(1622 man 10,0	100 HIg/L 1D3).				
(5) Area fraction available for storage (generally, the	ne area where	SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	0.60	most likely:	0.80	maximum:	0.95
(6) Mean thickness net porous interval (ft):	minimum:	100	most likely:	300	maximum:	600
(7) Mean porosity net porous interval (fraction):	minimum:	0.06	most likely:	0.10	maximum:	0.14
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
to, buoyant aupping pore volume (initiably.	minimum:	1,600	most likely:	1,900	maximum:	28,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	1.00	maximum:	100

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Offshore areas

Paleozoic Composite

Number:

0 % of mean SAU area

C50210101

	Allocations of the SAU t	o States	
(1)	Colorado	contains 39	% of mean SAU area
(2)	New Mexico	contains < 1.0	% of mean SAU area
(3)	Utah	contains 60	% of mean SAU area
(4)		contains	% of mean SAU area
(5)		contains	% of mean SAU area
(6)		contains	% of mean SAU area
(7)		contains	% of mean SAU area
(8)		contains	% of mean SAU area
	Allocations of the SAU to General Land	-Ownership Categorie	s
(1)	Federal lands	contain 59	% of mean SAU area
(2)	State lands	_ contain5.8	% of mean SAU area
(3)	Tribal lands	_ contain5.9	% of mean SAU area
(4)	Private and other lands	_contain29	% of mean SAU area

Assessment geologist:	T. Roberts-As	shby, P. Warw	rick		Date:	3/7/2012
Assessment region:	Western Mid	-Continent				
Province:	Permian Basi	in			Number:	C5044
Basin:	Permian Basi				Number:	C504401
Storage Assessment Unit (SAU):	Lower Paleoz	zoic Composite	9		Number:	C50440101
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	8,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	10,336,000	most likely:	11,484,000	maximum:	12,632,000
(3) Mean total SAU thickness (ft):	minimum:	1,300	most likely:	2,300	maximum:	3,400
(4) SAU water quality (check one):		40.000 # T	·D.O.)			
Most of the water in the SAU is saling Water in this SAU is both saline and	_	10,000 mg/L I	DS).			X
Most of the water in the SAU is fresh		)00 mg/L TDS).				
VENA C : THE C		0.411		.1 10.000	(I TDO)	
(5) Area fraction available for storage (generally, the	ne area where minimum:	-	ter nas more most likely:	0.90	maximum:	0.95
(6) Mean thickness net porous interval (ft):	minimum:	540	most likely:	930	maximum:	2000
(7) Mean porosity net porous interval (fraction):	minimum:	0.05	most likely:	0.08	maximum:	0.14
Buoyant Tra	ipping Prob	abilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(*, * * \	minimum:	21,600	most likely:	22,000	maximum:	1,066,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	40.00	maximum:	5,517

04	A	11	10 4 1	١١.
Storage	Assessment	unit	ISAI	JI:

lower	Palanznic	Composite

### Number:

C50440101

Allocat	tions of the SAU to States	
New Mexico	contains	10 % of mean SAU are
Texas	contains	90 % of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	J to General Land-Ownership Ca	tegories  4.6 % of mean SAU are
State lands	contain	2.7 % of mean SAU area
Tribal lands	contain	0 % of mean SAU are
Private and other lands	contain	93 % of mean SAU are

Assessment geologist:	T. Roberts-Ash	ıby, P. Warw	ick		Date:	3/7/2012
Assessment region:	Western Mid-0	Continent				
Province:	Permian Basin				Number:	C5044
Basin:	Permian Basin	l			Number:	C504401
Storage Assessment Unit (SAU):	Lower Paleozo	oic Composite	e Deep		Number:	C50440102
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	13.000	most likely:	•	maximum:	21,800
(2) Area of the SAU (acres):	minimum:		•	5,991,000	maximum:	6,590,000
(3) Mean total SAU thickness (ft):	minimum:		most likely:		maximum:	3,100
(4) SAU water quality (check one):						
Most of the water in the SAU is salin	e (greater than 1	10,000 mg/L T	DS).			X
Water in this SAU is both saline and	fresh.					-
Most of the water in the SAU is fresh	n (less than 10,00	00 mg/L TDS).				
(5) Area fraction available for storage (generally,	the area where S	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	1.00	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum: _	480	most likely:	830	maximum:	1200
(7) Mean porosity net porous interval (fraction):	minimum: _	0.03	most likely:	0.05	maximum:	0.07
Buoyant Tr	apping Proba	ıbilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(o) Baoyant trapping pore volume (whitibbi).	minimum: _	12,100	most likely:	12,300	maximum:	160,000
Residual Tr	apping Proba	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.001	most likely:	20.00	maximum:	2,664

Storage Assessment U	Jnit (	(SAU)	٠
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Lower Polograia	Composite Doop
Lower Paleozoic	Composite Deep

### Number:

C50440102

### Allocations of the SAU to States

Alloc	cations of the SAU to States	
New Mexico	contains	33 % of mean SAU area
Texas	contains	67 % of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU are
	AU to General Land-Ownership Ca	ntegories  16 % of mean SAU are
State lands	contain	8.5 % of mean SAU area
Tribal lands	contain	0 % of mean SAU area
Private and other lands	contain	76 % of mean SAU area

Assessment geologist:	E. Slucher			Date:	3/8/2012	
Assessment region:	Western Mid-Continent					
Province:	Permian Basin				Number:	C5044
Basin:	Permian Basin				Number:	C504401
Storage Assessment Unit (SAU):	Permian Com	posite			Number:	C50440103
SAU relationship to NOGA AU:				_		
Notes from assessor:						
Character	istics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	check one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	5,000	maximum:	7,000
(2) Area of the SAU (acres):	minimum:	5,551,000	most likely:	6,168,000	maximum:	6,785,000
(3) Mean total SAU thickness (ft):	minimum:	6,500	most likely:	7,500	maximum:	8,500
(4) SAU water quality (check one):  Most of the water in the SAU is salir  Water in this SAU is both saline and  Most of the water in the SAU is fresl	fresh.					X
	(1000 a.a 10,0	oog, = o,.				
(5) Area fraction available for storage (generally,	the area where minimum:	-	ter has more most likely:	than 10,000 mg	g/L TDS): maximum:	0.95
(6) Mean thickness net porous interval (ft):	minimum:	300	most likely:	600	maximum:	900
(7) Mean porosity net porous interval (fraction):	minimum:	0.08	most likely:	0.14	maximum:	0.21
Buoyant Tr	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	15,500	most likely:	16,100	maximum:	508,000
Residual Tr	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	11.00	maximum:	1,200

Storage Assessment Unit (SAU):	Permian Composite	Number:

C50440103

0 % of mean SAU area

### Allocations of the SAU to States (1) New Mexico contains 25 % of mean SAU area 75 % of mean SAU area (2) Texas contains (3) % of mean SAU area contains % of mean SAU area (4) contains % of mean SAU area (5) contains (6) contains % of mean SAU area % of mean SAU area (7) contains % of mean SAU area (8) contains Allocations of the SAU to General Land-Ownership Categories (1) Federal lands contain 9.9 % of mean SAU area (2) 6.3 % of mean SAU area State lands contain 0 % of mean SAU area (3) Tribal lands contain (4) Private and other lands 83 % of mean SAU area contain

contain

(5)

Offshore areas

Assessment geologist:	P. Warwick,	E. Slucher			Date:	7/27/2011
Assessment region:	Rocky Mount	ains and Nort	hern Great P	lains		
Province:	Powder River Basin			Number:	C5033	
Basin:	Powder River Basin				Number:	C503301
Storage Assessment Unit (SAU):	Minnelusa ar	nd Tensleep S	andstones		Number:	C50330101
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	9,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	12,502,000	most likely:	13,891,000	maximum:	15,280,000
(3) Mean total SAU thickness (ft):	minimum:	300	most likely:	400	maximum:	600
(4) SAU water quality (check one):  Most of the water in the SAU is saling	o (groator than	10 000 mg/L T	מים.			
Water in this SAU is both saline and	_	1 10,000 mg/L 1	D3).			x
Most of the water in the SAU is fresh		000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU nore wa	ter has more	than 10 000 mg	ı/I TDS)·	
(o, z. 1. a. 1	minimum:	-	most likely:	0.50	maximum:	0.75
(6) Mean thickness net porous interval (ft):	minimum:	75	most likely:	100	maximum:	150
(7) Mean porosity net porous interval (fraction):	minimum:	0.14	most likely:	0.16	maximum:	0.20
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(o) Buoyant trapping pore volume (wholbu).	minimum:	1,400	most likely:	1,500	maximum:	58,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	100.00	maximum:	1,000

Offshore areas

0 % of mean SAU area

	Allocations of the SAU to States							
(1)	Montana	_contains	36	% of mean SAU area				
(2)	Nebraska	_contains	< 1.0	% of mean SAU area				
(3)	South Dakota	_contains	< 1.0	% of mean SAU area				
(4)	Wyoming	_contains	62	% of mean SAU area				
(5)		_contains		% of mean SAU area				
(6)		_contains		% of mean SAU area				
(7)		_ contains		% of mean SAU area				
(8)		_contains		% of mean SAU area				
	Allocations of the SAU to General Lanc	I-Ownership	o Categorie	s				
(1)	Federal lands	_contain	16	% of mean SAU area				
(2)	State lands	_contain	6.7	% of mean SAU area				
(3)	Tribal lands	_contain	7.4	% of mean SAU area				
(4)	Private and other lands	_contain	70	% of mean SAU area				

Assessment geologist:	M. Merrill, J. Mars				Date:	7/27/2011
Assessment region:	Rocky Mount	ains and Nortl	hern Great P	lains		
Province:	Powder River Basin			Number:	C5033	
Basin:	Powder River				Number:	C503301
Storage Assessment Unit (SAU):	Crow Mounta	in Sandstone			Number:	C50330102
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	5,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	1,336,000	most likely:	1,484,000	maximum:	1,632,000
(3) Mean total SAU thickness (ft):	minimum:	70	most likely:	90	maximum:	110
(4) SAU water quality (check one):  Most of the water in the SAU is saline Water in this SAU is both saline and the saline and	_	10,000 mg/L T	DS).			
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				Х
(5) Area fraction available for storage (generally, the	ne area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:		most likely:	0.20	maximum:	0.70
(6) Mean thickness net porous interval (ft):	minimum:	21	most likely:	27	maximum:	33
(7) Mean porosity net porous interval (fraction):	minimum:	0.08	most likely:	0.13	maximum:	0.20
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
**	minimum:	0	most likely:	10	maximum:	1,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	10.00	maximum:	150

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Storage	Assessment	Unit	(SA)	U	ı.

Offshore areas

_			
C	N /	-: C -	ndstone

lumber:	C5033010
lumber:	C503301

0 % of mean SAU area

Wyoming	contains	100 % of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU
	e SAU to General Land-Ownership C	-
Allocations of the		
	e SAU to General Land-Ownership C	ategories
Federal lands	e SAU to General Land-Ownership C	ategories  26 % of mean SAU

Assessment geologist:	M. Merrill, J.	Mars			Date:	7/27/2011
Assessment region:	Rocky Mount	ains and Nort	hern Great P	lains		
Province:	Powder River Basin				Number:	C5033
Basin:	Powder River Basin				Number:	C503301
Storage Assessment Unit (SAU):	Lower Sunda	nce Formatior	1		Number:	C50330103
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteris	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (ch	neck one):			3,000-13,000 ft > 13,000 ft	İ	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	6,677	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	10,380,000	most likely:	11,533,000	maximum:	12,686,000
(3) Mean total SAU thickness (ft):	minimum:	40	most likely:	50	maximum:	80
(4) SAU water quality (check one):						
Most of the water in the SAU is saline	_	10,000 mg/L T	DS).			
Water in this SAU is both saline and f		00 (I TDO)				X
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, th	ne area where	SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	0.10	most likely:	0.35	maximum:	0.80
(6) Mean thickness net porous interval (ft):	minimum:	30	most likely:	40	maximum:	60
(7) Mean porosity net porous interval (fraction):	minimum:	0.16	most likely:	0.20	maximum:	0.24
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
to baoyant trapping pore volume (wholse).	minimum:	54	most likely:	56	maximum:	4,470
Residual Tra	pping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	100.00	maximum:	500

Storage	Assessment	Hnit	1001	ı١
Storage	Assessment	Unit	ISAU	"

Offshore areas

Lower Sundance Formation

Number:

0 % of mean SAU area

C50330103

	Allocations of the SAU to States	
Montana	contains 2	4 % of mean SAU a
Wyoming	contains 7	6 % of mean SAU a
	contains	_ % of mean SAU a
	contains	_ % of mean SAU a
	contains	_ % of mean SAU a
	contains	_ % of mean SAU a
	contains	_ % of mean SAU a
	contains	_ % of mean SAU a
Allocations of t	the SAU to General Land-Ownership Categor	es
		es 5_% of mean SAU a
	contain 1	
Federal lands	contain 1	5_% of mean SAU a

Assessment geologist:	R. Drake			Date:	6/6/2012	
Assessment region:	Rocky Mount	ains and Nort	hern Great P	lains		
Province:	Powder River Basin			Number:	C5033	
Basin:	Powder River				Number:	C503301
Storage Assessment Unit (SAU):	Fall River and	l Lakota Forma	ations		Number:	C50330104
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,650	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	12,816,000	most likely:	14,240,000	maximum:	15,664,000
(3) Mean total SAU thickness (ft):	minimum:	100	most likely:	160	maximum:	225
(4) SAU water quality (check one):	. / ~ ~ o to * th o m	10 000 mg/L T	'Del			
Most of the water in the SAU is saling Water in this SAU is both saline and	_	10,000 mg/L i	ມວ).			x
Most of the water in the SAU is fresh		)00 mg/L TDS).				^
(5) Area fraction available for storage (generally, the		-		_		0.50
	minimum:	0.20	most likely:	0.30	maximum:	0.50
(6) Mean thickness net porous interval (ft):	minimum:	60	most likely:	96	maximum:	135
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.15	maximum:	0.20
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
,	11 5			•		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	350	most likely:	1,100	maximum:	31,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	100.00	maximum:	450

Storage Assessment U	Jnit (	(SAU)	٠
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Offshore areas

Fall R	iver and	Lakota	Format	inns

Number:

0 % of mean SAU area

C50330104

	contains	າາ	% of mean SAU
Montana	contains	33	% of filean SAU a
Wyoming	contains	67	% of mean SAU a
	contains		% of mean SAU a
	contains		% of mean SAU a
	contains		% of mean SAU a
	contains		% of mean SAU a
	contains		% of mean SAU a
	contains		% of mean SAU a
Allocations of	f the SAU to General Land-Ownership	-	S % of mean SAU a
	·	14	
Federal lands	contain	6.9	% of mean SAU a

Assessment geologist:	R. Drake			Date:	6/6/2012	
Assessment region:	Rocky Mountains and Northern Great Plains			lains		
Province:	Powder River Basin			Number:	C5033	
Basin:	Powder River Basin				Number:	C503301
Storage Assessment Unit (SAU):	Muddy Sands	stone			Number:	C50330105
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,700	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	12,549,000	most likely:	13,943,000	maximum:	15,337,000
(3) Mean total SAU thickness (ft):	minimum:	20	most likely:	60	maximum:	110
(4) SAU water quality (check one):  Most of the water in the SAU is saline	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					Х
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	ne area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	-	most likely:	0.25	maximum:	0.45
(6) Mean thickness net porous interval (ft):	minimum:	10	most likely:	30	maximum:	60
(7) Mean porosity net porous interval (fraction):	minimum:	0.13	most likely:	0.18	maximum:	0.23
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	1,300	most likely:	1,600	maximum:	94,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	50.00	maximum:	1,040

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Storage	Assessment	Unit	ISAU	"

Offshore areas

ΝЛ		Sand	a+a n a
IVI	man	Sano	ISTOHE

# Number:

0 % of mean SAU area

C50330105

	Allocations	of the SAU to States		
Montana		contains	31	% of mean SAU area
Wyoming		contains	69	% of mean SAU area
		contains		% of mean SAU area
		contains		% of mean SAU area
		contains		% of mean SAU area
_		contains		% of mean SAU area
		contains		% of mean SAU area
		contains		% of mean SAU area
Alloc	ations of the SAU to (	General Land-Ownership Ca	ategorie	S
Alloc Federal lands	ations of the SAU to (			
			14	% of mean SAU area
Federal lands		contain	7.0	% of mean SAU area % of mean SAU area % of mean SAU area

Assessment geologist:	M. Merrill			Date:	6/16/2012	
Assessment region:	Rocky Mount	ains and Nort	hern Great P	lains		
Province:	Powder River Basin			Number:	C5033	
Basin:	Powder River				Number:	C503301
Storage Assessment Unit (SAU):	Frontier Sand	Istone and Tui	rner Sandy M	lember	Number:	C50330106
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	9,366,000	most likely:	10,407,000	maximum:	11,448,000
(3) Mean total SAU thickness (ft):	minimum:	700	most likely:	850	maximum:	950
(4) SAU water quality (check one):	. / ~ ~ o t o * th o m	10 000 mg/L T	'Del			
Most of the water in the SAU is saling Water in this SAU is both saline and	_	10,000 mg/L 1	ມ3).			x
Most of the water in the SAU is fresh		000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	no aroa whoro	SALI poro was	tor has more	than 10 000 mg	ı/I TD\$\·	
(3) Area fraction available for Storage (generally, in	minimum:	-	most likely:	0.30	maximum:	0.85
(6) Mean thickness net porous interval (ft):	minimum:	100	most likely:	120	maximum:	150
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.12	maximum:	0.16
Buoyant Tra	ipping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	300	most likely:	327	maximum:	22,500
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	8.00	maximum:	100

C50330106

## Allocations of the SAU to States

(1)	Montana	contains 7.3	% of mean SAU area
(2)	Wyoming	contains 93	% of mean SAU area
(3)		contains	% of mean SAU area
(4)		contains	% of mean SAU area
(5)		contains	% of mean SAU area
(6)		contains	% of mean SAU area
(7)		contains	% of mean SAU area
(8)		contains	% of mean SAU area
	Allocations of the SAU to General Land	-Ownership Categorie	s
(1)	Federal lands	contain 13	% of mean SAU area
(2)	State lands	_contain7.4	% of mean SAU area
(3)	Tribal lands	_contain0	% of mean SAU area
(4)	Private and other lands	contain 80	% of mean SAU area
(5)	Offshore areas	contain 0	% of mean SAU area

Assessment geologist:	M. Merrill				Date:	6/16/2012
Assessment region:	Rocky Mountains and Northern Great Plains			ains		
Province:	Powder River Basin			Number:	C5033	
Basin:	Powder River Basin				Number:	C503301
Storage Assessment Unit (SAU):	Sussex and S	hannon Sand	stone Membe	ers	Number:	C50330107
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	4,500	maximum:	11,400
(2) Area of the SAU (acres):	minimum:	10,328,000	most likely:	11,476,000	maximum:	12,624,000
(3) Mean total SAU thickness (ft):	minimum:	95	most likely:	135	maximum:	175
(4) SAU water quality (check one):  Most of the water in the SAU is salin	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					Х
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	0.15	most likely:	0.30	maximum:	0.90
(6) Mean thickness net porous interval (ft):	minimum:	70	most likely:	95	maximum:	120
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.13	maximum:	0.16
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	407	most likely:	425	maximum:	18,432
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	5.00	maximum:	300

### Number:

C50330107

## Allocations of the SAU to States

Mont	tana	contains	23	% of mean SAU area
Wyo	ming	contains	77	% of mean SAU area
		contains		% of mean SAU area
		contains		% of mean SAU area
		contains		% of mean SAU area
		contains		% of mean SAU area
		contains		% of mean SAU area
		contains		% of mean SAU area
Fede	Allocations of the SAU to General Land	-Ownership		S % of mean SAU area
State	e lands	_contain	6.6	% of mean SAU area
Triba	al lands	contain	4.6	% of mean SAU area
Priva	ate and other lands	contain	75	% of mean SAU area
Offsh	nore areas	contain	0	% of mean SAU area

Assessment geologist:	W. Craddock, P. Warwick			Date:	6/17/2012			
Assessment region:	Rocky Mountains and Northern Great Plains							
Province:	Powder River	Basin			Number:	C5033		
Basin:	Powder River Basin			Number:	C503301			
Storage Assessment Unit (SAU):	Parkman San	dstone Memb	er		Number:	C50330108		
SAU relationship to NOGA AU:								
Notes from assessor:								
Characteri	stics of the	Storage As	ssessment	t Unit				
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	t	x		
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	6,000	maximum:	9,500		
(2) Area of the SAU (acres):	minimum:	7,502,000	most likely:	8,335,000	maximum:	9,169,000		
(3) Mean total SAU thickness (ft):	minimum:	250	most likely:	350	maximum:	450		
(4) SAU water quality (check one):								
Most of the water in the SAU is saline Water in this SAU is both saline and f	_	10,000 mg/L T	DS).			x		
Most of the water in the SAU is fresh		)00 mg/L TDS).						
(5) Area fraction available for storage (generally, the	ne area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):			
	minimum:	-	most likely:	0.40	maximum:	0.90		
(6) Mean thickness net porous interval (ft):	minimum:	125	most likely:	175	maximum:	225		
(7) Mean porosity net porous interval (fraction):	minimum:	0.11	most likely:	0.15	maximum:	0.19		
Buoyant Trapping Probabilistic Calculation Inputs								
(8) Buoyant trapping pore volume (MMbbl):								
	minimum:	98	most likely:	101	maximum:	180,000		
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs				
(9) Permeability of the net porous interval (mD):	minimum:	0.050	most likely:	40.00	maximum:	1,000		

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Storage	Assessment	Unit	ISAL	IJ	:

Parl	man	Sandstone	Mamhar

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C50330108

Allocations of the SAU	to States		
Montana	_contains	11	% of mean SAU area
Wyoming	_contains	89	% of mean SAU area
	_contains		% of mean SAU area
	_contains		% of mean SAU area
	_contains		% of mean SAU area
	_contains		% of mean SAU area
	_contains		% of mean SAU area
	_contains		% of mean SAU area
Allocations of the SAU to General Land			
Federal lands	_ contain	14	% of mean SAU area
State lands	_contain	7.1	% of mean SAU area
Tribal lands	_ contain	< 1.0	% of mean SAU area
Private and other lands	_contain	78	% of mean SAU area
Offshore areas	contain	0	% of mean SAU area

Assessment geologist:	W. Craddock, P. Warwick			Date:	6/17/2012	
Assessment region:	Rocky Mountains and Northern Great Plains					
Province:	Powder River	Basin			Number:	C5033
Basin:	Powder River Basin			Number:	C503301	
Storage Assessment Unit (SAU):	Teapot Sands	stone Member	r		Number:	C50330109
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	6,500	maximum:	9,000
(2) Area of the SAU (acres):	minimum:	5,347,000	most likely:	5,941,000	maximum:	6,535,000
(3) Mean total SAU thickness (ft):	minimum:	130	most likely:	150	maximum:	170
(4) SAU water quality (check one):						
Most of the water in the SAU is saling Water in this SAU is both saline and	_	10,000 mg/L T	DS).			x
Most of the water in the SAU is fresh		00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	ne area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	-	most likely:	0.40	maximum:	0.95
(6) Mean thickness net porous interval (ft):	minimum:	65	most likely:	90	maximum:	115
(7) Mean porosity net porous interval (fraction):	minimum:	0.11	most likely:	0.15	maximum:	0.19
Buoyant Tra	pping Prob	abilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	54	most likely:	56	maximum:	93,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.050	most likely:	40.00	maximum:	1,000

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Storage	Assessment	Unit	(SA)	U	ı.

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reapo	t San	dstone	iviem	per

#### Number:

C50330109

#### Allocations of the SAU to States

	Anocations of the SAO to States
Montana	contains < 1.0 % of mean SAU area
Wyoming	contains 100 % of mean SAU area
	contains % of mean SAU area
	contains % of mean SAU area
	contains % of mean SAU area
	contains % of mean SAU area
	contains % of mean SAU area
	contains % of mean SAU area
Allocations of	the SAU to General Land-Ownership Categories contain12 % of mean SAU are
State lands	contain 7.4 % of mean SAU area
Tribal lands	contain 0 % of mean SAU area
Private and other lands	contain 81 % of mean SAU area
Offshore areas	contain 0 % of mean SAU area

Assessment geologist:	W. Craddock, P. Warwick			Date:	6/17/2012	
Assessment region:	Rocky Mountains and Northern Great Plains					
Province:	Powder River Basin			Number:	C5033	
Basin:	Powder River	r Basin			Number:	C503301
Storage Assessment Unit (SAU):	Teckla Sands	stone Member			Number:	C50330110
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	6,000	maximum:	8,500
(2) Area of the SAU (acres):	minimum:	4,190,000	most likely:	4,655,000	maximum:	5,121,000
(3) Mean total SAU thickness (ft):	minimum:	125	most likely:	225	maximum:	325
(4) SAU water quality (check one):						
Most of the water in the SAU is saling Water in this SAU is both saline and	-	10,000 mg/L T	DS).			x
Most of the water in the SAU is fresh	(less than 10,0	000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	0.00	most likely:	0.00	maximum:	0.70
(6) Mean thickness net porous interval (ft):	minimum:	70	most likely:	110	maximum:	150
(7) Mean porosity net porous interval (fraction):	minimum:	0.11	most likely:	0.15	maximum:	0.19
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(0) Parameter (0) (0) (0) (0) (0) (0) (0) (0) (0) (0)						
(8) Buoyant trapping pore volume (MMbbl):	minimum:	49	most likely:	51	maximum:	120,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.050	most likely:	40.00	maximum:	1,000

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Storage	Assessment	Unit	(SA)	U	ı.

Taakla	Sandstone	Mamhar

Number:	C50330110

#### Allocations of the SAII to States

Allo	cations of the SAU to States	
Wyoming	contains	100 % of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
5 t 11 t	SAU to General Land-Ownership C	Categories  13 % of mean SAU area
State lands	contain	7.1 % of mean SAU area
Tribal lands	contain	0 % of mean SAU area
Private and other lands	contain	80 % of mean SAU area
Offshore areas	contain	0 % of mean SAU area

Assessment geologist:	J. Covault				Date:	9/6/2011
Assessment region:	California					
Province:	Sacramento Basin			Number:	C5009	
Basin:	Sacramento Ba				Number:	C500901
Storage Assessment Unit (SAU):	Kione Sands of	Forbes Forr	nation		Number:	C50090101
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	torage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	4,000	maximum:	7,000
(2) Area of the SAU (acres):	minimum:	504,000	most likely:	560,000	maximum:	616,000
(3) Mean total SAU thickness (ft):	minimum:	700	most likely:	1,000	maximum:	1,300
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fres	fresh.					x
/=\				.1 40.000	# TDO	
(5) Area fraction available for storage (generally,	minimum:		ter nas more most likely:	_	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	200	most likely:	300	maximum:	400
(7) Mean porosity net porous interval (fraction):	minimum:	0.25	most likely:	0.27	maximum:	0.30
Buoyant Tr	apping Probal	bilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	0	most likely:	20	maximum:	2,000
Residual Tr	apping Proba	bilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.500	most likely:	100.00	maximum:	400

Storage Assessment	Unit	(SAU):
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Offshore areas

Viana	Canda	of Forboo	Formation
KIONE	Samos	OF FOUNDS	FORMALION

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0 % of mean SAU area

C50090101

California	contains	100 % of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	e SAU to General Land-Ownership Ca	-
	e SAU to General Land-Ownership Ca	ategories < 1.0_% of mean SAU a
	·	_
Federal lands	contain	< 1.0 % of mean SAU a

Assessment geologist:	J. Covault				Date:	9/6/2011
Assessment region:	California					
Province:	Sacramento	Basin			Number:	C5009
Basin:	Sacramento	Basin			Number:	C500901
Storage Assessment Unit (SAU):	Winters Form	ation			Number:	C50090102
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	981,000	most likely:	1,090,000	maximum:	1,199,000
(3) Mean total SAU thickness (ft):	minimum:	800	most likely:	1,300	maximum:	1,800
(4) SAU water quality (check one):  Most of the water in the SAU is saling Water in this SAU is both saline and it	fresh.	-				x
Most of the water in the SAU is fresh	(less than 10,0	)00 mg/L TDS).				
(5) Area fraction available for storage (generally, the	ne area where	SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	1.00	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	400	most likely:	650	maximum:	900
(7) Mean porosity net porous interval (fraction):	minimum:	0.22	most likely:	0.27	maximum:	0.32
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	760	most likely:	790	maximum:	37,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.500	most likely:	200.00	maximum:	1,700

Storage	Assessment	Unit	(SAII)	١
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Winters Formation

Number:

C50090102

Allocations of the	e SAU	to	States
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Allo	cations of the SAU to States	
California	contains	100 % of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
Fodovollondo	SAU to General Land-Ownership Ca	tegories  < 1.0 % of mean SAU are
State lands	contain	2.9 % of mean SAU are
Tribal lands	contain	0 % of mean SAU are
Private and other lands	contain	97 % of mean SAU are

Assessment geologist:	J. Covault				Date:	9/6/2011
Assessment region:	California					
Province:	Sacramento Basin				Number:	C5009
Basin:	Sacramento Ba	sin			Number:	C500901
Storage Assessment Unit (SAU):	Starkey Sands	of the More	no Formatior	1	Number:	C50090103
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	torage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	6,000	maximum:	11,500
(2) Area of the SAU (acres):	minimum:	891,000	most likely:	990,000	maximum:	1,089,000
(3) Mean total SAU thickness (ft):	minimum:	1,300	most likely:	1,700	maximum:	2,100
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fres	fresh.					x
/EVA				.1 10.000	// TDO	
(5) Area fraction available for storage (generally,	minimum:	•	most likely:	_	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	650	most likely:	850	maximum:	1050
(7) Mean porosity net porous interval (fraction):	minimum:	0.25	most likely:	0.30	maximum:	0.35
Buoyant Tr	apping Probal	oilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	110	most likely:	140	maximum:	35,000
Residual Tr	apping Proba	bilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.500	most likely:	100.00	maximum:	1,000

#### Number:

C50090103

#### Allocations of the SAU to States

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California	contains	100 % of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	U to General Land-Ownership Cat	tegories < 1.0 % of mean SAU ar
State lands	contain	2.0 % of mean SAU are
Tribal lands	contain	0 % of mean SAU are
Private and other lands	contain	97 % of mean SAU are
Offshore areas	contain	0 % of mean SAU are

Assessment geologist:	J. Covault				Date:	9/6/2011
Assessment region:	California					
Province:	Sacramento B	asin			Number:	C5009
Basin:	Sacramento B	asin			Number:	C500901
Storage Assessment Unit (SAU):	Mokelumne Ri	iver Formatio	n		Number:	C50090104
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	5,000	maximum:	10,500
(2) Area of the SAU (acres):	minimum:	675,000	most likely:	750,000	maximum:	825,000
(3) Mean total SAU thickness (ft):	minimum: _	500	most likely:	800	maximum:	1,100
(4) SAU water quality (check one):  Most of the water in the SAU is salir	ne (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					Х
Most of the water in the SAU is fres	h (less than 10,00	00 mg/L TDS).				
(5) Area fraction available for storage (generally,	the area where \$	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	0.90	most likely:	0.95	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	300	most likely:	450	maximum:	600
(7) Mean porosity net porous interval (fraction):	minimum:	0.20	most likely:	0.25	maximum:	0.30
Buoyant Tr	apping Proba	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(-, ,	minimum: _	480	most likely:	510	maximum:	17,000
Residual Tr	apping Proba	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.500	most likely:	250.00	maximum:	1,500

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Offshore areas

Mokelumne River Formation	,

Number:

0 % of mean SAU area

C50090104

California	contains	100	% of mean SAU
	contains		% of mean SAU
	contains		% of mean SAU
	contains		% of mean SAU
	contains		% of mean SAU
	contains		% of mean SAU
	contains		% of mean SAU
	contains		0/ - ( 0 A L L
	Contains		% of mean SAU
Allocations of the	SAU to General Land-Ownership (	Categorie	
			% of mean SAU S % of mean SAU
	SAU to General Land-Ownership (	< 1.0	s
Federal lands	SAU to General Land-Ownership (	< 1.0	S % of mean SAU

Assessment geologist:	J. Covault				Date:	9/6/2011
Assessment region:	California					
Province:	Sacramento Basin				Number:	C5009
Basin:	Sacramento Ba	ısin			Number:	C500901
Storage Assessment Unit (SAU):	Domengine For	mation			Number:	C50090105
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	torage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	4,000	maximum:	8,500
(2) Area of the SAU (acres):	minimum:	810,000	most likely:	900,000	maximum:	990,000
(3) Mean total SAU thickness (ft):	minimum:	300	most likely:	500	maximum:	700
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fres	l fresh.					x
<b></b>					# <b>TD</b> 0\	
(5) Area fraction available for storage (generally,	minimum:	-	ter has more most likely:	_	/L TDS): maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	200	most likely:	300	maximum:	400
(7) Mean porosity net porous interval (fraction):	minimum:	0.20	most likely:	0.25	maximum:	0.30
Buoyant Tr	apping Probal	bilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	100	most likely:	120	maximum:	2,000
Residual Tr	apping Proba	bilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.200	most likely:	200.00	maximum:	1,000

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C50090105

Allo	cations of the SAU to States	
California	contains	100 % of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	SAU to General Land-Ownership Ca	ategories  1.6 % of mean SAU are
State lands	contain	5.1 % of mean SAU area
Tribal lands	contain	0 % of mean SAU are
Private and other lands	contain	93 % of mean SAU are
Offshore areas	contain	0 % of mean SAU are

Assessment geologist:	S. Brennan, J. Covault			Date:	9/6/2011	
Assessment region:	California					
Province:	San Joaquin	Basin			Number:	C5010
Basin:	San Joaquin				Number:	C501001
Storage Assessment Unit (SAU):	Lathrop Sand	of the Panocl	he Formation		Number:	C50100101
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	9,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	1,904,000	most likely:	2,115,000	maximum:	2,327,000
(3) Mean total SAU thickness (ft):	minimum:	1,000	most likely:	2,000	maximum:	2,500
(4) SAU water quality (check one):  Most of the water in the SAU is saline Water in this SAU is both saline and the saline water in the SAU is fresh	fresh.	_				X
	(1000 1100 107)	, o c g, o , .				
(5) Area fraction available for storage (generally, the	ne area where minimum:	-	ter has more most likely:	than 10,000 mg 1.00	/L TDS): maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	500	most likely:	650	maximum:	800
(7) Mean porosity net porous interval (fraction):	minimum:	0.20	most likely:	0.27	maximum:	0.32
Buoyant Tra	ipping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	31	most likely:	41	maximum:	8,600
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	1.000	most likely:	100.00	maximum:	1,700

#### Allocations of the SAU to States

Allot	cations of the SAO to States	
California	contains	100 % of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
Allocations of the S	AU to General Land-Ownership Ca	tegories  1.1 % of mean SAU ar
State lands	contain	2.3 % of mean SAU are
Tribal lands	contain	0 % of mean SAU are
Private and other lands	contain	97 % of mean SAU are
Offshore areas	contain	0 % of mean SAU are

Assessment geologist:	S. Brennan, J. Covault			Date:	9/6/2011	
Assessment region:	California					
Province:	San Joaquin	Basin			Number:	C5010
Basin:	San Joaquin				Number:	C501001
Storage Assessment Unit (SAU):	Moreno Form	ation Sands			Number:	C50100102
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	9,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	2,222,000	most likely:	2,469,000	maximum:	2,716,000
(3) Mean total SAU thickness (ft):	minimum:	900	most likely:	1,200	maximum:	1,500
(4) SAU water quality (check one):  Most of the water in the SAU is saline Water in this SAU is both saline and the saline water in the SAU is fresh	fresh.					x
(5) Area fraction available for storage (generally, the	ne area where minimum:	-	ter has more most likely:	than 10,000 mg 1.00	n/L TDS): maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	300	most likely:	400	maximum:	500
(7) Mean porosity net porous interval (fraction):	minimum:	0.20	most likely:	0.27	maximum:	0.32
Buoyant Tra	pping Prob	abilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	75	most likely:	85	maximum:	7,400
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	1.000	most likely:	100.00	maximum:	1,700

Storage	Assessment	Hnit	1001	ı١
Storage	Assessment	Unit	ιδAu	"

Offshore areas

Marana	Formation	Canda

Number:

0 % of mean SAU area

C50100102

# Allocations of the SAII to States

California	contains	100	% of mean SAU a
	contains		% of mean SAU a
	contains		% of mean SAU a
	contains		% of mean SAU a
	contains		% of mean SAU a
	contains		% of mean SAU a
	contains		% of mean SAU a
			0/ ( 0.411
	contains		% of mean SAU a
Allocations of the SAU Federallands	J to General Land-Ownership Ca		
	J to General Land-Ownership Ca	2.0	S % of mean SAU a
Federal lands	J to General Land-Ownership Ca	2.0	s

Assessment geologist:	K. Drake			Date:	9/6/2011	
Assessment region:	California					
Province:	San Joaquin B	asin			Number:	C5010
Basin:	San Joaquin B				Number:	C501001
Storage Assessment Unit (SAU):	Domengine Fo	rmation			Number:	C50100103
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	Storage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	5,730	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	2,135,000	most likely:	2,372,000	maximum:	2,609,000
(3) Mean total SAU thickness (ft):	minimum:	60	most likely:	100	maximum:	150
(4) SAU water quality (check one):  Most of the water in the SAU is salin Water in this SAU is both saline and Most of the water in the SAU is fres	l fresh.					x
(5) Area fraction available for storage (generally,	the area where S	SAII nore wa	ter has more	than 10 000 mg	/I TDS):	
(o) / nod madden available for storage (generally,	minimum:	-	most likely:	_		1.00
(6) Mean thickness net porous interval (ft):	minimum: _	10	most likely:	30	maximum:	45
(7) Mean porosity net porous interval (fraction):	minimum: _	0.20	most likely:	0.26	maximum:	0.32
Buoyant Tr	apping Proba	bilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum: _	5	most likely:	219	maximum:	8,000
Residual Tr	apping Proba	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum: _	0.100	most likely:	10.00	maximum:	550

Storage	Assessment	Hnit	1001	ı١
Storage	Assessment	Unit	ιδAu	"

Offshore areas

**Domengine Formation** 

#### Number:

0 % of mean SAU area

C50100103

California	contains	100 % of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
Allocations of t	he SAU to General Land-Ownership (	Categories
	the SAU to General Land-Ownership (	Categories  2.4 % of mean SAU a
		-
Federal lands	contain	2.4 % of mean SAU a

Assessment geologist:	R. Drake				Date:	9/6/2011
Assessment region:	California					
Province:	San Joaquin B	asin			Number:	C5010
Basin:	San Joaquin B	asin			Number:	C501001
Storage Assessment Unit (SAU):	Temblor Forma	ation			Number:	C50100104
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	Storage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	2,379,000	most likely:	2,643,000	maximum:	2,907,000
(3) Mean total SAU thickness (ft):	minimum:	1,500	most likely:	2,000	maximum:	2,500
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fres	fresh.					x
(5) Area fraction available for storage (generally,		-	ter has more most likely:	_	/L IDS): maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum: _	450	most likely:	600	maximum:	900
(7) Mean porosity net porous interval (fraction):	minimum: _	0.20	most likely:	0.24	maximum:	0.29
Buoyant Tr	apping Proba	ıbilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum: _	676	most likely:	1,448	maximum:	288,000
Residual Tr	apping Proba	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	1.000	most likelv:	200.00	maximum:	1,600
	_		,	-		

Storage	Assessment	Unit	(SAII)	١
Sturage	ASSESSINEIL	UIIIL	UHU.	I.

Offshore areas

**Temblor Formation** 

Number:

0 % of mean SAU area

C50100104

California	contains	100 % of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Allocations of t	he SAU to General Land-Ownersh	
	he SAU to General Land-Ownersh	p Categories
Federal lands	he SAU to General Land-Ownersh	p Categories  4.7 % of mean SAU

Assessment geologist:	R. Drake				Date:	9/6/2011
Assessment region:	California					
Province:	San Joaquin Basin			Number:	C5010	
Basin:	San Joaquin Ba	asin			Number:	C501001
Storage Assessment Unit (SAU):	Temblor Format	tion Deep			Number:	C50100105
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	torage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 ft	į	
				> 13,000 ft		X
(1) SAU depth from surface (ft):	minimum:		most likely:		maximum:	18,000
(2) Area of the SAU (acres):	minimum:			116,000	maximum:	128,000
(3) Mean total SAU thickness (ft):	minimum:	3,000	most likely:	3,500	maximum:	4,000
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fres	fresh.					x
Most of the water in the SAO is hes	ii (iess tiiaii 10,000	illy/L IDS).				
(5) Area fraction available for storage (generally,	the area where S	-		_	/L TDS):	
	minimum:	1.00	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	900	most likely:	1050	maximum:	1200
(7) Mean porosity net porous interval (fraction):	minimum:	0.08	most likely:	0.11	maximum:	0.15
Buoyant Tr	apping Probal	oilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(o) Dao Jane a apping por o rotaine (initiazi,	minimum:	0	most likely:	45	maximum:	6,000
Residual Tr	apping Proba	bilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.050	most likely:	10.00	maximum:	500

Storage Assessment U	nit (	(SAU)	١:
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Offshore areas

Tambles	F	D
remptor	Formation	Deeb

Number:	C50100105

0 % of mean SAU area

	llocations of the SAU to States	
California	contains 100 % of mean SA	U area
	contains % of mean SA	U area
	contains % of mean SA	U area
	contains % of mean SA	U area
	contains % of mean SA	U area
	contains % of mean SA	U area
	contains % of mean SA	U area
	contains % of mean SA	U area
Allocations of	e SAU to General Land-Ownership Categories	
Federal lands	contain 2.9 % of mean SA	U area
State lands	contain < 1.0 % of mean SA	U area
	contain 0.0% of moon CA	II area
Tribal lands	contain0 % of mean SA	o urou

Assessment geologist:	R. Drake				Date:	9/6/2011
Assessment region:	California					
Province:	San Joaquin	Basin			Number:	C5010
Basin:	San Joaquin	Basin			Number:	C501001
Storage Assessment Unit (SAU):	Stevens Sand	d of the Monte	rey Formatio	n	Number:	C50100106
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteris	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (ch	neck one):			3,000-13,000 ft	t	х
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	8,500	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	772,000	most likely:	858,000	maximum:	944,000
(3) Mean total SAU thickness (ft):	minimum:	1,800	most likely:	2,200	maximum:	2,600
(4) SAU water quality (check one):  Most of the water in the SAU is saline Water in this SAU is both saline and f	resh.	_				x
Most of the water in the SAU is fresh	(less than 10,0	J00 mg/L TDS).				
(5) Area fraction available for storage (generally, the	ne area where	SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	1.00	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	540	most likely:	660	maximum:	780
(7) Mean porosity net porous interval (fraction):	minimum:	0.17	most likely:	0.23	maximum:	0.30
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	19	most likely:	429	maximum:	298,000
Residual Tra	ipping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.500	most likely:	200.00	maximum:	2,610

#### Number:

C50100106

#### Allocations of the SAU to States

71100		
California	contains	100 % of mean SAU area
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	AU to General Land-Ownership C	ategories  7.5 % of mean SAU are
State lands	contain	< 1.0 % of mean SAU are
Tribal lands	contain	0 % of mean SAU are
Private and other lands	contain	92 % of mean SAU are
Offshore areas	contain	0 % of mean SAU are

Assessment geologist:	R. Drake				Date:	9/6/2011
Assessment region:	California					
Province:	San Joaquin Ba	isin			Number:	C5010
Basin:	San Joaquin Ba	isin			Number:	C501001
Storage Assessment Unit (SAU):	Stevens Sand o	f the Monte	rey Formatio	n Deep	Number:	C50100107
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	torage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 f	t	
				> 13,000 ft		X
(1) SAU depth from surface (ft):	minimum:		most likely:		maximum:	17,000
(2) Area of the SAU (acres):	minimum:			87,000	maximum:	96,000
(3) Mean total SAU thickness (ft):	minimum:	1,800	most likely:	2,200	maximum:	2,600
(4) SAU water quality (check one):  Most of the water in the SAU is salin Water in this SAU is both saline and	-	),000 mg/L T	DS).			X
Most of the water in the SAU is fresh		mg/L TDS).				
(5) Area fraction available for storage (generally, 1	the area where S	ΔII nore wa	ter has more	than 10 000 mc	ı/I TDS)·	
(o) / ii ou ii u otion u vanusio ioi otionago (gonoran) /		-	most likely:	_	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	540	most likely:	660	maximum:	780
(7) Mean porosity net porous interval (fraction):	minimum:	0.05	most likely:	0.10	maximum:	0.15
Buoyant Tr	apping Probat	oilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbI):						
	minimum:	19	most likely:	33	maximum:	5,800
Residual Tr	apping Probal	bilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	1.00	maximum:	30

C50100107

#### Allocations of the SAU to States

California		contains	100 % of mean SAU area
		contains	% of mean SAU area
		contains	% of mean SAU area
		contains	% of mean SAU area
		contains	% of mean SAU area
		contains	% of mean SAU area
		contains	% of mean SAU area
		contains	% of mean SAU area
Federal lands	Illocations of the SAU to General	aantain	Categories  0 % of mean SAU area
State lands		contain	0 % of mean SAU area
Tribal lands		contain	0 % of mean SAU area
Private and oth	er lands	contain	100 % of mean SAU area
Offshore areas		contain	N % of mean SΔII area

Assessment geologist:	P. Warwick, S. Brennan			Date:	10/19/2011	
Assessment region:	Rocky Mount	ains and Nort	hern Great P	lains		
Province:	San Juan Basin			Number:	C5022	
Basin:	San Juan Basin				Number:	C502201
Storage Assessment Unit (SAU):	Entrada Sand	Istone			Number:	C50220101
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	6,000	maximum:	10,100
(2) Area of the SAU (acres):	minimum:	3,696,000	most likely:	4,107,000	maximum:	4,518,000
(3) Mean total SAU thickness (ft):	minimum:	200	most likely:	250	maximum:	325
(4) SAU water quality (check one):  Most of the water in the SAU is saling	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					Х
Most of the water in the SAU is fresh	(less than 10,0	000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	ne area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	-	most likely:	0.10	maximum:	0.25
(6) Mean thickness net porous interval (ft):	minimum:	100	most likely:	125	maximum:	150
(7) Mean porosity net porous interval (fraction):	minimum:	0.20	most likely:	0.23	maximum:	0.26
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	10	most likely:	13	maximum:	500
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	10.000	most likely:	370.00	maximum:	1,200

Storage Assessment U	Jnit (	(SAU)	٠
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Offshore areas

Entrodo	Sandstone

Number:

0 % of mean SAU area

C50220101

Allocati	ons of the SAU to States	
Colorado	contains	1.8 % of mean SAU area
New Mexico	contains	98 % of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
Allocations of the SAU	to General Land-Ownership Ca	tegories
Federal lands	contain	42 % of mean SAU area
		5.8 % of mean SAU area
State lands	contain	
Tribal lands	contain	36 % of mean SAU area

Assessment geologist:	R. Drake			Date:	10/20/2011	
Assessment region:	Rocky Mountains and Northern Great Plains					
Province:	San Juan Basin				Number:	C5022
Basin:	San Juan Bas	in			Number:	C502201
Storage Assessment Unit (SAU):	Dakota Sandstone				Number:	C50220102
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	check one):			3,000-13,000 f	t	x
/1) CALL double from a confer of /fs).		2 000	mana at lilanda u	> 13,000 ft		0.000
<ul><li>(1) SAU depth from surface (ft):</li><li>(2) Area of the SAU (acres):</li></ul>	minimum: _		most likely:		maximum: maximum:	9,000
(3) Mean total SAU thickness (ft):	minimum: _ minimum:	5,246,000	most likely: most likely:	5,829,000	maximum:	6,412,000
,,,	-		,			
(4) SAU water quality (check one):						
Most of the water in the SAU is salir	ne (greater than	10,000 mg/L T	DS).			-
Water in this SAU is both saline and	fresh.					Х
Most of the water in the SAU is fresh	h (less than 10,00	00 mg/L TDS).				
(5) Area fraction available for storage (generally,	the area where S	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum: _	0.20	most likely:	0.35	maximum:	0.50
(6) Mean thickness net porous interval (ft):	minimum:	30	most likely:	45	maximum:	60
(7) Mean porosity net porous interval (fraction):	minimum:	0.05	most likely:	0.10	maximum:	0.15
Buoyant Tr	apping Proba	abilistic Ca	lculation	Inputs		
(0) D						
(8) Buoyant trapping pore volume (MMbbl):	minimum:	24	most likely:	31	maximum:	2,400
Residual Tr	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum <sup>.</sup>	0 001	most likely	0.25	maximum.	100
(1) I mounty of the not periode interval (ind).		0.001	oo: iii.ory.	0.20		.00

C+	A	11:4	/C A I	ı١	١.
Storage	Assessment	Unit	(SA)	U	ı.

		_		
Dak	nta	San	nd et	nne

- IN	lum	hor'

C50220102

#### Allocations of the SAU to States

Alloc	cations of the SAU to States	
Colorado	contains	15 % of mean SAU are
New Mexico	contains	85 % of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
Federal leads	AU to General Land-Ownership C	ategories  33 % of mean SAU are
State lands	contain	4.1 % of mean SAU are
Tribal lands	contain	41 % of mean SAU are
Private and other lands	contain	21 % of mean SAU are

Assessment geologist:	R. Drake			Date:	10/20/2011	
Assessment region:	Rocky Mount	tains and Nort	hern Great P	lains		
Province:	San Juan Basin			Number:	C5022	
Basin:	San Juan Basin			Number:	C502201	
Storage Assessment Unit (SAU):	Gallup Sands	tone			Number:	C50220103
SAU relationship to NOGA AU:						
Natas from accessive						
Notes from assessor:						
Characteri	stics of the	Storage A	ssessmen	t Unit		
Lines 1.0 concern data for the CALL at depths of (a)	anak anal:			2 000 12 000 f		v
Lines 1-9 concern data for the SAU at depths of (cl	ieck one).			3,000-13,000 ft > 13,000 ft	L	X
(1) SAU depth from surface (ft):	minimum:	3 000	most likely:	5,450	maximum:	7,900
(2) Area of the SAU (acres):	minimum:	4,203,000	-		maximum:	5,137,000
(3) Mean total SAU thickness (ft):	minimum:		most likely:	350	maximum:	425
(10)						
(4) SAU water quality (check one):						
Most of the water in the SAU is saling	e (greater thar	10,000 mg/L T	DS).			
Water in this SAU is both saline and t	fresh.					х
Most of the water in the SAU is fresh	(less than 10,0	000 mg/L TDS).				
(5) Area fraction available for storage (generally, the		-				
	minimum:	0.25	most likely:	0.40	maximum:	0.65
(6) Mean thickness net porous interval (ft):	minimum:	15	most likely:	45	maximum:	105
(7) Mean porosity net porous interval (fraction):	minimum:	0.06	most likely:	0.12	maximum:	0.18
Buoyant Tra	ipping Prob	abilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):		400	a de l'Iva le co	440		21 000
	minimum:	433	most likely:	442	maximum:	21,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum.	በ ፈበበ	most likely	50.00	maximum.	400
(IIID).	mmmuni.	0.700	most iikery.	30.00	muximum.	

Storage	Assessment	Hnit	(0 11	ı١
Storage	Assessment	Unit	เอลบ	"

Offshore areas

	_	
Gallu	p Sand	dstone

#### Number:

0 % of mean SAU area

C50220103

Colorado	contains	14	% of mean SAU
New Mexico	contains	86	% of mean SAU
	contains		% of mean SAU
	contains		% of mean SAU
	contains	_	% of mean SAU
	contains		% of mean SAU
	contains		% of mean SAU
	contains		% of mean SAU
All of Cal			
	e SAU to General Land-Ownership	-	s % of mean SAU
	·	38	% of mean SAU
Federal lands	contain	4.2	

Assessment geologist:	E. Slucher				Date:	10/20/2011
Assessment region:	Rocky Mount	ains and Nortl	hern Great P	lains		
Province:	San Juan Basin			Number:	C5022	
Basin:	San Juan Basin				Number:	C502201
Storage Assessment Unit (SAU):	Lewis Shale a	and Mesaverd	e Group		Number:	C50220104
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	4,000	maximum:	5,400
(2) Area of the SAU (acres):	minimum:	1,584,000	most likely:	1,760,000	maximum:	2,112,000
(3) Mean total SAU thickness (ft):	minimum:	1,800	most likely:	2,000	maximum:	2,200
(4) SAU water quality (check one):  Most of the water in the SAU is saling	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					Х
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	0.30	most likely:	0.50	maximum:	0.70
(6) Mean thickness net porous interval (ft):	minimum:	120	most likely:	160	maximum:	200
(7) Mean porosity net porous interval (fraction):	minimum:	0.04	most likely:	0.09	maximum:	0.14
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	42	most likely:	43	maximum:	6,900
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.000	most likely:	2.00	maximum:	1,200

Storage Assessment U	Jnit (	(SAU)	٠
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LEWIS	Silale	anu	IVIESAV	erue	GIUUD

#### Number:

C50220104

Alloca	ations of the SAU to States	
Colorado	contains	23 % of mean SAU area
New Mexico	contains	77 % of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	U to General Land-Ownership C	ategories  43 % of mean SAU area
State lands	contain	3.8 % of mean SAU area
Tribal lands	contain	19 % of mean SAU area
Private and other lands	contain	34 % of mean SAU area
Offshore areas	contain	0 % of mean SAU area

Assessment geologist:	S. Brennan				Date:	2/2/2012
Assessment region:	Coastal Plains	S				
Province:	South Florida Basin			Į.	Number:	C5050
Basin:	South Florida Basin				Number:	C505001
Storage Assessment Unit (SAU):	Pre-Punta Go	rda			Number:	C50500101
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft > 13,000 ft		x
(1) SAU depth from surface (ft):	minimum:	8,200	most likely:	12,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	18,638,000	most likely:	20,709,000	maximum:	22,780,000
(3) Mean total SAU thickness (ft):	minimum:	1,500	most likely:	3,250	maximum:	4,500
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fresh	fresh.					x
(5) Area fraction available for storage (generally, t	he area where	SAII nore wa	ter has more	than 10 000 mg	/I TDS)·	
(o) 7 th our material assumes to the easily of generally, a		-		1.00		1.00
(6) Mean thickness net porous interval (ft):	minimum:	500	most likely:	1100	maximum:	1500
(7) Mean porosity net porous interval (fraction):	minimum:	0.09	most likely:	0.12	maximum:	0.15
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	0	most likely:	1,420	maximum:	200,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	15.00	maximum:	1,000

Offshore areas

_	_	
Pre-	Punta	Gorda

### Number:

20 % of mean SAU area

C50500101

## Allocations of the CALL to State

Florida	contains	100 % of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	Contains	70 OF ITIE ATT SAU &
	e SAU to General Land-Ownership C	
	e SAU to General Land-Ownership C	ategories
	e SAU to General Land-Ownership C	ategories
Federal lands	e SAU to General Land-Ownership C contain	ategories 15_% of mean SAU a

Assessment geologist:	T. Roberts-Ashby			Date:	2/2/2012	
Assessment region:	Coastal Plains					
Province:	South Florida	Basin			Number:	C5050
Basin:	South Florida	Basin			Number:	C505001
Storage Assessment Unit (SAU):	Sunniland For	mation			Number:	C50500102
SAU relationship to NOGA AU:				_		
Notes from assessor:						
Character	istics of the	Storage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	:heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	9 800	most likely:		maximum:	11,900
(2) Area of the SAU (acres):	minimum:	2,722,000	most likely:		maximum:	3,326,000
(3) Mean total SAU thickness (ft):	minimum:	230			maximum:	270
(4) SAU water quality (check one):						
Most of the water in the SAU is salin Water in this SAU is both saline and	_	10,000 mg/L T	DS).			x
Most of the water in the SAU is fresh		00 mg/L TDS).				
(5) Area fraction available for storage (generally,	the area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum: _	1.00	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	60	most likely:	65	maximum:	70
(7) Mean porosity net porous interval (fraction):	minimum: _	0.13	most likely:	0.14	maximum:	0.15
Buoyant Tr	apping Proba	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum: _	200	most likely:	560	maximum:	13,000
Residual Tr	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	80.00	maximum:	400

Storage Assessment l	Jnit (	(SAU):
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Offshore areas

Sunniland Formation				
	Cun	niland	1 Earn	nation

Number: C50500102

\_\_\_\_\_1 % of mean SAU area

contain

## Allocations of the SAU to States

Florida	contains	100 % of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
Allocations of t	contains the SAU to General Land-Ownership contain	% of mean SAU a Categories  31 % of mean SAU a
	he SAU to General Land-Ownership	Categories
Federal lands	the SAU to General Land-Ownership	Categories  31 % of mean SAU a

Assessment geologist:	M. Merrill			Date:	2/2/2012	
Assessment region:	Coastal Plains					
Province:	South Florida Basin				Number:	C5050
Basin:	South Florida E	Basin			Number:	C505001
Storage Assessment Unit (SAU):	Gordon Pass a	nd Marco Ju	ınction Form	ations	Number:	C50500103
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the S	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	7,000	most likely:	9,500	maximum:	10,500
(2) Area of the SAU (acres):	minimum:	15,387,000	most likely:	17,097,000	maximum:	18,807,000
(3) Mean total SAU thickness (ft):	minimum:	600	most likely:	750	maximum:	1,000
(4) SAU water quality (check one):  Most of the water in the SAU is salin	e (greater than 1	10.000 mg/L T	DS).			x
Water in this SAU is both saline and	_	. 0,000g, = .	201.			
Most of the water in the SAU is fresh	ı (less than 10,00	0 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where S	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum: _		most likely:	_	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum: _	420	most likely:	525	maximum:	700
(7) Mean porosity net porous interval (fraction):	minimum: _	0.08	most likely:	0.14	maximum:	0.18
Buoyant Tra	apping Proba	bilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum: _	0	most likely:	73	maximum:	37,000
Residual Tra	apping Proba	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum: _	0.200	most likely:	2.50	maximum:	200

## Allocations of the SAU to States

(1)	Florida	contains	100	% of mean SAU area
(2)		contains		% of mean SAU area
(3)		contains		% of mean SAU area
(4)		contains		% of mean SAU area
(5)		contains		% of mean SAU area
(6)		contains		% of mean SAU area
(7)		contains		% of mean SAU area
(8)		contains		% of mean SAU area
	Allocations of the SAU to General Land	-Ownership	Categories	S
(1)	<u>Federal lands</u>	contain	18	% of mean SAU area
(2)	State lands	contain	11	% of mean SAU area
(3)	Tribal lands	contain	0	% of mean SAU area
(4)	Private and other lands	_contain	52	% of mean SAU area
(5)	Offshore areas	contain	19	% of mean SAU area

Assessment geologist:	M. Merrill			Date:	2/2/2012	
Assessment region:	Coastal Plains					
Province:					Number:	C5050
Basin:	South Florida B	Basin			Number:	C505001
Storage Assessment Unit (SAU):	Dollar Bay For	mation			Number:	C50500104
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the S	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	7,000	most likely:	9,000	maximum:	10,000
(2) Area of the SAU (acres):	minimum:	14,477,000	most likely:	16,085,000	maximum:	17,694,000
(3) Mean total SAU thickness (ft):	minimum: _	200	most likely:	350	maximum:	500
(4) SAU water quality (check one):						
Most of the water in the SAU is salin		10,000 mg/L 1	DS).			X
Water in this SAU is both saline and Most of the water in the SAU is fresh		0 mg/L TDS).				
/e\				.1 10.000	// TDO\	
(5) Area fraction available for storage (generally, t	ne area where S minimum:	-	ter nas more most likely:	_	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	80	most likely:	140	maximum:	200
(7) Mean porosity net porous interval (fraction):	minimum: _	0.08	most likely:	0.14	maximum:	0.18
Buoyant Tra	apping Proba	bilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum: _	0	most likely:	73	maximum:	12,000
Residual Tra	apping Proba	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.200	most likely:	2.50	maximum:	200

Storage Assessment I	Jnit (	(SAU)
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Offshore areas

Dalla	. Dav.	F ~ " "	
Dollar	Bav	FORM	iatior

Number:

20 % of mean SAU area

C50500104

	Allocations	of the	SAU	to	States
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Florida	contains	100 % of mean SAU
Tioriua	Contains	
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	the SAU to General Land-Ownership	o Categories 
Federal lands		
Allocations of Federal lands  State lands  Tribal lands	contain	20 % of mean SAU

Assessment geologist:	1. Roberts-As	nby			Date:	2/2/2012
Assessment region:	Coastal Plains					
Province:	South Florida Basin				Number:	C5050
Basin:	South Florida Basin				Number:	C505001
Storage Assessment Unit (SAU):	Cedar Keys and Lawson Formations				Number:	C50500105
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the	Storage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	4,700	maximum:	5,400
(2) Area of the SAU (acres):	minimum:	20,209,000	most likely:	22,454,000	maximum:	24,699,000
(3) Mean total SAU thickness (ft):	minimum:	500	most likely:	700	maximum:	800
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fres	fresh.					x
(5) Area fraction available for storage (generally,	the area where minimum: _	-	ter has more most likely:	_	/L TDS): maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	160	most likely:	220	maximum:	240
(7) Mean porosity net porous interval (fraction):	minimum:	0.21	most likely:	0.23	maximum:	0.25
Buoyant Tr	apping Prob	abilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum: _	0	most likely:	1	maximum:	104,000
Residual Tr	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	100.00	maximum:	430

Offshore areas

19 % of mean SAU area

	Allocations of the SAU t	o States		
)	Florida	_contains	100	% of mean SAU area
)		_contains		% of mean SAU area
)		_contains		% of mean SAU area
)		_contains		% of mean SAU area
)		_contains		% of mean SAU area
)		_contains		% of mean SAU area
)		_contains		% of mean SAU area
)		_contains		% of mean SAU area
	Allocations of the SAU to General Land	-Ownershi	p Categorie	s
	Federal lands	_contain	15	% of mean SAU area
	State lands	_contain	10	% of mean SAU area
	Tribal lands	_contain	0	% of mean SAU area
	Private and other lands	_contain	56	% of mean SAU area

Assessment geologist:	M. Buursink			Date:	10/19/2011	
Assessment region:	Rocky Mount	ains and Nortl	hern Great P	lains		
Province:	Uinta and Piceance Basins			Number:	C5020	
Basin:	Uinta and Piceance Basins				Number:	C502001
Storage Assessment Unit (SAU):	Paleozoic Composite			Number:	C50200101	
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft	i.	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	1,358,000	most likely:	1,697,000	maximum:	2,036,000
(3) Mean total SAU thickness (ft):	minimum:	2,500	most likely:	3,000	maximum:	4,000
(4) SAU water quality (check one):  Most of the water in the SAU is salin	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					Х
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	0.30	most likely:	0.50	maximum:	0.70
(6) Mean thickness net porous interval (ft):	minimum:	500	most likely:	900	maximum:	1200
(7) Mean porosity net porous interval (fraction):	minimum:	0.06	most likely:	0.10	maximum:	0.14
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	1,500	most likely:	1,600	maximum:	28,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	1.00	maximum:	200

Storage	Assessment	Unit	(SAU):
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Offshore areas

Pa	leozoic	Com	nnsita
гa	reozorc	COIII	Dosite

### Number:

0 % of mean SAU area

C50200101

7 5 5 3 5	ions of the SAU to States
Colorado	contains 73 % of mean
Utah	contains 27 % of mean
	contains % of mean
	contains % of mean
	contains % of mean
	contains % of mean
	contains % of mean
	contains % of mean
Allocations of the SAU	to General Land-Ownership Categories
<b>-</b>	to General Land-Ownership Categories  contain 68 % of mean
<b>-</b>	
Federal lands	contain 68 % of mean

Assessment geologist:	essment geologist: M. Buursink			Date:	10/19/2011	
Assessment region:	Rocky Mount	ains and Nort	nern Great P	lains		
Province:	Uinta and Piceance Basins			Number:	C5020	
Basin:	Uinta and Piceance Basins				Number:	C502001
Storage Assessment Unit (SAU):	Paleozoic Co	mposite Deep			Number:	C50200102
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteris	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (ch	eck one):			3,000-13,000 f	t	
(4) 0.41   1   ( )   ( )   ( )		10.000	. 19. 1	> 13,000 ft		X 20.000
(1) SAU depth from surface (ft):	minimum:	13,000	-	16,000	maximum:	20,000
(2) Area of the SAU (acres):	minimum:	966,000	most likely:		maximum:	1,448,000
(3) Mean total SAU thickness (ft):	minimum:	2,500	most likely:	3,500	maximum:	4,500
(4) SAU water quality (check one):						
Most of the water in the SAU is saline	(greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and f						×
Most of the water in the SAU is fresh	(less than 10,0	000 mg/L TDS).				
(5) Area fraction available for storage (generally, th	o araa whara	SALL noro was	tor has more	than 10 000 mg	// TDC):	
(5) Area fraction available for Storage (generally, th	minimum:	-	most likely:	0.75	maximum:	0.90
	illillillillillilli.	0.00	most iikory.	0.73	maximum.	0.50
(6) Mean thickness net porous interval (ft):	minimum:	600	most likely:	900	maximum:	1100
(7) Mean porosity net porous interval (fraction):	minimum:	0.04	most likely:	0.06	maximum:	0.10
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	0	most likely:	10	maxımum:	4,000
Residual Tra	pping Prob	abilistic Ca	lculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.000	most likely:	0.10	maximum:	1

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Storage	Assessment	unit	ISAI	JI:

Offshore areas

<b>D</b>	0 . 0	
Paleozoic	Composite Deep	

# Number:

C50200102

0 % of mean SAU area

	Allocations of the SAU to	o States		
(1)	Colorado	contains	54	% of mean SAU area
(2)	Utah	contains	46	% of mean SAU area
(3)		contains		% of mean SAU area
(4)		contains		% of mean SAU area
(5)		contains		% of mean SAU area
(6)		contains		% of mean SAU area
(7)		contains		% of mean SAU area
(8)		contains		% of mean SAU area
	Allocations of the SAU to General Land	-Ownership	o Categorie	s
(1)	Federal lands	contain	70	% of mean SAU area
(2)	State lands	contain	6.3	% of mean SAU area
(3)	Tribal lands	contain	8.1	% of mean SAU area
(4)	Private and other lands	contain	16	% of mean SAU area

Assessment geologist:	M. Merrill			Date:	10/19/2011	
Assessment region:	Rocky Mountai	ns and Nort	hern Great P	lains		
Province:	Uinta and Piceance Basins				Number:	C5020
Basin:	Uinta and Piceance Basins				Number:	C502001
Storage Assessment Unit (SAU):	Lower Cretace	ous Compos	ite		Number:	C50200103
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	check one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,250	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	6,752,000	most likely:	7,502,000	maximum:	8,252,000
(3) Mean total SAU thickness (ft):	minimum:	200	most likely:	350	maximum:	500
(4) SAU water quality (check one):						
Most of the water in the SAU is salir	ne (greater than 1	0,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					Х
Most of the water in the SAU is fresh	h (less than 10,00	0 mg/L TDS).				
(5) Area fraction available for storage (generally,	the area where S	AU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	0.22	most likely:	0.50	maximum:	0.78
(6) Mean thickness net porous interval (ft):	minimum:	80	most likely:	110	maximum:	140
(7) Mean porosity net porous interval (fraction):	minimum: _	0.10	most likely:	0.13	maximum:	0.18
Buoyant Tr	apping Proba	bilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(.,,, <b>.</b> ,,,	minimum:	212	most likely:	249	maximum:	5,924
Residual Tr	apping Proba	bilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	0.10	maximum:	100

Storage	Assessment	Hnit	1001	ı١
Storage	Assessment	Unit	ISAU	"

Offshore areas

Lower	Cretaceous	Composite
LUWEI	CIELACEUUS	COMMODILE

Number:	
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0 % of mean SAU area

C50200103

	llocations of the SAU to States	
Colorado	contains	50 % of mean SAU a
Utah	contains	50 % of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
Allocations of the	e SAU to General Land-Ownership (	Categories
Allocations of the	e SAU to General Land-Ownership (	Categories 66 % of mean SAU a
	·	
Federal lands	contain	66 % of mean SAU a

Assessment geologist:	M. Merrill			Date:	10/19/2011	
Assessment region:	Rocky Mounta	ains and Nort	hern Great P	lains		
Province:	Uinta and Piceance Basins				Number:	C5020
Basin:	Uinta and Piceance Basins				Number:	C502001
Storage Assessment Unit (SAU):	Lower Cretac	eous Compos	ite Deep	_	Number:	C50200104
SAU relationship to NOGA AU:						
Notes from assessor:	,					
Character	istics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 f	t	
				> 13,000 ft		Х
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	15,000	maximum:	28,000
(2) Area of the SAU (acres):	minimum: _	3,399,000	most likely:	3,777,000	maximum:	4,155,000
(3) Mean total SAU thickness (ft):	minimum: _	140	most likely:	275	maximum:	500
(4) SAU water quality (check one):						
Most of the water in the SAU is salin Water in this SAU is both saline and	=	10,000 mg/L T	DS).			
Most of the water in the SAU is fres		00 mg/L TDS).				X
		-				
(5) Area fraction available for storage (generally,		-				
	minimum:	0.25	most likely:	0.60	maximum:	0.75
(6) Mean thickness net porous interval (ft):	minimum:	28	most likely:	55	maximum:	100
(7) Mean porosity net porous interval (fraction):	minimum:	0.05	most likely:	0.07	maximum:	0.10
Buoyant Tr	apping Proba	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	36	most likely:	53	maximum:	500
Residual Tr	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.001	most likely:	0.01	maximum:	10
•	-		•			

## Allocations of the SAII to States

Allot	cations of the SAU to States	
Colorado	contains	29 % of mean SAU area
Utah	contains	71 % of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	AU to General Land-Ownership Cate	gories  49 % of mean SAU area
State lands	contain	7.3 % of mean SAU area
Tribal lands	contain	12 % of mean SAU area
Private and other lands	contain	32 % of mean SAU area
Offshore areas	contain	0 % of mean SAU area

Assessment geologist:	J. East			Date:	10/19/2011	
Assessment region:	Rocky Mount	ains and Nortl	hern Great P	lains		
Province:	Uinta and Pic	eance Basins			Number:	C5020
Basin:		eance Basins			Number:	C502001
Storage Assessment Unit (SAU):	Green River F	ormation			Number:	C50200105
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	5,500	maximum:	10,000
(2) Area of the SAU (acres):	minimum:	1,023,000	most likely:		maximum:	1,251,000
(3) Mean total SAU thickness (ft):	minimum:	5,000	most likely:	5,500	maximum:	6,000
(4) SAU water quality (check one):  Most of the water in the SAU is saline	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and t	fresh.					Х
Most of the water in the SAU is fresh	(less than 10,0	000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	ne area where	SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	-	most likely:	0.35	maximum:	0.80
(6) Mean thickness net porous interval (ft):	minimum:	1800	most likely:	1980	maximum:	2160
(7) Mean porosity net porous interval (fraction):	minimum:	0.05	most likely:	0.09	maximum:	0.12
Buoyant Tra	ipping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
to, baoyant trapping pore volume (wiwibbi).	minimum:	32	most likely:	320	maximum:	80,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.001	most likely:	0.10	maximum:	28

Storage Assessment Unit (SAU):	

Private and other lands

Offshore areas

(4)

(5)

### **Green River Formation**

contain

contain

46 % of mean SAU area

0 % of mean SAU area

### Number: C50200105 Allocations of the SAU to States (1) Utah contains 100 % of mean SAU area % of mean SAU area (2) contains (3) % of mean SAU area contains % of mean SAU area (4) contains % of mean SAU area (5) contains (6) contains % of mean SAU area % of mean SAU area (7) contains % of mean SAU area (8) contains Allocations of the SAU to General Land-Ownership Categories (1) Federal lands contain 30 % of mean SAU area 4.6 % of mean SAU area (2) State lands contain (3) Tribal lands 19 % of mean SAU area contain

M. Buursink				Date:	5/25/2011
Coastal Plains	3				
U.S. Gulf Coast				Number:	C5049
U.S. Gulf Coas	st			Number:	C504901
Norphlet Forn	nation			Number:	C50490101
stics of the	Storage As	ssessmen	t Unit		
heck one):			3,000-13,000 ft > 13,000 ft	:	x
minimum:	3,000	most likely:	12,000	maximum:	13,000
minimum:	27,618,000	most likely:	30,687,000	maximum:	33,756,000
minimum:	150	most likely:	300	maximum:	1,000
fresh.					Х
	-		_		1.00
minimum:	100	most likely:	200	maximum:	300
minimum: _	0.10	most likely:	0.12	maximum:	0.18
apping Prob	abilistic Ca	lculation	Inputs		
minimum: _	10	most likely:	1,400	maximum:	2,000
apping Prob	abilistic Ca	alculation	Inputs		
minimum:	10.000	most likely:	100.00	maximum:	1,000
	Coastal Plains U.S. Gulf Coastal V.S. Gulf Coast	Coastal Plains  U.S. Gulf Coast  U.S. Gulf Coast  Norphlet Formation  Stics of the Storage Astheck one):  minimum: 3,000 minimum: 27,618,000 minimum: 150  e (greater than 10,000 mg/L T T fresh. In (less than 10,000 mg/L TDS).  the area where SAU pore was minimum: 0.90 minimum: 0.90 minimum: 100 minimum: 0.10 apping Probabilistic Caminimum: 10	Coastal Plains  U.S. Gulf Coast  U.S. Gulf Coast  Norphlet Formation  Stics of the Storage Assessment heck one):  minimum: 3,000 most likely: minimum: 27,618,000 most likely: minimum: 150 most likely: most likely: minimum: 150 most likely: most likely: most likely: most likely: most likely: most likely: most likely: most likely: most likely: minimum: 0.90 most likely: minimum: 0.90 most likely: minimum: 100 most likely: minimum: 1	Coastal Plains  U.S. Gulf Coast  U.S. Gulf Coast  Norphlet Formation  Stics of the Storage Assessment Unit  heck one):  3,000-13,000 ft  3,000-13,000 ft  > 13,000 ft  minimum:  27,618,000 most likely:  12,000  minimum:  150 most likely:  30,687,000  minimum:  150 most likely:  300  e (greater than 10,000 mg/L TDS).  fresh.  n (less than 10,000 mg/L TDS).  the area where SAU pore water has more than 10,000 mg  minimum:  0,90 most likely:  0,95  minimum:  100 most likely:  200  minimum:  0,10 most likely:  1,400  apping Probabilistic Calculation Inputs	U.S. Gulf Coast

Storage Asse	essment Unit (SAU):	Norphlet Formation		Number:	C50490101
	Allo	cations of the SAU to States			
(1)	Alabama	contains	14	% of mean	SAU area
(2)	Arkansas	contains	23	% of mean	SAU area
(3)	Florida	contains	< 1.0	% of mean	SAU area
(4)	Louisiana	contains	14	% of mean	SAU area
(5)	Mississippi	contains	14	% of mean	SAU area
(6)	Oklahoma	contains	< 1.0	% of mean	SAU area
(7)	Texas	contains	34	% of mean	SAU area
(8)		contains		% of mean	SAU area
	Allocations of the S	AU to General Land-Ownership	o Categorie	S	
(1)	Federal lands	contain	2.5	% of mean	SAU area
(2)	State lands	contain	< 1.0	% of mean	SAU area
(3)	Tribal lands	contain	< 1.0	% of mean	SAU area

contain

contain

97 % of mean SAU area

0 % of mean SAU area

(4)

(5)

Private and other lands

Offshore areas

Assessment geologist:	M. Buursink				Date:	5/25/2011
Assessment region:	Coastal Plain	S				
Province:	U.S. Gulf Coast			Number:	C5049	
Basin:	U.S. Gulf Coa				Number:	C504901
Storage Assessment Unit (SAU):	Norphlet Forr	nation Deep			Number:	C50490102
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 f	t	
				> 13,000 ft		X
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	15,000	maximum:	21,700
(2) Area of the SAU (acres):	minimum:	39,778,000	most likely:	44,198,000	maximum:	48,618,000
(3) Mean total SAU thickness (ft):	minimum:	80	most likely:	200	maximum:	500
(4) SAU water quality (check one):						
Most of the water in the SAU is salin Water in this SAU is both saline and	_	10,000 mg/L T	DS).			Х
Most of the water in the SAU is fresh		000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU nore wa	ter has more	than 10 000 mg	ı/I TDS)·	
(6),	minimum:	-	most likely:	0.95	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	50	most likely:	100	maximum:	150
(7) Mean porosity net porous interval (fraction):	minimum:	0.05	most likely:	0.10	maximum:	0.15
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	2,200	most likely:	3,400	maximum:	100,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	1.000	most likely:	10.00	maximum:	890

contain

contain

contain

contain

1.1 % of mean SAU area

< 1.0 % of mean SAU area

93 % of mean SAU area

< 1.0 % of mean SAU area

(2)

(3)

(4)

(5)

State lands

Tribal lands

Offshore areas

Private and other lands

Assessment geologist:	M. Buursink			Date:	5/25/2011	
Assessment region:	Coastal Plain	S				
Province:	U.S. Gulf Coast				Number:	C5049
Basin:	U.S. Gulf Coa	st			Number:	C504901
Storage Assessment Unit (SAU):	Smackover Fo	ormation			Number:	C50490103
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	9,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	25,755,300	most likely:	28,617,000	maximum:	31,478,700
(3) Mean total SAU thickness (ft):	minimum:	100	most likely:	200	maximum:	500
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fresh	fresh.					X
(5) Area fraction available for storage (generally, t	he area where minimum:	-	ter has more most likely:	than 10,000 mg 0.95	/L TDS): maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	50	most likely:	100	maximum:	200
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.15	maximum:	0.20
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	3,000	most likely:	3,600	maximum:	250,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	15.00	maximum:	1,000

contain

contain

contain

< 1.0 % of mean SAU area

96 % of mean SAU area

0 % of mean SAU area

(3)

(4)

(5)

Tribal lands

Offshore areas

Private and other lands

Assessment geologist:	M. Buursink			Date:	5/25/2011	
Assessment region:	Coastal Plains	S				
Province:	U.S. Gulf Coast			Number:	C5049	
Basin:	U.S. Gulf Coas				Number:	C504901
Storage Assessment Unit (SAU):	Smackover Fo	ormation Deep	0		Number:	C50490104
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the	Storage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 f	t	
				> 13,000 ft		Х
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	15,000	maximum:	24,000
(2) Area of the SAU (acres):	minimum:	55,596,000	most likely:	61,773,000	maximum:	67,950,000
(3) Mean total SAU thickness (ft):	minimum:	80	most likely:	100	maximum:	400
(4) SAU water quality (check one):						
Most of the water in the SAU is salin Water in this SAU is both saline and	_	10,000 mg/L T	DS).			x
Most of the water in the SAU is fresh		00 mg/L TDS).				
(5) Area fraction available for storage (generally,	the area where	SAU pore wa	ter has more	than 10,000 mg	g/L TDS):	
	minimum:	0.90	most likely:	0.95	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	40	most likely:	50	maximum:	100
(7) Mean porosity net porous interval (fraction):	minimum:	0.08	most likely:	0.12	maximum:	0.15
Buoyant Tr	apping Prob	abilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
to, baoyant trapping pore volume (wivibbi).	minimum:	4,800	most likely:	5,500	maximum:	150,000
Residual Tr	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	10.00	maximum:	500

Storage Assessment Unit (SAU): Smackover Formation Deep		ер		Number:	C50490104
	Allocations of the SAU t	o States			
(1)	Alabama	_contains	11	% of mean	SAU area
(2)	Florida	_contains	3.2	% of mean	SAU area
(3)	Louisiana	_contains	20	% of mean	SAU area
(4)	Mississippi	_contains	21	% of mean	SAU area
(5)	Texas	_contains	49	% of mean	SAU area
(6)		_contains		% of mean	SAU area
(7)		_contains		% of mean	SAU area
(8)		_contains		% of mean	SAU area
	Allocations of the SAU to General Land	I-Ownershi <sub>l</sub>	p Categorie:	s	
(1)	Federal lands	_contain	6.9	% of mean	SAU area

contain

contain

contain

contain

1.2 % of mean SAU area

< 1.0 % of mean SAU area

92 % of mean SAU area

< 1.0 % of mean SAU area

(2)

(3)

(4)

(5)

State lands

Tribal lands

Offshore areas

Private and other lands

Assessment geologist:	T. Roberts-Ashby			Date:	5/25/2011	
Assessment region:	Coastal Plains					
Province:	U.S. Gulf Coa	st			Number:	C5049
Basin:	U.S. Gulf Coa	st			Number:	C504901
Storage Assessment Unit (SAU):	Haynesville F	ormation			Number:	C50490105
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft > 13,000 ft	İ	x
(1) SAU depth from surface (ft):	minimum:	4,700	most likely:	8,850	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	12,749,000	most likely:	14,166,000	maximum:	15,583,000
(3) Mean total SAU thickness (ft):	minimum:	300	most likely:	550	maximum:	750
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fresh	fresh.					x
	,	3, -,				
(5) Area fraction available for storage (generally, t	he area where minimum:		ter has more most likely:	than 10,000 mg	/L TDS): maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	100	most likely:	190	maximum:	260
(7) Mean porosity net porous interval (fraction):	minimum:	0.07	most likely:	0.09	maximum:	0.14
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	7,700	most likely:	7,900	maximum:	48,657
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	0.50	maximum:	500

Storage Assessment Unit (SAU):		Haynesville Formation	Haynesville Formation		
		Allocations of the SAU to States			
(1)	Arkansas	contains	1.1	% of mean	SAU area
(2)	Louisiana	contains	38	% of mean	SAU area
(3)	Texas	contains	61	% of mean	SAU area
(4)		contains		% of mean	SAU area

contains

contains

contains

contains

% of mean SAU area

\_\_\_\_\_ % of mean SAU area

% of mean SAU area

% of mean SAU area

(5)

(6)

(7)

(8)

## Allocations of the SAU to General Land-Ownership Categories

(1)	Federal lands	contain	3.0 % of mean SAU area
(2)	State lands	contain	< 1.0 % of mean SAU area
(3)	Tribal lands	contain	0 % of mean SAU area
(4)	Private and other lands	contain	97 % of mean SAU area
(5)	Offshore areas	contain	0 % of mean SAU area

Assessment geologist:	T. Roberts-Ashby			Date:	5/25/2011	
Assessment region:	Coastal Plains					
Province:	U.S. Gulf Coas	st			Number:	C5049
Basin:	U.S. Gulf Coas	st			Number:	C504901
Storage Assessment Unit (SAU):	Haynesville Fo	ormation Dee	p		Number:	C50490106
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 f	t	
				> 13,000 ft		Х
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	15,800	maximum:	18,600
(2) Area of the SAU (acres):	minimum:	7,894,000	most likely:	8,771,000	maximum:	9,648,000
(3) Mean total SAU thickness (ft):	minimum:	300	most likely:	600	maximum:	800
(4) SAU water quality (check one):						
Most of the water in the SAU is saling	_	10,000 mg/L T	DS).			
Water in this SAU is both saline and						X
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	1.00	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	90	most likely:	180	maximum:	240
(7) Mean porosity net porous interval (fraction):	minimum:	0.03	most likely:	0.07	maximum:	0.11
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(A) (A) (A) (A) (A) (A) (A) (A) (A) (A)	minimum:	1,500	most likely:	1,600	maximum:	1,702
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.005	most likely:	0.30	maximum:	200

Storage Assessment I	Jnit (	(SAU)
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Offshore areas

		_		_
Lava	esville	Earma	tion	Door
пачн	30VIIIE	TUITIIC	เนบแ	Deen

Number:

0 % of mean SAU area

C50490106

Louisiana	contains	24	% of mean SAU
Texas	contains	76	% of mean SAU
	contains		% of mean SAU
	contains		% of mean SAU
	contains		% of mean SAU
	contains		% of mean SAU
	contains		% of mean SAU
			0/ /
	contains		% of mean SAU
	s SAU to General Land-Ownershi		
	s SAU to General Land-Ownershi	13	s
Federal lands	e SAU to General Land-Ownershi	< 1.0	S % of mean SAU

Assessment geologist:	1. Roberts-Ashby			Date:	5/25/2011	
Assessment region:	Coastal Plains					
Province:	U.S. Gulf Coas	st			Number:	C5049
Basin:	U.S. Gulf Coas				Number:	C504901
Storage Assessment Unit (SAU):	Sligo and Hos Group	ston Formatio	ons and Cotto	on Valley	Number:	C50490107
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the	Storage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	8,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	47,132,000	most likely:	52,369,000	maximum:	57,606,000
(3) Mean total SAU thickness (ft):	minimum:	3,150	most likely:	3,750	maximum:	4,200
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fres	fresh.					x
Most of the water in the OAO is nes	11 (1633 than 10,0	00 mg/L 100/.				
(5) Area fraction available for storage (generally,	the area where minimum:	-	ter has more most likely:	_		0.95
(6) Mean thickness net porous interval (ft):	minimum:	2000	most likely:	2400	maximum:	2650
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.15	maximum:	0.20
Buoyant Tr	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
Version of the second Comments	minimum: _	57,000	most likely:	59,000	maximum:	7,099,074
Residual Tr	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	35.00	maximum:	3,300

Number:

C50490107

# Group Allocations of the SAU to States

	Allocations	of the SAU to States	
(1)	Alabama	contains	4.2 % of mean SAU area
(2)	Arkansas	contains	3.9 % of mean SAU area
(3)	<u>Florida</u>	contains	5.7 % of mean SAU area
(4)	Louisiana	contains	19 % of mean SAU area
(5)	Mississippi	contains	9.5 % of mean SAU area
(6)	Oklahoma	contains	< 1.0 % of mean SAU area
(7)	Texas	contains	58 % of mean SAU area
(8)		contains	% of mean SAU area
	Allocations of the SAU to 0	General Land-Ownership Cate	egories
(1)	Federal lands	contain	6.1 % of mean SAU area
(2)	State lands	contain	1.1 % of mean SAU area
(3)	Tribal lands	contain	< 1.0 % of mean SAU area
(4)	Private and other lands	contain	91 % of mean SAU area
(5)	Offshore areas	contain	1.4 % of mean SAU area

Assessment geologist:	T. Roberts-Ashby				Date:	5/25/2011
Assessment region:	Coastal Plains					
Province:	U.S. Gulf Coast				Number:	C5049
Basin:	U.S. Gulf Coast				Number:	C504901
Storage Assessment Unit (SAU):	Sligo and Hos	ston Formatio	ons and Cotto	on Valley	Number:	C50490108
	Group Deep					
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the	Storage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	:heck one):			3,000-13,000 f	t	
				> 13,000 ft		X
(1) SAU depth from surface (ft):	minimum:		most likely:		maximum:	20,500
(2) Area of the SAU (acres):	minimum:		most likely:		maximum:	23,066,000
(3) Mean total SAU thickness (ft):	minimum:	4,300	most likely:	5,000	maximum:	6,000
(4) SAU water quality (check one):						
Most of the water in the SAU is salir	ne (greater than	10,000 mg/L T	DS).			Х
Water in this SAU is both saline and	fresh.					
Most of the water in the SAU is fresh	n (less than 10,0	00 mg/L TDS).				_
(5) Area fraction available for storage (generally,	the area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	0.95	most likely:	0.95	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum: _	850	most likely:	1000	maximum:	1200
(7) Mean porosity net porous interval (fraction):	minimum:	0.09	most likely:	0.12	maximum:	0.16
Buoyant Tr	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	1,600	most likely:	2,300	maximum:	152,371
Residual Tr	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.050	most likely:	8.00	maximum:	200

Cotton Valley Number:

C50490108

## Allocations of the SAU to States

	711000110							
(1)	Alabama	contains	6.4 % of mean SAU area					
(2)	Florida	contains	1.9 % of mean SAU area					
(3)	Louisiana	contains	22 % of mean SAU area					
(4)	Mississippi	contains	45 % of mean SAU area					
(5)	Texas	contains	25 % of mean SAU area					
(6)		contains	% of mean SAU area					
(7)		contains	% of mean SAU area					
(8)		contains	% of mean SAU area					
	Allocations of the SAU to General Land-Ownership Categories							
(1)	Federal lands	contain	7.7 % of mean SAU area					
(2)	State lands	contain	1.6 % of mean SAU area					
(3)	Tribal lands	contain	0 % of mean SAU area					
(4)	Private and other lands	contain	85 % of mean SAU area					
(5)	Offshore areas	contain	5.7 % of mean SAU area					

Assessment geologist:	P. Warwick				Date:	5/25/2011	
Assessment region:	Coastal Plains						
Province:	U.S. Gulf Coast				Number:	C5049	
Basin:	U.S. Gulf Coast				Number:	C504901	
Storage Assessment Unit (SAU):	Rodessa Formation and James Limestone			те	Number:	C50490110	
SAU relationship to NOGA AU:							
Notes from assessor:							
Characteri	stics of the	Storage As	ssessment	t Unit			
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	t	x	
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	6,500	maximum:	13,000	
(2) Area of the SAU (acres):	minimum:	31,297,000	most likely:	34,774,000	maximum:	38,251,000	
(3) Mean total SAU thickness (ft):	minimum:	450	most likely:	600	maximum:	800	
(4) SAU water quality (check one):  Most of the water in the SAU is saline	e (greater than	10,000 mg/L T	DS).				
Water in this SAU is both saline and	fresh.					Х	
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).					
(5) Area fraction available for storage (generally, t	ne area where	SAU pore wa	ter has more	than 10,000 mg	/L TDS):		
	minimum:	0.80	most likely:	0.80	maximum:	1.00	
(6) Mean thickness net porous interval (ft):	minimum:	30	most likely:	40	maximum:	115	
(7) Mean porosity net porous interval (fraction):	minimum:	0.12	most likely:	0.16	maximum:	0.20	
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs			
(8) Buoyant trapping pore volume (MMbbl):							
	minimum:	7,350	most likely:	7,650	maximum:	68,000	
Residual Trapping Probabilistic Calculation Inputs							
(9) Permeability of the net porous interval (mD):	minimum:	0.200	most likely:	70.00	maximum:	2,000	

Offshore areas

0 % of mean SAU area

#### Allocations of the SAU to States

Arkansas	contains	3.2 % of mean SAU a
Louisiana	contains	32 % of mean SAU a
Mississippi	contains	14 % of mean SAU
Texas	contains	51 % of mean SAU
	contains	% of mean SAU a
	contains	% of mean SAU
	contains	% of mean SAU a
	contains	% of mean SAU
Fodovallanda	contains  U to General Land-Ownership Contain	ategories
Fodovallanda	U to General Land-Ownership C	% of mean SAU and an sau and an an sau and an an an an an an an an an an an an an
Federal lands	U to General Land-Ownership C	ategories 7.4 % of mean SAU

Assessment geologist:	P. Warwick				Date:	5/25/2011
Assessment region:	Coastal Plain	S				
Province:	U.S. Gulf Coa	st			Number:	C5049
Basin:	U.S. Gulf Coa	st			Number:	C504901
Storage Assessment Unit (SAU):	Rodessa Forn	nation and Jar	nes Limestoi	пе Deep	Number:	C50490111
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 f	t	
				> 13,000 ft		Х
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	14,000	maximum:	15,000
(2) Area of the SAU (acres):	minimum:	7,763,000	most likely:		maximum:	9,489,000
(3) Mean total SAU thickness (ft):	minimum:	500	most likely:	700	maximum:	900
(4) SAU water quality (check one):						
Most of the water in the SAU is salin	e (greater than	10,000 mg/L T	DS).			Х
Water in this SAU is both saline and	fresh.					
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wat	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	-	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	30	most likely:	40	maximum:	115
(7) Mean porosity net porous interval (fraction):	minimum:	0.06	most likely:	0.10	maximum:	0.13
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
, , , , , , , , , , , , , , , , , , ,	minimum:	280	most likely:	330	maximum:	11,000
Residual Tr	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.050	most likely:	10.00	maximum:	100

#### Number:

C50490111

#### Allocations of the SAU to States

(1)	Alabama	contains < 1.0	% of mean SAU area
(2)	Louisiana	contains 26	% of mean SAU area
(3)	Mississippi	contains 68	% of mean SAU area
(4)	Texas	contains 6.2	% of mean SAU area
(5)		contains	% of mean SAU area
(6)		contains	% of mean SAU area
(7)		contains	% of mean SAU area
(8)		contains	% of mean SAU area
	Allocations of the SAU to General Land	-Ownership Categorie	s
(1)	Federal lands	contain 10	% of mean SAU area
(2)	State lands	_contain1.7	% of mean SAU area
(3)	Tribal lands	contain 0	% of mean SAU area
(4)	Private and other lands	contain 81	% of mean SAU area
(5)	Offshore areas	contain 7.2	% of mean SAU area

Assessment geologist:	S. Brennan				Date:	5/26/2011
Assessment region:	Coastal Plain	3				
Province:	U.S. Gulf Coa	st			Number:	C5049
Basin:	U.S. Gulf Coa				Number:	C504901
Storage Assessment Unit (SAU):	Fredericksbu	g Group and	Rusk Formati	on	Number:	C50490112
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	6,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	14,940,000	most likely:	16,600,000	maximum:	18,260,000
(3) Mean total SAU thickness (ft):	minimum:	1,300	most likely:	1,700	maximum:	2,300
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fresh	fresh.					X
(5) Area fraction available for storage (generally, t	he area where minimum:	-	ter has more most likely:	than 10,000 mg	J/L TDS): maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	100	most likely:	150	maximum:	250
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.14	maximum:	0.18
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(o) = == Jane a apping poro volunto (minosi).	minimum:	2,000	most likely:	2,300	maximum:	45,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	100.00	maximum:	4,000

#### Number:

C50490112

#### Allocations of the SAU to States

(1)	Arkansas	contains	< 1.0	% of mean SAU area
(2)	Louisiana	contains	< 1.0	% of mean SAU area
(3)	Texas	contains	100	% of mean SAU area
(4)		contains		% of mean SAU area
(5)		_contains		% of mean SAU area
(6)		_contains		% of mean SAU area
(7)		_contains		% of mean SAU area
(8)		_contains		% of mean SAU area
	Allocations of the SAU to General Land	-Ownershi <sub>l</sub>	p Categorie	s
(1)	Federal lands	_contain	3.9	% of mean SAU area
(2)	State lands	_contain	< 1.0	% of mean SAU area
(3)	Tribal lands	_contain	0	% of mean SAU area
(4)	Private and other lands	_contain	96	% of mean SAU area
(5)	Offshore areas	contain	0	% of mean SAU area

Assessment geologist:	S. Brennan				Date:	5/26/2011
Assessment region:	Coastal Plains					
Province:	U.S. Gulf Coast	t			Number:	C5049
Basin:	U.S. Gulf Coas	t			Number:	C504901
Storage Assessment Unit (SAU):	Edwards, Glen	Rose, and J	ames Limest	ones	Number:	C50490113
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	Storage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,500	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	3,150,000	most likely:	3,500,000	maximum:	3,850,000
(3) Mean total SAU thickness (ft):	minimum:	2,400	most likely:	3,000	maximum:	3,900
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fres	fresh.					x
(5) Area fraction available for storage (generally,	the area where S minimum:	-	ter has more most likely:	_	n/L TDS): maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum: _	50	most likely:	65	maximum:	80
(7) Mean porosity net porous interval (fraction):	minimum: _	0.05	most likely:	0.10	maximum:	0.15
Buoyant Tr	apping Proba	bilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum: _	490	most likely:	560	maximum:	3,300
Residual Tr	apping Proba	bilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	4.00	maximum:	500

#### Number:

C50490113

#### Allocations of the SAU to States

Texas		contains	100	% of mean SAU area
		contains		% of mean SAU area
		contains		% of mean SAU area
		contains		% of mean SAU area
		contains		% of mean SAU area
		contains		% of mean SAU area
		contains		% of mean SAU area
	_	contains		% of mean SAU are
	f the SAU to General Land-	Ownershi contain		S % of mean SAU are
State lands		contain	< 1.0	% of mean SAU area
Tribal lands		contain	0	% of mean SAU area
Private and other lands		contain	100	% of mean SAU are
Offshore areas		contain	0	% of mean SAU are

Assessment geologist:	S. Brennan				Date:	5/26/2011
Assessment region:	Coastal Plain	S				
Province:	U.S. Gulf Coa	st			Number:	C5049
Basin:	U.S. Gulf Coa				Number:	C504901
Storage Assessment Unit (SAU):	Washita and and James Li		g Groups, Ru	isk Formation,	Number:	C50490114
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	21,690,000	most likely:	24,100,000	maximum:	26,510,000
(3) Mean total SAU thickness (ft):	minimum:	400	most likely:	700	maximum:	1,100
(4) SAU water quality (check one):  Most of the water in the SAU is saling	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					Х
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:		most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	30	most likely:	60	maximum:	120
(7) Mean porosity net porous interval (fraction):	minimum:	0.05	most likely:	0.10	maximum:	0.15
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	2,650	most likely:	2,850	maximum:	340,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	5.00	maximum:	100

and James Limestone

	Allocations of t	he SAU to States	
(1)	Arkansas	contains	< 1.0 % of mean SAU area
(2)	Louisiana	contains	< 1.0 % of mean SAU area
(3)	Texas	contains	100 % of mean SAU area
(4)		contains	% of mean SAU area
(5)		contains	% of mean SAU area
(6)		contains	% of mean SAU area
(7)		contains	% of mean SAU area
(8)		contains	% of mean SAU area
	Allocations of the SAU to Gene	eral Land-Ownership Ca	tegories
(1)	Federal lands	contain	2.4 % of mean SAU area
(2)	State lands	contain	< 1.0 % of mean SAU area
(3)	Tribal lands	contain	0 % of mean SAU area
(4)	Private and other lands	contain	97 % of mean SAU area
(5)	Offshore areas	contain	0 % of mean SAU area

(2) Area of the SAU (acres): minimum: 3,699,000 most likely: 4,110,000 maximum: 4,521, (3) Mean total SAU thickness (ft): minimum: 800 most likely: 1,000 maximum: 1,  (4) SAU water quality (check one):  Most of the water in the SAU is saline (greater than 10,000 mg/L TDS).  Water in this SAU is both saline and fresh. Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS): minimum: 1.00 most likely: 1.00 maximum: 1  (6) Mean thickness net porous interval (ft): minimum: 50 most likely: 100 maximum: 1  Buoyant Trapping Probabilistic Calculation Inputs  (8) Buoyant trapping pore volume (MMbbl):	Assessment geologist:	S. Brennan				Date:	5/26/2011
Basin: Storage Assessment Unit (SAU): Washita and Fredericksburg Groups, Rusk Formation, and James Limestone Deep  SAU relationship to NOGA AU:  Notes from assessor:  Characteristics of the Storage Assessment Unit  Lines 1-9 concern data for the SAU at depths of (check one):  3,000-13,000 ft > 13,000 ft >	Assessment region:	Coastal Plains					
SAU relationship to NOGA AU:    Characteristics of the Storage Assessment Unit	Province:	U.S. Gulf Coas	t			Number:	C5049
And James Limestone Deep  SAU relationship to NOGA AU:    Characteristics of the Storage Assessment Unit	Basin:						C504901
SAU relationship to NOGA AU:    Characteristics of the Storage Assessment Unit	Storage Assessment Unit (SAU):				ısk Formation,	Number:	C50490115
Characteristics of the Storage Assessment Unit  Lines 1-9 concern data for the SAU at depths of (check one):    3,000-13,000 ft		and James Lin	nestone Dee <sub>l</sub>	0			
Characteristics of the Storage Assessment Unit  Lines 1-9 concern data for the SAU at depths of (check one):    SAU depth from surface (ft):   minimum:   13,000   most likely:   14,500   maximum:   17,   (2) Area of the SAU (acres):   minimum:   3,699,000   most likely:   4,110,000   maximum:   4,521,   (3) Mean total SAU thickness (ft):   minimum:   800   most likely:   1,000   maximum:   1,200   maximum:   1,200   most likely:   1,000   maximum:   1,200   most likely:   1,200   most likely:   1,200   maximum:   1,200   maximum:   1,200   most likely:   1,200   maximum:   1,200   maximum:   1,200   maximum:	SAU relationship to NOGA AU:						
Lines 1-9 concern data for the SAU at depths of (check one):  (1) SAU depth from surface (ft): minimum: 13,000 most likely: 14,500 maximum: 17, (2) Area of the SAU (acres): minimum: 3,699,000 most likely: 4,110,000 maximum: 4,521, (3) Mean total SAU thickness (ft): minimum: 800 most likely: 1,000 maximum: 1, (4) SAU water quality (check one):  Most of the water in the SAU is saline (greater than 10,000 mg/L TDS).  Water in this SAU is both saline and fresh.  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum: 1.00 most likely: 1.00 maximum: 1  (6) Mean thickness net porous interval (ft): minimum: 50 most likely: 100 maximum: 1  Buoyant Trapping Probabilistic Calculation Inputs  (8) Buoyant trapping pore volume (MMbbl):  minimum: 1,250 most likely: 1,310 maximum: 7;  Residual Trapping Probabilistic Calculation Inputs	Notes from assessor:						
Lines 1-9 concern data for the SAU at depths of (check one):  (1) SAU depth from surface (ft): minimum: 13,000 most likely: 14,500 maximum: 17, (2) Area of the SAU (acres): minimum: 3,699,000 most likely: 4,110,000 maximum: 4,521, (3) Mean total SAU thickness (ft): minimum: 800 most likely: 1,000 maximum: 1, (4) SAU water quality (check one):  Most of the water in the SAU is saline (greater than 10,000 mg/L TDS).  Water in this SAU is both saline and fresh.  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum: 1.00 most likely: 1.00 maximum: 1  (6) Mean thickness net porous interval (ft): minimum: 50 most likely: 100 maximum: 1  Buoyant Trapping Probabilistic Calculation Inputs  (8) Buoyant trapping pore volume (MMbbl):  minimum: 1,250 most likely: 1,310 maximum: 7;  Residual Trapping Probabilistic Calculation Inputs							
SAU depth from surface (ft):   minimum:   13,000   most likely:   14,500   maximum:   17,	Character	istics of the S	Storage A	ssessmen	t Unit		
(1) SAU depth from surface (ft): minimum: 13,000 most likely: 14,500 maximum: 17, (2) Area of the SAU (acres): minimum: 3,699,000 most likely: 4,110,000 maximum: 4,521, (3) Mean total SAU thickness (ft): minimum: 800 most likely: 1,000 maximum: 1, (4) SAU water quality (check one):  Most of the water in the SAU is saline (greater than 10,000 mg/L TDS).  Water in this SAU is both saline and fresh.  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum: 1.00 most likely: 1.00 maximum: 1  (6) Mean thickness net porous interval (ft): minimum: 50 most likely: 100 maximum: 1  (7) Mean porosity net porous interval (fraction): minimum: 0.02 most likely: 0.04 maximum: 0  Buoyant Trapping Probabilistic Calculation Inputs  (8) Buoyant trapping pore volume (MMbbl):  minimum: 1,250 most likely: 1,310 maximum: 7,  Residual Trapping Probabilistic Calculation Inputs	Lines 1-9 concern data for the SAU at depths of (o	heck one):			3,000-13,000 f	t	
(2) Area of the SAU (acres): minimum: 3,699,000 most likely: 4,110,000 maximum: 4,521,1 (3) Mean total SAU thickness (ft): minimum: 800 most likely: 1,000 maximum: 1,1 (4) SAU water quality (check one):							
(3) Mean total SAU thickness (ft): minimum: 800 most likely: 1,000 maximum: 1,  (4) SAU water quality (check one):  Most of the water in the SAU is saline (greater than 10,000 mg/L TDS).  Water in this SAU is both saline and fresh.  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum: 1.00 most likely: 1.00 maximum: 1  (6) Mean thickness net porous interval (ft): minimum: 50 most likely: 100 maximum: 1  (7) Mean porosity net porous interval (fraction): minimum: 0.02 most likely: 0.04 maximum: 0  Buoyant Trapping Probabilistic Calculation Inputs  (8) Buoyant trapping pore volume (MMbbl):  minimum: 1,250 most likely: 1,310 maximum: 7;  Residual Trapping Probabilistic Calculation Inputs	·	_	_		1		17,100
(4) SAU water quality (check one):  Most of the water in the SAU is saline (greater than 10,000 mg/L TDS).  Water in this SAU is both saline and fresh.  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum: 1.00 most likely: 1.00 maximum: 1  (6) Mean thickness net porous interval (ft): minimum: 50 most likely: 100 maximum: 1  (7) Mean porosity net porous interval (fraction): minimum: 0.02 most likely: 0.04 maximum: 0  Buoyant Trapping Probabilistic Calculation Inputs  (8) Buoyant trapping pore volume (MMbbl):  minimum: 1,250 most likely: 1,310 maximum: 7;  Residual Trapping Probabilistic Calculation Inputs		_					4,521,000
Most of the water in the SAU is saline (greater than 10,000 mg/L TDS).  Water in this SAU is both saline and fresh.  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum: 1.00 most likely: 1.00 maximum: 1  (6) Mean thickness net porous interval (ft): minimum: 50 most likely: 100 maximum: 1  (7) Mean porosity net porous interval (fraction): minimum: 0.02 most likely: 0.04 maximum: 0  Buoyant Trapping Probabilistic Calculation Inputs  (8) Buoyant trapping pore volume (MMbbl):  minimum: 1,250 most likely: 1,310 maximum: 7,  Residual Trapping Probabilistic Calculation Inputs	(3) Mean total SAU thickness (ft):	minimum: _	800	most likely:	1,000	maximum:	1,400
Water in this SAU is both saline and fresh.  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum: 1.00 most likely: 1.00 maximum: 1  (6) Mean thickness net porous interval (ft): minimum: 50 most likely: 100 maximum: 1  (7) Mean porosity net porous interval (fraction): minimum: 0.02 most likely: 0.04 maximum: 0  Buoyant Trapping Probabilistic Calculation Inputs  (8) Buoyant trapping pore volume (MMbbl): minimum: 1,250 most likely: 1,310 maximum: 7;  Residual Trapping Probabilistic Calculation Inputs	(4) SAU water quality (check one):						
Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum: 1.00 most likely: 1.00 maximum: 1  (6) Mean thickness net porous interval (ft): minimum: 50 most likely: 100 maximum: 1  (7) Mean porosity net porous interval (fraction): minimum: 0.02 most likely: 0.04 maximum: 0  Buoyant Trapping Probabilistic Calculation Inputs  (8) Buoyant trapping pore volume (MMbbl):  minimum: 1,250 most likely: 1,310 maximum: 7;  Residual Trapping Probabilistic Calculation Inputs	Most of the water in the SAU is salin	e (greater than	10,000 mg/L T	DS).			Х
(5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum: 1.00 most likely: 1.00 maximum: 1  (6) Mean thickness net porous interval (ft): minimum: 50 most likely: 100 maximum: 1  (7) Mean porosity net porous interval (fraction): minimum: 0.02 most likely: 0.04 maximum: 0  Buoyant Trapping Probabilistic Calculation Inputs  (8) Buoyant trapping pore volume (MMbbl):  minimum: 1,250 most likely: 1,310 maximum: 7,  Residual Trapping Probabilistic Calculation Inputs	Water in this SAU is both saline and	fresh.					
minimum: 1.00 most likely: 1.00 maximum: 1  (6) Mean thickness net porous interval (ft): minimum: 50 most likely: 100 maximum: (7) Mean porosity net porous interval (fraction): minimum: 0.02 most likely: 0.04 maximum: 0  Buoyant Trapping Probabilistic Calculation Inputs  (8) Buoyant trapping pore volume (MMbbl): minimum: 1,250 most likely: 1,310 maximum: 7;  Residual Trapping Probabilistic Calculation Inputs	Most of the water in the SAU is fresh	n (less than 10,00	00 mg/L TDS).	ı			
(6) Mean thickness net porous interval (ft): minimum: 50 most likely: 100 maximum:  (7) Mean porosity net porous interval (fraction): minimum: 0.02 most likely: 0.04 maximum: 0.02 most likely: 1.04 maximum: 0.05 minimum: 1.250 most likely: 1.310 maximum: 7,3310 maximum: 7,3310 maximum: 7,3310 maximum: 7,3310 maximum: 1.250 most likely: 1.310 most likely: 1.250 most lik	(5) Area fraction available for storage (generally, 1	the area where S	SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
(7) Mean porosity net porous interval (fraction): minimum: 0.02 most likely: 0.04 maximum: 0.02 most likely: 0.04 maximum: 0.02 most likely: 0.04 maximum: 0.05 maximum: 0.05 minimum: 0.05 most likely: 0.04 maximum: 0.05 maximum: 0.05 most likely: 0.04 maximum: 0.05 ma		minimum: _	1.00	most likely:	1.00	maximum:	1.00
Buoyant Trapping Probabilistic Calculation Inputs  (8) Buoyant trapping pore volume (MMbbl):  minimum: 1,250 most likely: 1,310 maximum: 7,  Residual Trapping Probabilistic Calculation Inputs	(6) Mean thickness net porous interval (ft):	minimum: _	50	most likely:	100	maximum:	150
(8) Buoyant trapping pore volume (MMbbl):  minimum: 1,250 most likely: 1,310 maximum: 7,  Residual Trapping Probabilistic Calculation Inputs	(7) Mean porosity net porous interval (fraction):	minimum: _	0.02	most likely:	0.04	maximum:	0.08
minimum: 1,250 most likely: 1,310 maximum: 7,  Residual Trapping Probabilistic Calculation Inputs	Buoyant Tr	apping Proba	abilistic Ca	lculation	Inputs		
Residual Trapping Probabilistic Calculation Inputs	(8) Buoyant trapping pore volume (MMbbl):						
		minimum:	1,250	most likely:	1,310	maximum:	7,700
(9) Permeability of the net porous interval (mD): minimum: 0.100 most likely: 1.00 maximum:	Residual Tr	apping Proba	abilistic Ca	alculation	Inputs		
	(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	1.00	maximum:	10

C50490115

and James Limestone Deep
Allocations of the SAII to States

	Allocations of	the SAU to States	
)	Texas	contains	100 % of mean SAU area
)		contains	% of mean SAU area
)		contains	% of mean SAU area
)		contains	% of mean SAU area
		contains	% of mean SAU area
		contains	% of mean SAU area
		contains	% of mean SAU area
		contains	% of mean SAU area
	Allocations of the SAU to Ge	neral Land-Ownership Cat	egories
	Federal lands	contain	8.2 % of mean SAU area
	State lands	contain	< 1.0 % of mean SAU area
	Tribal lands	contain	< 1.0 % of mean SAU area
	Private and other lands	contain	91 % of mean SAU area
	Offshore areas	contain	0 % of mean SAU area

Assessment geologist:	R. Drake				Date:	5/26/2011
Assessment region:	Coastal Plain	S				
Province:	U.S. Gulf Coa	st			Number:	C5049
Basin:	U.S. Gulf Coa				Number:	C504901
Storage Assessment Unit (SAU):	Tuscaloosa a	and Woodbine	Formations		Number:	C50490116
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage A	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	5,165	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	74,541,000	most likely:		maximum:	91,105,000
(3) Mean total SAU thickness (ft):	minimum:	450	most likely:	600	maximum:	800
(4) SAU water quality (check one):						
Most of the water in the SAU is salin Water in this SAU is both saline and	_	10,000 mg/L T	DS).			x
Most of the water in the SAU is fresh		000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	0.80	most likely:	0.95	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	100	most likely:	150	maximum:	250
(7) Mean porosity net porous interval (fraction):	minimum:	0.15	most likely:	0.25	maximum:	0.29
Buoyant Tra	opping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(A) (A) (A) (A) (A) (A) (A) (A) (A) (A)	minimum:	14,000	most likely:	17,560	maximum:	350,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	15,000.000	most likely:	20,000.00	maximum:	350,000

Offshore areas

(5)

3.2 % of mean SAU area

#### Allocations of the SAU to States

Allocations of the SAU to States							
(1)	Alabama	contains	10 % of mean SAU area				
(2)	Arkansas	contains	4.4 % of mean SAU area				
(3)	<u>Florida</u>	contains	10 % of mean SAU area				
(4)	Georgia	contains	1.7 % of mean SAU area				
(5)	Louisiana	contains	15 % of mean SAU area				
(6)	Mississippi	contains	26 % of mean SAU area				
(7)	Texas	contains	33 % of mean SAU area				
(8)		contains	% of mean SAU area				
	Allocations of the SAU to General Land-Ownership Categories						
(1)	Federal lands	contain	7.1 % of mean SAU area				
(2)	State lands	contain	1.7 % of mean SAU area				
(3)	Tribal lands	contain<	1.0 % of mean SAU area				
(4)	Private and other lands	contain	88 % of mean SAU area				

Assessment geologist:	E. Slucher [			Date:	5/26/2011	
Assessment region:	Coastal Plains					
Province:	U.S. Gulf Coast			Number:	C5049	
Basin:	U.S. Gulf Coa				Number:	C504901
Storage Assessment Unit (SAU):	Navarro, Tayl	or, and Austir	Groups		Number:	C50490117
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	:heck one):			3,000-13,000 ft	t	х
(1) SAU depth from surface (ft):	minimum:	3.000	most likely:	5,250	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	40,736,000	most likely:		maximum:	49,788,000
(3) Mean total SAU thickness (ft):	minimum:	1,000		1,600	maximum:	2,200
(4) SAU water quality (check one):						
Most of the water in the SAU is salin Water in this SAU is both saline and	_	10,000 mg/L T	DS).			X
Most of the water in the SAU is fresh		00 mg/L TDS).				
(5) Area fraction available for storage (generally,	the area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	-	most likely:	0.95	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	50	most likely:	100	maximum:	150
(7) Mean porosity net porous interval (fraction):	minimum:	0.12	most likely:	0.21	maximum:	0.26
Buoyant Tr	apping Prob	abilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(e) zao jant trapping poro rotanio (timiosi).	minimum:	6,040	most likely:	6,700	maximum:	120,000
Residual Tr	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	250.00	maximum:	600

#### Allocations of the SAU to States

(1)	Alabama	contains 6.5	% of mean SAU area
(2)	Arkansas	contains 6.9	% of mean SAU area
(3)	Florida	contains 13	% of mean SAU area
(4)	Louisiana	contains 8.3	% of mean SAU area
(5)	Mississippi	contains 35	% of mean SAU area
(6)	Texas	contains 30	% of mean SAU area
(7)		contains	% of mean SAU area
(8)		contains	% of mean SAU area

# Allocations of the SAU to General Land-Ownership Categories

(1)	Federal lands	contain	9.9	% of mean SAU area
(2)	State lands	contain	2.1	% of mean SAU area
(3)	Tribal lands	contain	< 1.0	% of mean SAU area
(4)	Private and other lands	contain	84	% of mean SAU area
(5)	Offshore areas	contain	3.9	% of mean SAU area

Assessment geologist:	M. Merrill			Date:	5/26/2011	
Assessment region:	Coastal Plains					
Province:	U.S. Gulf Coast			Number:	C5047	
Basin:	U.S. Gulf Coa				Number:	C504701
Storage Assessment Unit (SAU):	Carrizo Sand	and Wilcox G	roup		Number:	C50470118
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	6,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	33,026,000	most likely:		maximum:	40,365,000
(3) Mean total SAU thickness (ft):	minimum:	3,000	-	4,000	maximum:	5,000
(4) SAU water quality (check one):						
Most of the water in the SAU is salin Water in this SAU is both saline and	_	10,000 mg/L T	DS).			X
Most of the water in the SAU is fresh		000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	0.80	most likely:	0.85	maximum:	0.90
(6) Mean thickness net porous interval (ft):	minimum:	600	most likely:	900	maximum:	1400
(7) Mean porosity net porous interval (fraction):	minimum:	0.16	most likely:	0.22	maximum:	0.28
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	42,607	most likely:	51,889	maximum:	2,550,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	70.00	maximum:	1,200

(4)

(5)

Private and other lands

Offshore areas

90 % of mean SAU area

3.8 % of mean SAU area

#### Allocations of the SAU to States

	Allocations of the SAU t	o States		
(1)	Alabama	_contains	1.9	% of mean SAU area
(2)	Florida	_contains	< 1.0	% of mean SAU area
(3)	Louisiana	_contains	29	% of mean SAU area
(4)	Mississippi	_contains	19	% of mean SAU area
(5)	Texas	_contains	50	% of mean SAU area
(6)		_contains		% of mean SAU area
(7)		_contains		% of mean SAU area
(8)		_contains		% of mean SAU area
	Allocations of the SAU to General Land	l-Ownership	o Categorie	s
(1)	Federal lands	_contain	5.2	% of mean SAU area
(2)	State lands	_contain	1.0	% of mean SAU area
(3)	Tribal lands	_contain	< 1.0	% of mean SAU area

contain

Assessment geologist:	M. Merrill			Date:	5/26/2011	
Assessment region:	Coastal Plains	S				
Province:	U.S. Gulf Coast			Number:	C5049	
Basin:	U.S. Gulf Coast			Number:	C504901	
Storage Assessment Unit (SAU):	Queen City Sa	ind			Number:	C50470119
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the	Storage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	> 13,000 ft	mavimum	12,500
(2) Area of the SAU (acres):	minimum:	12,390,000	most likely:	13,042,000	maximum: maximum:	14,346,000
(3) Mean total SAU thickness (ft):	minimum:	600	-	1,100	maximum:	1,400
(4) SAU water quality (check one):						
Most of the water in the SAU is salir	_	10,000 mg/L T	DS).			
Water in this SAU is both saline and		00 (I TDO)				Х
Most of the water in the SAU is fresh	h (less than 10,0	00 mg/L TDS).	•			
(5) Area fraction available for storage (generally,	the area where	SAU pore wa	ter has more	than 10,000 mg	J/L TDS):	
	minimum:	0.40	most likely:	0.60	maximum:	0.80
(6) Mean thickness net porous interval (ft):	minimum:	20	most likely:	50	maximum:	150
(7) Mean porosity net porous interval (fraction):	minimum:	0.22	most likely:	0.26	maximum:	0.30
Buoyant Tr	apping Prob	abilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(o) buoyant trapping pore volume (wiwibbi).	minimum:	1,355	most likely:	1,933	maximum:	38,921
Residual Tr	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	70.00	maximum:	1,200

Storage	Assessment	Unit	SAII	١.
Storage	ASSESSINEIL	UIIIL	JAU	ı.

Offshore areas

0	0:4	0
Queen	CILV	Samo

#### Number:

0 % of mean SAU area

C50470119

		U to States		
Texas		contains	100	% of mean SAU a
		contains		% of mean SAU a
		contains		% of mean SAU a
		contains		% of mean SAU a
		contains		% of mean SAU a
		contains		% of mean SAU a
		contains		% of mean SAU a
		contains		% of mean SAU a
Allocations	of the SAU to General La	and-Ownershi	p Categorie	s
	of the SAU to General La		-	S % of mean SAU a
			4.8	
Federal lands		contain	4.8 < 1.0	% of mean SAU a

Assessment geologist:	J. Covault			Date:	5/26/2011	
Assessment region:	Coastal Plains					
Province:	U.S. Gulf Coast			Number:	C5049	
Basin:	U.S. Gulf Coas	st			Number:	C504901
Storage Assessment Unit (SAU):	Sparta Sand				Number:	C50470120
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	5,400	maximum:	12,000
(2) Area of the SAU (acres):	minimum:	13,500,000	most likely:	15,000,000	maximum:	16,500,000
(3) Mean total SAU thickness (ft):	minimum:	300	-	500	maximum:	800
(4) SAU water quality (check one):						
Most of the water in the SAU is salin Water in this SAU is both saline and	_	10,000 mg/L T	DS).			x
Most of the water in the SAU is fresh		00 mg/L TDS).				
(5) Area fraction available for storage (generally,	the area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum: _	0.95	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum: _	60	most likely:	100	maximum:	160
(7) Mean porosity net porous interval (fraction):	minimum:	0.20	most likely:	0.25	maximum:	0.30
Buoyant Tr	apping Prob	abilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(o) Baoyant trapping pore volume (wivibbi).	minimum:	28	most likely:	339	maximum:	140,000
Residual Tr	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	200.00	maximum:	1,400

Storage Asso	essment Unit (SAU):	Sparta Sand			Number:	C50470120
	A	allocations of the SAU t	o States			
(1)	Louisiana		_contains	52	% of mean S	SAU area
(2)	Mississippi		contains	19	% of mean S	SAU area
(3)	Texas		_contains	29	% of mean S	SAU area
(4)			_contains		% of mean S	SAU area
(5)			_contains		% of mean S	SAU area
(6)			_contains		% of mean S	SAU area
(7)			_contains		% of mean S	SAU area
(8)			_contains		% of mean S	SAU area

# Allocations of the SAU to General Land-Ownership Categories

(1)	Federal lands	contain	6.6 % of mean SAU area
(2)	State lands	contain	1.6 % of mean SAU area
(3)	Tribal lands	contain	< 1.0 % of mean SAU area
(4)	Private and other lands	contain	91 % of mean SAU area
(5)	Offshore areas	contain	1.3 % of mean SAU area

(2) Area of the SAU (acres): minimum: 16,740,000 most likely: 18,600,000 maximum: 20,460,000 most likely: 18,600,000 maximum: 1,100 most likely: 10,000 most likely: 1	Assessment geologist:	J. Covault				Date:	5/26/2011
Number:   C504901	Assessment region:	Coastal Plain	S				
SAU relationship to NOGA AU:    Contact	Province:	U.S. Gulf Coa	st			Number:	C5049
SAU relationship to N0GA AU:    Characteristics of the Storage Assessment Unit	Basin:					Number:	C504901
Characteristics of the Storage Assessment Unit  Lines 1-9 concern data for the SAU at depths of (check one):  (1) SAU depth from surface (ft):  minimum:  16,740,000 most likely:  Most of the SAU (acres):  Most of the water in the SAU is both saline and fresh.  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum:  0.95 most likely:  1,00 maximum:  1,10  x  Water in this SAU is both saline and fresh.  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum:  0.95 most likely:  1,00 maximum:  1,	Storage Assessment Unit (SAU):	Yegua and Co	ockfield Forma	tions		Number:	C50470121
Characteristics of the Storage Assessment Unit  Lines 1-9 concern data for the SAU at depths of (check one):  (1) SAU depth from surface (ft): (2) Area of the SAU (acres): (3) Mean total SAU thickness (ft): (4) SAU water quality (check one):  Most of the water in the SAU is saline (greater than 10,000 mg/L TDS).  Water in this SAU is both saline and fresh. Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum:  0.95 most likely: 1.00 maximum: 1.10  (6) Mean thickness net porous interval (ft): minimum: 200 most likely: 400 maximum: 610  Buoyant Trapping Probabilistic Calculation Inputs	SAU relationship to NOGA AU:						
Lines 1-9 concern data for the SAU at depths of (check one):    3,000-13,000 ft   > 13,000 ft   > 11,000 most likely:	Notes from assessor:						
SAU depth from surface (ft):   minimum:   3,000   most likely:   5,200   maximum:   11,000	Characteri	stics of the	Storage As	ssessment	t Unit		
(1) SAU depth from surface (ft): minimum: 3,000 most likely: 5,200 maximum: 11,00 most likely: 18,600,000 maximum: 20,460,000 most likely: 18,600,000 maximum: 20,460,000 most likely: 18,600,000 maximum: 20,460,000 maximum: 1,100 maximum: 500 most likely: 700 maximum: 1,100 maximum: 1,100 maximum: 1,100 maximum: 1,100 most of the water in the SAU is saline (greater than 10,000 mg/L TDS).  Water in this SAU is both saline and fresh.  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS): minimum: 0.95 most likely: 1.00 maximum: 1.000 m	Lines 1-9 concern data for the SAU at depths of (c	heck one):				t	х
(2) Area of the SAU (acres): minimum: 16,740,000 most likely: 18,600,000 maximum: 20,460,000 (3) Mean total SAU thickness (ft): minimum: 500 most likely: 700 maximum: 1,100 (4) SAU water quality (check one):  Most of the water in the SAU is saline (greater than 10,000 mg/L TDS).  Water in this SAU is both saline and fresh.  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum: 0.95 most likely: 1.00 maximum: 1.00 (6) Mean thickness net porous interval (ft): minimum: 200 most likely: 400 maximum: 600 (7) Mean porosity net porous interval (fraction): minimum: 0.25 most likely: 0.30 maximum: 0.30 (7) Mean porosity net porous interval (fraction): minimum: 0.25 most likely: 0.30 maximum: 0.30 (7) Mean porosity net porous interval (fraction): minimum: 0.25 most likely: 0.30 maximum: 0.30 (7) Mean porosity net porous interval (fraction): minimum: 0.25 most likely: 0.30 maximum: 0.30 (7) Mean porosity net porous interval (fraction): minimum: 0.25 most likely: 0.30 maximum: 0.30 (7) Mean porosity net porous interval (fraction): minimum: 0.25 most likely: 0.30 maximum: 0.30 (7) Mean porosity net porous interval (fraction): minimum: 0.25 most likely: 0.30 maximum: 0.30 (7) Mean porosity net porous interval (fraction): minimum: 0.25 most likely: 0.30 maximum: 0.30 (7) Mean porosity net porous interval (fraction): minimum: 0.25 most likely: 0.30 maximum: 0.30 (7) Mean porosity net porous interval (fraction): minimum: 0.25 (7) Mean porosity net porous interval (fraction): minimum: 0.25 (7) Mean porosity net porous interval (fraction): minimum: 0.25 (7) Mean porosity net porous interval (fraction): minimum: 0.25 (7) Mean porosity net porous interval (fraction): minimum: 0.25 (7) Mean porosity net porous interval (fraction): minimum: 0.25 (7) Mean porosity net porous interval (fraction): minimum: 0.25 (7) Mean porosity net porous interval (fraction): minimum: 0.25 (7) Mean porosity net porou	(1) SAU depth from surface (ft):	minimum:	3.000	most likely:		maximum:	11,000
(3) Mean total SAU thickness (ft): minimum: 500 most likely: 700 maximum: 1,10  (4) SAU water quality (check one):  Most of the water in the SAU is saline (greater than 10,000 mg/L TDS).  Water in this SAU is both saline and fresh.  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum: 0.95 most likely: 1.00 maximum: 1.0  (6) Mean thickness net porous interval (ft): minimum: 200 most likely: 400 maximum: 60  (7) Mean porosity net porous interval (fraction): minimum: 0.25 most likely: 0.30 maximum: 0.30  Buoyant Trapping Probabilistic Calculation Inputs		•		•			20,460,000
Most of the water in the SAU is saline (greater than 10,000 mg/L TDS).  Water in this SAU is both saline and fresh.  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum: 0.95 most likely: 1.00 maximum: 1.00  (6) Mean thickness net porous interval (ft): minimum: 200 most likely: 400 maximum: 60  (7) Mean porosity net porous interval (fraction): minimum: 0.25 most likely: 0.30 maximum: 0.30  Buoyant Trapping Probabilistic Calculation Inputs		•		-			1,100
Water in this SAU is both saline and fresh.  Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum: 0.95 most likely: 1.00 maximum: 1.00  (6) Mean thickness net porous interval (ft): minimum: 200 most likely: 400 maximum: 60  (7) Mean porosity net porous interval (fraction): minimum: 0.25 most likely: 0.30 maximum: 0.30  Buoyant Trapping Probabilistic Calculation Inputs	(4) SAU water quality (check one):						
Most of the water in the SAU is fresh (less than 10,000 mg/L TDS).  (5) Area fraction available for storage (generally, the area where SAU pore water has more than 10,000 mg/L TDS):  minimum: 0.95 most likely: 1.00 maximum: 1.00  (6) Mean thickness net porous interval (ft): minimum: 200 most likely: 400 maximum: 60  (7) Mean porosity net porous interval (fraction): minimum: 0.25 most likely: 0.30 maximum: 0.30  Buoyant Trapping Probabilistic Calculation Inputs		_	10,000 mg/L T	DS).			Х
minimum: 0.95 most likely: 1.00 maximum: 1.0			000 mg/L TDS).				
(6) Mean thickness net porous interval (ft): minimum: 200 most likely: 400 maximum: 60  (7) Mean porosity net porous interval (fraction): minimum: 0.25 most likely: 0.30 maximum: 0.30  Buoyant Trapping Probabilistic Calculation Inputs	(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
(7) Mean porosity net porous interval (fraction): minimum: 0.25 most likely: 0.30 maximum: 0.30 Buoyant Trapping Probabilistic Calculation Inputs		minimum:	0.95	most likely:	1.00	maximum:	1.00
Buoyant Trapping Probabilistic Calculation Inputs	(6) Mean thickness net porous interval (ft):	minimum:	200	most likely:	400	maximum:	600
	(7) Mean porosity net porous interval (fraction):	minimum:	0.25	most likely:	0.30	maximum:	0.35
(0) 7	Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	(8) Buoyant trapping pore volume (MMbbl):						
		minimum:	18,000	most likely:	19,100	maximum:	2,600,000
Residual Trapping Probabilistic Calculation Inputs	Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD): minimum: 0.100 most likely: 200.00 maximum: 3,00	(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	200.00	maximum:	3,000

Offshore areas

0 % of mean SAU area

	Allocations of the SAU to States								
(1)	Louisiana	contains 23	% of mean SAU area						
(2)	Mississippi	contains 8.7	% of mean SAU area						
(3)	Texas	contains 68	% of mean SAU area						
(4)		contains	% of mean SAU area						
(5)		contains	% of mean SAU area						
(6)		contains	% of mean SAU area						
(7)		contains	% of mean SAU area						
(8)		contains	% of mean SAU area						
	Allocations of the SAU to General Land	l-Ownership Categorie	s						
(1)	Federal lands	_ contain5.3	% of mean SAU area						
(2)	State lands	contain< 1.0	% of mean SAU area						
(3)	Tribal lands	contain < 1.0	% of mean SAU area						
(4)	Private and other lands	contain 94	% of mean SAU area						

Assessment geologist:	W. Craddock				Date:	5/26/2011
Assessment region:	Coastal Plain	s				
Province:	U.S. Gulf Coa	st			Number:	C5049
Basin:	U.S. Gulf Coa	st			Number:	C504901
Storage Assessment Unit (SAU):	Frio and Vick	sburg Formation	ons		Number:	C50470122
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	istics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	21,288,000	most likely:	23,653,000	maximum:	26,018,000
(3) Mean total SAU thickness (ft):	minimum:	1,600	most likely:	2,700	maximum:	3,800
(4) SAU water quality (check one):						
Most of the water in the SAU is salin	_	10,000 mg/L T	DS).			X
Water in this SAU is both saline and						
Most of the water in the SAU is fresh	ı (less than 10,0	)00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wat	ter has more	than 10,000 mg	/L TDS):	
	minimum:	0.95	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	300	most likely:	900	maximum:	1500
(7) Mean porosity net porous interval (fraction):	minimum:	0.18	most likely:	0.22	maximum:	0.26
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
· · · · · · · · · · · · · · · · · · ·	minimum:	53,000	most likely:	67,000	maximum:	9,800,000
Residual Tr	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	200.00	maximum:	3,000

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Storage	Assessment	Unit	(SAL	JI:

Offshore areas

Frid	n and	Vicks	hura	Form	ations
	J allu	VILKO	bulu	LOUI	สแบบร

#### Number:

12 % of mean SAU area

C50470122

Allocations of the SAU to States							
Louisiana	contains	36 % of mean SAU area					
Mississippi	contains	2.3 % of mean SAU area					
Texas	contains	62 % of mean SAU area					
	contains	% of mean SAU area					
	contains	% of mean SAU are					
	contains	% of mean SAU are					
	contains	% of mean SAU are					
	contains	% of mean SAU are					
Allocations of the SAU to	o General Land-Ownership C	ategories					
Federal lands	contain	2.9 % of mean SAU are					
State lands	contain	< 1.0 % of mean SAU are					
Tribal lands	contain	0 % of mean SAU are					

Assessment geologist:	W. Craddock	(			Date:	5/26/2011
Assessment region:	Coastal Plair	าร				
Province:	U.S. Gulf Coa	ast			Number:	C5049
Basin:	U.S. Gulf Coa				Number:	C504901
Storage Assessment Unit (SAU):	Lower Mioce	ene I			Number:	C50470123
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	:	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	8,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	7,589,000	most likely:	8,432,000	maximum:	9,275,000
(3) Mean total SAU thickness (ft):	minimum:	1,000	most likely:	1,500	maximum:	2,000
(4) SAU water quality (check one):  Most of the water in the SAU is saline Water in this SAU is both saline and the saline water in the SAU is fresh	fresh.	-				x
iviost of the water in the SAO is nesh	(less than 10,	000 Hig/L 1D3/.				
(5) Area fraction available for storage (generally, the	ne area where minimum:	-	ter has more most likely:	than 10,000 mg 1.00	/L TDS): maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	300	most likely:	600	maximum:	900
(7) Mean porosity net porous interval (fraction):	minimum:	0.24	most likely:	0.28	maximum:	0.32
Buoyant Trapping Probabilistic Calculation Inputs						
(8) Buoyant trapping pore volume (MMbbl):	minimum:	4,600	most likely:	7,800	maximum:	120,000
Residual Tra	apping Prob	oabilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	20.000	most likely:	500.00	maximum:	8,000

Storage Assessment Unit (SAU)	
	r

Offshore areas

Lower Miocene I

Number:

40 % of mean SAU area

C50470123

# Allocations of the SAU to States

Allocations of the SAU to States								
Louisiana	contains	56 % of mean SAU area						
Mississippi	contains	1.5 % of mean SAU area						
Texas	contains	43 % of mean SAU area						
	contains	% of mean SAU area						
	contains	% of mean SAU area						
	contains	% of mean SAU area						
	contains	% of mean SAU area						
	contains	% of mean SAU area						
Allocations of the SAU to General Land	-Ownership Catego	ories						
Federal lands	contain	4.5 % of mean SAU area						
State lands	_contain	2.4 % of mean SAU area						
Tribal lands	_contain	0 % of mean SAU area						
Private and other lands	_contain	53 % of mean SAU area						
	Louisiana  Mississippi  Texas  Allocations of the SAU to General Land  Federal lands  State lands  Tribal lands	Louisianacontains						

Assessment geologist:	W. Craddock				Date:	5/26/2011
Assessment region:	Coastal Plains					
Province:	U.S. Gulf Coas	t			Number:	C5049
Basin:	U.S. Gulf Coas	t			Number:	C504901
Storage Assessment Unit (SAU):	Lower Miocen	ie II			Number:	C50470124
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	Storage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 ft	:	х
(1) SAU depth from surface (ft):	minimum: _	3,000	most likely:	8,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	8,932,000	most likely:	9,924,000	maximum:	10,916,000
(3) Mean total SAU thickness (ft):	minimum:	1,300	most likely:	1,600	maximum:	1,900
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fres	fresh.					x
most of the water in the error	(1000 tilali 10,00	,og, ב	•			
(5) Area fraction available for storage (generally,		-		than 10,000 mg 0.95		1.00
(6) Mean thickness net porous interval (ft):	minimum: _	350	most likely:	550	maximum:	750
(7) Mean porosity net porous interval (fraction):	minimum: _	0.24	most likely:	0.28	maximum:	0.32
Buoyant Tr	apping Proba	abilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum: _	7,900	most likely:	11,000	maximum:	170,000
Residual Tr	apping Proba	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum: _	20.000	most likely:	500.00	maximum:	8,000

Storage Assessment Unit (SAU)	
	r

Offshore areas

Lower Miocene II

Number:

36 % of mean SAU area

C50470124

# of the CALL to Ctate

Allocations of the SAU to States							
(1)	Louisiana	contains	54 % of mean SAU area				
(2)	Mississippi	contains	3.2 % of mean SAU area				
(3)	Texas	contains	43 % of mean SAU area				
(4)		contains	% of mean SAU area				
(5)		contains	% of mean SAU area				
(6)		contains	% of mean SAU area				
(7)		contains	% of mean SAU area				
(8)		contains	% of mean SAU area				
	Allocations of the SAU to General Land	-Ownership Cat	tegories				
(1)	Federal lands	contain	4.5 % of mean SAU area				
(2)	State lands	contain	3.1 % of mean SAU area				
(3)	Tribal lands	contain	0 % of mean SAU area				
(4)	Private and other lands	_contain	56 % of mean SAU area				

Assessment geologist:	W. Craddock				Date:	5/26/2011
Assessment region:	Coastal Plains					
Province:	U.S. Gulf Coas	st			Number:	C5049
Basin:	U.S. Gulf Coas	st			Number:	C504901
Storage Assessment Unit (SAU):	Middle Mioce	ene			Number:	C50470125
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	istics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft	t	Х
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	8,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	3,257,000	most likely:	3,619,000	maximum:	3,981,000
(3) Mean total SAU thickness (ft):	minimum:	2,300	most likely:	3,200	maximum:	4,100
(4) SAU water quality (check one):						
Most of the water in the SAU is salin	_	10,000 mg/L T	DS).			X
Water in this SAU is both saline and						
Most of the water in the SAU is fresh	ı (less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wat	ter has more	than 10,000 mg	/L TDS):	
	minimum:	1.00	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	340	most likely:	480	maximum:	620
(7) Mean porosity net porous interval (fraction):	minimum:	0.24	most likely:	0.28	maximum:	0.32
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
· · · · · · · · · · · · · · · · · · ·	minimum: _	5,700	most likely:	11,000	maximum:	66,000
Residual Tr	apping Prob	abilistic Ca	lculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	20.000	most likely:	500.00	maximum:	8,000

Storage	Assessment	Unit	(SAII)	١.
Storage	ASSESSINEIL	UIIIL	JAU	ı.

Offshore areas

Middle Miocene

Number:

42 % of mean SAU area

C50470125

	Allocations of the SAU to State	S	
Louisiana	contain	s <u>85</u>	% of mean SAU area
Texas	contain	s <u>15</u>	% of mean SAU area
	contain	s	% of mean SAU area
	contain	s	% of mean SAU area
	contain	s	% of mean SAU area
	contain	s	% of mean SAU area
	contain	s	% of mean SAU area
	contain	s	% of mean SAU area
Allocati	ons of the SAU to General Land-Owne	rship Categorie	s
	ons of the SAU to General Land-Owne		
		< 1.0	% of mean SAU area
Federal lands	contain	< 1.0	S  % of mean SAU area  % of mean SAU area  % of mean SAU area

Assessment geologist:	W. Craddock				Date:	5/26/2011
Assessment region:	Coastal Plains					
Province:	U.S. Gulf Coast			Number:	C5049	
Basin:	U.S. Gulf Coa	st			Number:	C504901
Storage Assessment Unit (SAU):	Upper Mioce	ne			Number:	C50470126
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft	İ	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	8,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	1,740,000	most likely:	1,933,000	maximum:	2,126,000
(3) Mean total SAU thickness (ft):	minimum:	4,400	most likely:	5,400	maximum:	6,400
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fresh	fresh.					X
	(1000 and 1070	.cog, = , .				
(5) Area fraction available for storage (generally, t	he area where minimum:	-	ter has more most likely:	than 10,000 mg	/L TDS): maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	1100	most likely:	1500	maximum:	1900
(7) Mean porosity net porous interval (fraction):	minimum:	0.24	most likely:	0.28	maximum:	0.32
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	9,800	most likely:	10,000	maximum:	110,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	20.000	most likely:	500.00	maximum:	8,000

Offshore areas

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U	ממ	er l	VII	ОC	en	е

#### Number:

69 % of mean SAU area

C50470126

# o of the CALL to State

	Allocations of the SAU to	o States		
(1)	Louisiana	contains	84	% of mean SAU area
(2)	Texas	contains	16	% of mean SAU area
(3)		contains		% of mean SAU area
(4)		contains		% of mean SAU area
(5)		contains		% of mean SAU area
(6)		contains		% of mean SAU area
(7)		contains		% of mean SAU area
(8)		contains		% of mean SAU area
	Allocations of the SAU to General Land	-Ownership	o Categorie	s
(1)	Federal lands	contain	2.9	% of mean SAU area
(2)	State lands	contain	3.5	% of mean SAU area
(3)	Tribal lands	contain	0	% of mean SAU area
(4)	Private and other lands	_contain	25	% of mean SAU area

Assessment geologist:	M. Buursink				Date:	9/7/2011
Assessment region:	California					
Province:	Ventura Basin				Number:	C5013
Basin:	Ventura Basin				Number:	C501301
Storage Assessment Unit (SAU):	Vaqueros Sandstone and Sespe Formation			ion	Number:	C50130101
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	torage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	6,500	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	461,000	most likely:	576,000	maximum:	634,000
(3) Mean total SAU thickness (ft):	minimum:	1,000	most likely:	3,000	maximum:	5,000
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fres	fresh.					X
		-				
(5) Area fraction available for storage (generally,	the area where Sa minimum:	•	ter has more most likely:	_		1.00
(6) Mean thickness net porous interval (ft):	minimum:	500	most likely:	1000	maximum:	1500
(7) Mean porosity net porous interval (fraction):	minimum:	0.18	most likely:	0.22	maximum:	0.25
Buoyant Tr	apping Probal	oilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	1,000	most likely:	1,700	maximum:	75,000
Residual Tr	apping Proba	bilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	100.00	maximum:	1,500

#### Allocations of the SAU to States

71100	rations of the error to states	
California	contains	100 % of mean SAU area
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	AU to General Land-Ownership Ca	ategories  3.1 % of mean SAU are
State lands	contain	< 1.0 % of mean SAU are
Tribal lands	contain	0 % of mean SAU are
Private and other lands	contain	64 % of mean SAU are
Offshore areas	contain	33 % of mean SAU are

Assessment geologist:	geologist: J. Covault			Date:	2/10/2010	
Assessment region:	Pacific Northwest					
Province:	Western Oregon and Washington Basins				Number:	C5004
Basin:	Western Oregon and Washington Basins			Number:	C500401	
Storage Assessment Unit (SAU):	Eocene Compo	osite			Number:	C50040101
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the S	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	4,000	maximum:	11,000
(2) Area of the SAU (acres):	minimum:	1,917,000	most likely:	2,130,000	maximum:	2,343,000
(3) Mean total SAU thickness (ft):	minimum: _	3,500	most likely:	5,000	maximum:	6,500
(4) SAU water quality (check one):						
Most of the water in the SAU is salin	e (greater than 1	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					Х
Most of the water in the SAU is fresh	(less than 10,00	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where S	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum: _	•	most likely:		maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum: _	1000	most likely:	1500	maximum:	2000
(7) Mean porosity net porous interval (fraction):	minimum: _	0.15	most likely:	0.20	maximum:	0.25
Buoyant Tra	apping Proba	ıbilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum: _	0	most likely:	47	maximum:	16,220
Residual Tra	apping Proba	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.500	most likely:	200.00	maximum:	4,000

Storage Assessment I	Jnit (	(SAU):
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Offshore areas

**Eocene Composite** 

#### Number:

11 % of mean SAU area

C50040101

Oregon	contains	58	% of mean SAU a
Washington	contains	42	% of mean SAU a
	contains		% of mean SAU a
	contains		% of mean SAU a
	contains		% of mean SAU a
	contains		% of mean SAU a
	contains		% of mean SAU a
	contains		% of mean SAU a
Allocations of the SAI	U to General Land-Ownership	Categorie	S
<b>-</b>	U to General Land-Ownership		S % of mean SAU a
<b>-</b>		2.2	
Federal lands	contain	4.1	% of mean SAU a

Assessment geologist:	M. Buursink				Date:	11/21/2011
Assessment region:	Rocky Mountains and Northern Great Plains					
Province:	Williston Basin			Number:	C5031	
Basin:	Williston Basin				Number:	C503101
Storage Assessment Unit (SAU):	Deadwood ar	nd Black Islan	d Formations	;	Number:	C50310101
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	:	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	5,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	36,499,000	most likely:	40,554,000	maximum:	44,609,000
(3) Mean total SAU thickness (ft):	minimum:	150	most likely:	400	maximum:	600
(4) SAU water quality (check one):  Most of the water in the SAU is saline	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					Х
Most of the water in the SAU is fresh	(less than 10,0	000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	ne area where	SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	0.60	most likely:	0.70	maximum:	0.80
(6) Mean thickness net porous interval (ft):	minimum:	90	most likely:	240	maximum:	360
(7) Mean porosity net porous interval (fraction):	minimum:	0.06	most likely:	0.12	maximum:	0.16
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	10	most likely:	140	maximum:	22,000
Residual Tra	apping Prob	abilistic Ca	lculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	10.00	maximum:	5,000

Offshore areas

\_\_\_\_\_0 % of mean SAU area

	Allocations of the SAU to States								
(1)	Montana	contains 15	% of mean SAU area						
(2)	North Dakota	contains 69	% of mean SAU area						
(3)	South Dakota	contains 16	% of mean SAU area						
(4)		contains	% of mean SAU area						
(5)		contains	% of mean SAU area						
(6)		contains	% of mean SAU area						
(7)		contains	% of mean SAU area						
(8)		contains	% of mean SAU area						
	Allocations of the SAU to General Land	-Ownership Categorie	s						
(1)	Federal lands	contain 9.6	% of mean SAU area						
(2)	State lands	contain3.2	% of mean SAU area						
(3)	Tribal lands	contain 7.3	% of mean SAU area						
(4)	Private and other lands	_contain80	% of mean SAU area						

Assessment geologist:	M. Buursink				Date:	11/21/2011
Assessment region:	Rocky Mountains and Northern Great Plains					
Province:	Williston Basin				Number:	C5031
Basin:	Williston Basin				Number:	C503101
Storage Assessment Unit (SAU):	Deadwood and	d Black Islan	d Formations	Deep	Number:	C50310102
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the S	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft	t	
				> 13,000 ft		X
(1) SAU depth from surface (ft):	minimum: _	13,000	-			15,000
(2) Area of the SAU (acres):	minimum: _	5,337,000	most likely:	5,930,000	maximum:	6,523,000
(3) Mean total SAU thickness (ft):	minimum: _	800	most likely:	1,000	maximum:	1,100
(4) SAU water quality (check one):						
Most of the water in the SAU is salin	e (greater than	10,000 mg/L T	DS).			X
Water in this SAU is both saline and	fresh.					
Most of the water in the SAU is fresh	(less than 10,00	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where S	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum: _	1.00	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum: _	440	most likely:	550	maximum:	600
(7) Mean porosity net porous interval (fraction):	minimum: _	0.03	most likely:	0.04	maximum:	0.06
Buoyant Tra	apping Proba	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(of 222) and dapping polo volumo (without).	minimum: _	100	most likely:	130	maximum:	6,000
Residual Tra	apping Proba	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.001	most likely:	5.00	maximum:	10

#### Number:

C50310102

#### Allocations of the SAU to States

Montana	contains	5.1 % of mean SAU area
North Dakota	contains	95 % of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
Allocations of the	SAU to General Land-Ownership C	ategories  23 % of mean SAU area
State lands	contain	3.3 % of mean SAU area
Tribal lands	contain	9.7 % of mean SAU area
Private and other lands	contain	64 % of mean SAU area
Offshore areas	contain	0 % of mean SAU area

Assessment geologist:	M. Buursink			Date:	11/21/2011	
Assessment region:	Rocky Mountains and Northern Great Plains					
Province:	Williston Basin			Number:	C5031	
Basin:	Williston Bas	in			Number:	C503101
Storage Assessment Unit (SAU):	Winnipegosis Bighorn Grou	Formation, In p	terlake Form	ation, and	Number:	C50310103
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	:	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	10,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	10,310,000	most likely:	11,455,000	maximum:	12,601,000
(3) Mean total SAU thickness (ft):	minimum:	1,600	most likely:	1,800	maximum:	2,200
(4) SAU water quality (check one):  Most of the water in the SAU is saline Water in this SAU is both saline and the saline water in the SAU is fresh	fresh.					x
(5) Area fraction available for storage (generally, t	aa araa whara	CAll para was	tar baa mara	than 10 000 mg	/I TDC\-	
(3) Area fraction available for Storage (generally, ii	minimum:		most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	760	most likely:	900	maximum:	1100
(7) Mean porosity net porous interval (fraction):	minimum:	0.08	most likely:	0.12	maximum:	0.16
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	1,000	most likely:	1,100	maximum:	170,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	10.00	maximum:	200

# Winnipegosis Formation, Interlake Formation, and

Number:

C50310103

# Bighorn Group Allocations of the SAU to States

Alloca	tions of the SAO to States	
Montana	contains	23 % of mean SAU area
North Dakota	contains	77 % of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	U to General Land-Ownership Ca	ategories 12 % of mean SAU are
State lands	contain	3.3 % of mean SAU area
Tribal lands	contain	9.4 % of mean SAU area
Private and other lands	contain	75 % of mean SAU area

Assessment geologist:	T. Roberts-Ashby			Date:	11/21/2011	
Assessment region:	Rocky Mountains and Northern Great Plains					
Province:	Williston Basin			Number:	C5031	
Basin:	Williston Bas				Number:	C503101
Storage Assessment Unit (SAU):	Three Forks F	ormation and	Jefferson Gr	oup	Number:	C50310104
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:		maximum:	12,400
(2) Area of the SAU (acres):	minimum:	5,558,000	most likely:		maximum:	6,793,000
(3) Mean total SAU thickness (ft):	minimum:	700	most likely:	750	maximum:	825
(4) SAU water quality (check one):	. (	10 000 /I. T	'Del			
Most of the water in the SAU is saling Water in this SAU is both saline and the saline and the saline are saline as the saline are saline are saline as the saline are saline are saline as the saline are saline as the saline are saline are saline are saline are saline are saline are saline are saline are saline are saline are saline are saline are saline are saline are saline are saline are saline are saline are saline	_	10,000 mg/L 1	עס).			X
Most of the water in the SAU is fresh		000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	ne area where	SAII nore wa	ter has more	than 10 000 mg	ı/I TDS)·	
(o) / trou tradition available for ottorage (generally, a	minimum:	-	most likely:	1.00		1.00
(6) Mean thickness net porous interval (ft):	minimum:	245	most likely:	260	maximum:	290
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.12	maximum:	0.17
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	270	most likely:	325	maximum:	29,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.500	most likely:	30.00	maximum:	100

Offshore areas

0 % of mean SAU area

#### Allocations of the SAU to States

Montana	contains	16 % of mean SAU
North Dakota	contains	84 % of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
Allocations of the Federal lands	contains SAU to General Land-Ownership Ca	
	SAU to General Land-Ownership Ca	ntegories
Federal lands	SAU to General Land-Ownership Ca contain	ntegories  9.3 % of mean SAU

Assessment geologist:	T. Roberts-Ashby			Date:	11/21/2011	
Assessment region:	Rocky Mountains and Northern Great Plains			lains		
Province:	Williston Basin			Number:	C5031	
Basin:	Williston Bas	in			Number:	C503101
Storage Assessment Unit (SAU):	Kibbey Forma	ition and Mad	ison Group		Number:	C50310105
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft	i	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	6,400	maximum:	9,750
(2) Area of the SAU (acres):	minimum:	29,739,000	most likely:		maximum:	36,347,000
(3) Mean total SAU thickness (ft):	minimum:	1,500	most likely:	1,800	maximum:	2,000
(4) SAU water quality (check one):						
Most of the water in the SAU is saling Water in this SAU is both saline and the saline and the saline are saline as the saline are saline are saline as the saline are saline are saline as the saline are saline as the saline are saline are saline are saline are saline are saline are saline are saline are saline are saline are saline are saline are saline are saline are saline are saline are saline are saline are saline	_	10,000 mg/L T	DS).			x
Most of the water in the SAU is fresh		000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	ne area where	SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	-	most likely:	0.70	maximum:	0.75
(6) Mean thickness net porous interval (ft):	minimum:	150	most likely:	300	maximum:	450
(7) Mean porosity net porous interval (fraction):	minimum:	0.07	most likely:	0.10	maximum:	0.16
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	4,500	most likely:	4,600	maximum:	59,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	4.00	maximum:	1,800

Offshore areas

0 % of mean SAU area

Allocations of the SAU to States							
(1)	Montana	contains 44	% of mean SAU area				
(2)	North Dakota	contains 53	% of mean SAU area				
(3)	South Dakota	contains 2.3	% of mean SAU area				
(4)		contains	% of mean SAU area				
(5)		contains	% of mean SAU area				
(6)		contains	% of mean SAU area				
(7)		contains	% of mean SAU area				
(8)		contains	% of mean SAU area				
	Allocations of the SAU to General Land	-Ownership Categorie	s				
(1)	Federal lands	contain16	% of mean SAU area				
(2)	State lands	contain 4.3	% of mean SAU area				
(3)	Tribal lands	contain 5.0	% of mean SAU area				
(4)	Private and other lands	contain 75	% of mean SAU area				

Assessment geologist:	S. Brennan			Date:	11/21/2011	
Assessment region:	Rocky Mount	ains and Nort	hern Great P	lains		
Province:	Williston Basin			Number:	C5031	
Basin:	Williston Basi	in			Number:	C503101
Storage Assessment Unit (SAU):	Minnelusa Gr	oup			Number:	C50310106
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	:heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,950	most likely:	7,300	maximum:	8,400
(2) Area of the SAU (acres):	minimum:	15,763,000	most likely:	17,514,000	maximum:	19,265,000
(3) Mean total SAU thickness (ft):	minimum:	400	most likely:	475	maximum:	650
(4) SAU water quality (check one):  Most of the water in the SAU is salin  Water in this SAU is both saline and  Most of the water in the SAU is fresh	fresh.					X
(5) Area fraction available for storage (generally,	the area where minimum:	-	ter has more most likely:	than 10,000 mg	J/L TDS): maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	55	most likely:	85	maximum:	115
(7) Mean porosity net porous interval (fraction):	minimum:	0.12	most likely:	0.16	maximum:	0.20
Buoyant Tr	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	37	most likely:	53	maximum:	13,200
Residual Tr	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	50.00	maximum:	300

Storage	Assessment	Unit	SAU	١
otorage	ASSESSINGIL	OHIL	טהט	,

Offshore areas

			_	
IVI	ınn	elus	a Gi	rour

#### Number:

0 % of mean SAU area

C50310106

	00**-	22 0/ of mas = CALL
Montana	contains	23 % of mean SAU
North Dakota	contains	72 % of mean SAU
South Dakota	contains	4.8 % of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
Allocations of the	SAU to General Land-Ownership	Categories
	SAU to General Land-Ownership	Categories  17 % of mean SAU
Federal lands	contain	17 % of mean SAU

Assessment geologist:	W. Craddock			Date:	11/21/2011	
Assessment region:	Rocky Mounta	ins and Nort	hern Great P	lains		
Province:	Williston Basin			Number:	C5031	
Basin:	Williston Basir	1			Number:	C503101
Storage Assessment Unit (SAU):	Lower Swift Fo	ormation			Number:	C50310107
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the S	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	5,500	maximum:	7,000
(2) Area of the SAU (acres):	minimum:	37,355,000	most likely:	46,694,000	maximum:	51,363,000
(3) Mean total SAU thickness (ft):	minimum:	300	most likely:	350	maximum:	400
(4) SAU water quality (check one):						
Most of the water in the SAU is salin	-	10,000 mg/L T	DS).			
Water in this SAU is both saline and						Х
Most of the water in the SAU is fresh	(less than 10,00	0 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where S	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum: _	0.20	most likely:	0.30	maximum:	0.50
(6) Mean thickness net porous interval (ft):	minimum:	50	most likely:	70	maximum:	90
(7) Mean porosity net porous interval (fraction):	minimum: _	0.13	most likely:	0.17	maximum:	0.21
Buoyant Tra	apping Proba	bilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(e) (e)	minimum: _	0	most likely:	4,900	maximum:	55,000
Residual Tra	apping Proba	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	100.00	maximum:	500

Storage Ass	essment Unit (SAU): Lower S	wift Formation	Number: <u>C50310107</u>
	Allocation	s of the SAU to States	
(1)	Montana	contains34	% of mean SAU area
(2)	North Dakota	contains 46	% of mean SAU area
(3)	South Dakota	contains 20	% of mean SAU area
(4)		contains	% of mean SAU area
(5)		contains	% of mean SAU area
(6)		contains	% of mean SAU area
(7)		contains	% of mean SAU area
(8)		contains	% of mean SAU area
	Allocations of the SAU to	General Land-Ownership Categorie	s
(1)	Federal lands	contain 16	% of mean SAU area

contain

contain

contain

contain

4.6 % of mean SAU area

7.2 % of mean SAU area

72 % of mean SAU area

0 % of mean SAU area

(2)

(3)

(4)

(5)

State lands

Tribal lands

Offshore areas

Private and other lands

Assessment geologist:	W. Craddock			Date:	11/21/2011	
Assessment region:	Rocky Mountains and Northern Great Plains					
Province:	Williston Basi	in			Number:	C5031
Basin:	Williston Basin			Number:	C503101	
Storage Assessment Unit (SAU):	Inyan Kara Gr	oup			Number:	C50310108
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the	Storage A	ssessment	: Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:		maximum:	6,500
(2) Area of the SAU (acres):	minimum:			44,326,000	maximum:	48,759,000
(3) Mean total SAU thickness (ft):	minimum:	200	most likely:	250		300
(4) SAU water quality (check one):  Most of the water in the SAU is salin	ne (areater than	10.000 mg/L T	DS).			
Water in this SAU is both saline and		3,	-,			X
Most of the water in the SAU is fres	h (less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally,	the area where	SAU pore wa	ter has more	than 10,000 mg	g/L TDS):	
	minimum:	0.10	most likely:	0.25	maximum:	0.40
(6) Mean thickness net porous interval (ft):	minimum:	110	most likely:	130	maximum:	150
(7) Mean porosity net porous interval (fraction):	minimum: _	0.14	most likely:	0.18	maximum:	0.22
Buoyant Tr	apping Prob	abilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum: _	0	most likely:	5,200	maximum:	96,000
Residual Tr	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	100.00	maximum:	2,000

Storage Asse	essment Unit (SAU):	Inyan Kara Group		Number:	C50310108		
	All	ocations of the SAU to States					
(1)	Montana	contains	39	% of mean	SAU area		
(2)	North Dakota	contains	45	% of mean	SAU area		
(3)	South Dakota	contains	15	% of mean	SAU area		
(4)		contains		% of mean	SAU area		
(5)		contains		% of mean	SAU area		
(6)		contains		% of mean	SAU area		
(7)		contains		% of mean	SAU area		
(8)		contains		% of mean	SAU area		
Allocations of the SAU to General Land-Ownership Categories							

contain

contain

contain

contain

contain

16 % of mean SAU area

4.9 % of mean SAU area

6.2 % of mean SAU area

73 % of mean SAU area

0 % of mean SAU area

(1)

(2)

(3)

(4)

(5)

Federal lands

State lands

Tribal lands

Offshore areas

Private and other lands

Assessment geologist:	W. Craddock			Date:	11/21/2011	
Assessment region:	Rocky Mount	ains and Nort	hern Great P	lains		
Province:	Williston Bas	in			Number:	C5031
Basin:	Williston Bas	in			Number:	C503101
Storage Assessment Unit (SAU):	Newcastle Fo	ormation			Number:	C50310109
SAU relationship to NOGA AU:						
	-					
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Gira a de torr		otor a go 7 to				
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 f	t	х
' '	•			> 13,000 ft		
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	4,500	maximum:	6,000
(2) Area of the SAU (acres):	minimum:	30,801,000	most likely:	34,223,000	maximum:	37,645,000
(3) Mean total SAU thickness (ft):	minimum:	40	most likely:	60	maximum:	80
(4) SAU water quality (check one):						
Most of the water in the SAU is saling	-	10,000 mg/L T	DS).			
Water in this SAU is both saline and						Х
Most of the water in the SAU is fresh	(less than 10,0	000 mg/L TDS).				
/F\ A us a function associable for above as / use a sulle to	hh	CALL = = = ==		th a = 10 000	.// TDC\.	
(5) Area fraction available for storage (generally, the	ne area where minimum:	-	most likely:		maximum:	0.40
	IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	0.10	most likely.	0.23	iliaxilliulli.	0.40
(6) Mean thickness net porous interval (ft):	minimum:	20	most likely:	40	maximum:	60
(T) 1.0						
(7) Mean porosity net porous interval (fraction):	minimum:	0.13	most likely:	0.16	maximum:	0.19
Buoyant Tra	appina Prob	abilistic Ca	lculation	Inputs		
200,4						
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	0	most likely:	4,700	maximum:	44,000
Residual Tra	anning Drob	abilistia Ca	alaulation	Innute		
nesidudi 116	apping Fion	ימטוווסנול למ	aicuidliUll	πραιδ		
(9) Permeability of the net porous interval (mD):	minimum.	0.010	most likelv	50.00	maximum.	100
(1.7 a. a. a. a. a. a. a. porodo intervar (iiib).		0.010	oot iii.ory.			.00

Storage	Assessment Unit (SAU):	Newcastle Formation		Number:	C50310109		
		Allocations of the SAU to States					
(1)	Montana	contains	50	% of mean	SAU area		
(2)	North Dakota	contains	36	% of mean	SAU area		
(3)	South Dakota	contains	14	% of mean	SAU area		
(4)		contains		% of mean	SAU area		
(5)		contains		% of mean	SAU area		
(6)		contains		% of mean	SAU area		
(7)		contains		% of mean	SAU area		
(8)		contains		% of mean	SAU area		
Allocations of the SAU to General Land-Ownership Categories							
(1)	Federal lands	contain	18	% of mean	SAU area		

contain

contain

contain

contain

5.6 % of mean SAU area

5.8 % of mean SAU area

70 % of mean SAU area

0 % of mean SAU area

(2)

(3)

(4)

(5)

State lands

Tribal lands

Offshore areas

Private and other lands

Assessment geologist:	S. Brennan			Date:	11/18/2010	
Assessment region:	Rocky Mount	ains and Nortl	hern Great P	lains		
Province:	Wind River B	asin			Number:	C5035
Basin:	Wind River B	asin			Number:	C503501
Storage Assessment Unit (SAU):	Tensleep Sar	dstone			Number:	C50350101
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	1,498,000	most likely:		maximum:	1,830,000
(3) Mean total SAU thickness (ft):	minimum:	300	most likely:	350	maximum:	450
(4) SAU water quality (check one):  Most of the water in the SAU is saling	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	_	, 0,	•			X
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	-	most likely:	0.10	maximum:	0.40
(6) Mean thickness net porous interval (ft):	minimum:	60	most likely:	80	maximum:	100
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.14	maximum:	0.16
Buoyant Tra	apping Prob	abilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	240	most likely:	364	maximum:	6,200
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	1.000	most likely:	100.00	maximum:	1,200

C+	A	11:4	/C A I	ı١	١.
Storage	Assessment	Unit	(SA)	U	ı.

Offshore areas

<b>T</b> 1	
Tensleep	Sandstone

#### Number:

0 % of mean SAU area

C50350101

Wyoming	contains	100 % of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
		0/ 6 000
	contains	% of mean SAU
Allocations of th	ne SAU to General Land-Ownership C	% of mean SAU Categories  36 % of mean SAU
	ne SAU to General Land-Ownership C	Categories
Federal lands	ne SAU to General Land-Ownership C	Categories  36 % of mean SAU

Assessment geologist:	S. Brennan			Date:	11/18/2010	
Assessment region:	Rocky Mountains and Northern Great Plains			lains		
Province:	Wind River B	asin			Number:	C5035
Basin:	Wind River B	asin			Number:	C503501
Storage Assessment Unit (SAU):	Tensleep San	dstone Deep			Number:	C50350102
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 f	t	
				> 13,000 ft		Х
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	20,000	maximum:	28,000
(2) Area of the SAU (acres):	minimum:	1,792,000	most likely:	1,991,000	maximum:	2,190,000
(3) Mean total SAU thickness (ft):	minimum:	300	most likely:	350	maximum:	450
(4) SAU water quality (check one):						
Most of the water in the SAU is saling Water in this SAU is both saling and	-	10,000 mg/L T	DS).			x
Most of the water in the SAU is fresh		00 mg/L TDS).				
IF) And for the conflict for the conflic		CALL		de 10 000	// TDC\	
(5) Area fraction available for storage (generally, t	ne area wnere minimum:	-	ter nas more most likely:	0.10	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	40	most likely:	50	maximum:	60
(7) Mean porosity net porous interval (fraction):	minimum:		most likely:	0.04	maximum:	0.06
	•				IIIaxiiiiuiii.	0.00
Buoyant Tra	ipping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	0	most likely:	69	maximum:	4,200
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	0.10	maximum:	10

Storage Assessment U	Jnit (	(SAU)	٠
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Tenslee	Sandstone	Deep

#### Number:

C50350102

# Allocations of the SAU to States

Allot	cations of the SAU to States	
Wyoming	contains	100 % of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	AU to General Land-Ownership Ca	ategories41_% of mean SAU area
State lands	contain	6.2 % of mean SAU area
Tribal lands	contain	14 % of mean SAU area
Private and other lands	contain	38 % of mean SAU area
Offshore areas	contain	0 % of mean SAU area

Assessment geologist:	M. Buursink			Date:	11/18/2010	
Assessment region:	Rocky Mount	tains and Nortl	hern Great P	lains		
Province:	Wind River Basin			Number:	C5035	
Basin:	Wind River B	asin			Number:	C503501
Storage Assessment Unit (SAU):	Nugget and (	Crow Mountain	Sandstones	5	Number:	C50350103
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	4,300	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	815,000	most likely:	906,000	maximum:	997,000
(3) Mean total SAU thickness (ft):	minimum:	300	most likely:	450	maximum:	600
(4) SAU water quality (check one):						
Most of the water in the SAU is saline	e (greater thar	10,000 mg/L T	DS).			
Water in this SAU is both saline and t	fresh.					X
Most of the water in the SAU is fresh	(less than 10,0	000 mg/L TDS).				
(5) Area fraction available for storage (generally, the	ne area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	-	most likely:		maximum:	0.40
(6) Mean thickness net porous interval (ft):	minimum:	120	most likely:	150	maximum:	200
(7) Mean porosity net porous interval (fraction):	minimum:	0.12	most likely:	0.15	maximum:	0.18
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
to, buoyant aupping pore volume (initiably.	minimum:	22	most likely:	58	maximum:	1,800
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	100.00	maximum:	300

#### Number:

C50350103

#### Allocations of the SAU to States

Wyoming	contains	100 % of mean SAU area
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
Allocations of the S	SAU to General Land-Ownership C	Categories  15 % of mean SAU are
State lands	contain	3 % of mean SAU are
Tribal lands	contain	50 % of mean SAU are
Private and other lands	contain	32 % of mean SAU are
Offshore areas	contain	0 % of mean SAU are

Assessment geologist:	M. Buursink			Date:	11/18/2010	
Assessment region:	Rocky Mountains and Northern Great Plains			lains		
Province:	Wind River Basin				Number:	C5035
Basin:	Wind River Ba	asin			Number:	C503501
Storage Assessment Unit (SAU):	Nugget and C	row Mountair	Sandstones	s Deep	Number:	C50350104
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteris	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (ch	neck one):			3,000-13,000 ft	t	
				> 13,000 ft		Х
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	16,800	maximum:	24,700
(2) Area of the SAU (acres):	minimum:	392,000		436,000	maximum:	480,000
(3) Mean total SAU thickness (ft):	minimum: _	300	most likely:	450	maximum:	600
(4) SAU water quality (check one):						
Most of the water in the SAU is saline	_	10,000 mg/L T	DS).			
Water in this SAU is both saline and f						x
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, th	ne area where	SAU pore wat	ter has more	than 10,000 mg	/L TDS):	
	minimum:	0.50	most likely:	0.80	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	120	most likely:	150	maximum:	200
(7) Mean porosity net porous interval (fraction):	minimum:	0.04	most likely:	0.08	maximum:	0.12
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(o) baoyant trapping pole volume (iviivibbl).	minimum: _	0	most likely:	9	maximum:	900
Residual Tra	pping Prob	abilistic Ca	lculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	1.00	maximum:	10

C50350104

#### Allocations of the SAU to States

(1)	Wyoming	contains	100 % of mean SAU area
(2)		contains	% of mean SAU area
(3)		contains	% of mean SAU area
(4)		contains	% of mean SAU area
(5)		contains	% of mean SAU area
(6)		contains	% of mean SAU area
(7)		contains	% of mean SAU area
(8)		contains	% of mean SAU area
	Allocations of the SAU to Gene	eral Land-Ownership (	Categories
(1)	Federal lands	contain	16 % of mean SAU area
(2)	State lands	contain	< 1.0 % of mean SAU area
(3)	Tribal lands	contain	39 % of mean SAU area
(4)	Private and other lands	contain	45 % of mean SAU area
(5)	Offshore areas	contain	0 % of mean SAU area

Assessment geologist:	J. Covault			Date:	11/18/2010	
Assessment region:	Rocky Mountains and Northern Great Plains			lains		
Province:	Wind River Basin				Number:	C5035
Basin:	Wind River B	asin			Number:	C503501
Storage Assessment Unit (SAU):	Cloverly Form	ation			Number:	C50350105
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	1,391,000	most likely:	1,546,000	maximum:	1,701,000
(3) Mean total SAU thickness (ft):	minimum:	120	most likely:	160	maximum:	200
(4) SAU water quality (check one):  Most of the water in the SAU is salin	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					Х
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	0.02	most likely:	0.27	maximum:	0.94
(6) Mean thickness net porous interval (ft):	minimum:	70	most likely:	100	maximum:	120
(7) Mean porosity net porous interval (fraction):	minimum:	0.10	most likely:	0.15	maximum:	0.20
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	110	most likely:	117	maximum:	26,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	50.00	maximum:	1,000

Storage	Assessment	Unit	(SAII)	١
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Cloverly	Formation

#### Number:

C50350105

# Allocations of the SAII to States

Alloc	cations of the SAU to States	
Wyoming	contains	100 % of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU area
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	AU to General Land-Ownership Cate	egories  38 % of mean SAU are
State lands	contain	4.9 % of mean SAU are
Tribal lands	contain	30 % of mean SAU are
Private and other lands	contain	27 % of mean SAU are
Offshore areas	contain	0 % of mean SAU are

Assessment geologist:	J. Covault				Date:	11/18/2010
Assessment region:	Rocky Mountains and Northern Great Plains					
Province:	Wind River Basin			Number:	C5035	
Basin:	Wind River B	asin			Number:	C503501
Storage Assessment Unit (SAU):	Cloverly Form	ation Deep			Number:	C50350106
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 f	t	
				> 13,000 ft		Х
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	17,000	maximum:	24,000
(2) Area of the SAU (acres):	minimum:	1,434,000	most likely:	1,593,000	maximum:	1,752,000
(3) Mean total SAU thickness (ft):	minimum:	120	most likely:	160	maximum:	200
(4) SAU water quality (check one):						
Most of the water in the SAU is salin	_	10,000 mg/L T	DS).			X
Water in this SAU is both saline and		00 (I TDO)				
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L 1DS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	g/L TDS):	
	minimum:	0.00	most likely:	1.00	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	70	most likely:	100	maximum:	120
(7) Mean porosity net porous interval (fraction):	minimum:	0.06	most likely:	0.08	maximum:	0.10
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(A) (A) (A) (A) (A) (A) (A) (A) (A) (A)	minimum:	4	most likely:	7	maximum:	20,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	0.50	maximum:	10

Storage Assessment U	Jnit (	(SAU)	٠
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Offshore areas

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Cloveriv	Formation	Deep

#### Number:

0 % of mean SAU area

C50350106

# sactions of the CALL to Ctate

Wyoming	contains	100 % of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains  SAU to General Land-Ownership Ca	% of mean SAU ategories 44 % of mean SAU
Allocations of the Federal lands State lands	SAU to General Land-Ownership Ca	ategories
Federal lands	SAU to General Land-Ownership Ca	ategories  44 % of mean SAU

Assessment geologist:	J. Covault			Date:	11/18/2010	
Assessment region:	Rocky Mountains and Northern Great Plains					
Province:	Wind River Basin			Number:	C5035	
Basin:	Wind River B	asin			Number:	C503501
Storage Assessment Unit (SAU):	Muddy Sands	stone			Number:	C50350107
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 ft > 13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	1,373,000	most likely:	1,526,000	maximum:	1,679,000
(3) Mean total SAU thickness (ft):	minimum:	40	most likely:	60	maximum:	70
(4) SAU water quality (check one):  Most of the water in the SAU is saling	e (greater than	10.000 mg/L T	DS).			
Water in this SAU is both saline and	_	. o,ooo g,	201.			X
Most of the water in the SAU is fresh		000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10.000 mc	ı/L TDS):	
(-,	minimum:	-	most likely:	0.32		0.88
(6) Mean thickness net porous interval (ft):	minimum:	24	most likely:	36	maximum:	42
(7) Mean porosity net porous interval (fraction):	minimum:	0.12	most likely:	0.15	maximum:	0.18
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	122	most likely:	126	maximum:	9,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	20.00	maximum:	300

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Storage	Assessment	Unit	(SA)	U	ı.

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IVI	man	Sano	ISTOHE

#### Number:

C50350107

Alloc	cations of the SAU to States	
Wyoming	contains	100 % of mean SAU area
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
Endorallando	AU to General Land-Ownership Ca	ategories  37 % of mean SAU are
State lands	contain	4.8 % of mean SAU are
Tribal lands	contain	30 % of mean SAU are
Private and other lands	contain	28 % of mean SAU are
Offshore areas	contain	0 % of mean SAU are

Assessment geologist:	J. Covault				Date:	11/18/2010
Assessment region:	Rocky Mountains and Northern Great Plains					
Province:	Wind River Basin			Number:	C5035	
Basin:	Wind River B	asin			Number:	C503501
Storage Assessment Unit (SAU):	Muddy Sand	stone Deep			Number:	C50350108
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 f	t	
				> 13,000 ft		X
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	17,000	maximum:	23,000
(2) Area of the SAU (acres):	minimum:	1,374,000	most likely:	1,527,000	maximum:	1,680,000
(3) Mean total SAU thickness (ft):	minimum:	40	most likely:	60	maximum:	70
(4) SAU water quality (check one):  Most of the water in the SAU is saling Water in this SAU is both saline and	_	n 10,000 mg/L T	DS).			X
Most of the water in the SAU is fresh	(less than 10,0	000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	J/L TDS):	
	minimum:	0.00	most likely:	0.50	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	24	most likely:	36	maximum:	42
(7) Mean porosity net porous interval (fraction):	minimum:	0.05	most likely:	0.07	maximum:	0.09
Buoyant Tra	opping Prob	abilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	29	most likely:	30	maximum:	5,300
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	0.50	maximum:	10

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Storage	Assessment	Unit	ISAL	IJ	:

Muddy	Sandstone	Doon
wuaav	Sandstone	Deeb

#### Number:

C50350108

Allo	cations of the SAU to States	
Wyoming	contains	100 % of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	SAU to General Land-Ownership Cat	egories  45 % of mean SAU are
State lands	contain	6.9 % of mean SAU are
Tribal lands	contain	9.2 % of mean SAU are
Private and other lands	contain	39 % of mean SAU are
Offshore areas	contain	0 % of mean SAU are

Assessment geologist:	M. Merrill				Date:	11/18/2010
Assessment region:	Rocky Mountains and Northern Great Plains					
Province:				Number:	C5035	
Basin:	Wind River Ba	ısin			Number:	C503501
Storage Assessment Unit (SAU):	Frontier Sands	stone			Number:	C50350109
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	6,500	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	1,265,000	most likely:	1,405,000	maximum:	1,546,000
(3) Mean total SAU thickness (ft):	minimum: _	600	most likely:	750	maximum:	850
(4) SAU water quality (check one):						
Most of the water in the SAU is saling	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					Х
Most of the water in the SAU is fresh	(less than 10,00	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	0.05	most likely:	0.10	maximum:	0.40
(6) Mean thickness net porous interval (ft):	minimum: _	100	most likely:	135	maximum:	175
(7) Mean porosity net porous interval (fraction):	minimum:	0.12	most likely:	0.15	maximum:	0.18
Buoyant Tra	pping Proba	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(o, 245)ant aupping polo tolano (ininasi).	minimum:	268	most likely:	277	maximum:	2,932
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum: _	0.500	most likely:	10.00	maximum:	100

Storage	Assessment	Hnit	1001	ı١
Storage	Assessment	Unit	ISAU	"

Offshore areas

Frontier Sandstone

Number:

0 % of mean SAU area

C50350109

Allocations	of the	SAU	to	States

Wyoming	contains	100 % of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU
Allocations of the	contains  SAU to General Land-Ownership C	% of mean SAU and ategories  38 % of mean SAU and a sau
	SAU to General Land-Ownership C	ategories
Federal lands	SAU to General Land-Ownership C	ategories  38 % of mean SAU

Assessment geologist:	M. Merrill				Date:	11/18/2010
Assessment region:	Rocky Mount	ains and Nort	hern Great P	lains		
Province:	Wind River B	asin			Number:	C5035
Basin:	Wind River B				Number:	C503501
Storage Assessment Unit (SAU):	Frontier Sand	Istone Deep			Number:	C50350110
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage A	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 f	t	
				> 13,000 ft		Х
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	20,500	maximum:	22,500
(2) Area of the SAU (acres):	minimum:	1,270,000	most likely:	1,411,000	maximum:	1,552,000
(3) Mean total SAU thickness (ft):	minimum:	550	most likely:	675	maximum:	800
(4) SAU water quality (check one):						
Most of the water in the SAU is salin Water in this SAU is both saline and	_	10,000 mg/L T	DS).			
Most of the water in the SAU is fresh		)00 mg/L TDS).				X
		<b>3</b> . ,				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	0.05	most likely:	0.10	maximum:	0.70
(6) Mean thickness net porous interval (ft):	minimum:	125	most likely:	160	maximum:	200
(7) Mean porosity net porous interval (fraction):	minimum:	0.05	most likely:	0.07	maximum:	0.09
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):	minimum:	50	most likely:	52	maximum:	201
Residual Tr	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	0.10	maximum:	10

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Storage	Assessment	Unit	(SA)	U	ı.

Wyoming

Federal lands

State lands

Tribal lands

Offshore areas

Private and other lands

(1)

(2)

(3)

(4)

(5)

(6)

(7)

(8)

(1)

(2)

(3)

(4)

(5)

SAU):	Frontier Sandstone Deep	Number:	C50350110
	Allocations of the SAU to States		
	contains	100 % of mean	SAU area
	contains	% of mean	SAU area
	contains	% of mean	SAU area
	contains	% of mean	SAU area
	contains	% of mean	SAU area
	contains	% of mean	SAU area
	contains	% of mean	SAU area
	contains	% of mean	SAU area
Allocations	of the SAU to General Land-Ownership Cate	gories	
<b>S</b>	contain	45 % of mean	SAU area

contain

contain

contain

contain

7.1 % of mean SAU area

8.4 % of mean SAU area

39 % of mean SAU area

0 % of mean SAU area

Assessment geologist:	S. Brennan				Date:	11/18/2010
Assessment region:	Rocky Mount	ains and Nortl	hern Great P	lains		
Province:	Wind River B	asin			Number:	C5035
Basin:	Wind River B				Number:	C503501
Storage Assessment Unit (SAU):	Sussex and S	Shannon Sand	stone Memb	ers	Number:	C50350111
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	1,181,000	most likely:		maximum:	1,443,000
(3) Mean total SAU thickness (ft):	minimum:	1,800	most likely:	2,700	maximum:	3,500
(4) SAU water quality (check one):  Most of the water in the SAU is saline	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and t	fresh.					Х
Most of the water in the SAU is fresh	(less than 10,0	000 mg/L TDS).				
(5) Area fraction available for storage (generally, t	ne area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	-	most likely:	0.50	maximum:	0.75
(6) Mean thickness net porous interval (ft):	minimum:	150	most likely:	200	maximum:	250
(7) Mean porosity net porous interval (fraction):	minimum:	0.13	most likely:	0.15	maximum:	0.20
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	14	most likely:	21	maximum:	9,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.800	most likely:	50.00	maximum:	500

#### Number:

C50350111

#### Allocations of the SAU to States

Wyoming		contains100	0 % of mean SAU area
		contains	_ % of mean SAU area
		contains	_ % of mean SAU area
		contains	_ % of mean SAU area
		contains	_ % of mean SAU area
		contains	_ % of mean SAU area
		contains	_ % of mean SAU area
		contains	_ % of mean SAU area
Federal lan	Allocations of the SAU to General Lan		es 3_% of mean SAU area
State lands		contain4.7	7_ % of mean SAU area
Tribal lands	3	contain 24	½ % of mean SAU area
Private and	other lands	contain 38	3 % of mean SAU area
Offshore ar	eas	contain (	) % of mean SAU area

Assessment geologist:	S. Brennan				Date:	11/18/2010
Assessment region:	Rocky Mount	ains and Nort	hern Great P	lains		
Province:	Wind River B	asin			Number:	C5035
Basin:	Wind River B				Number:	C503501
Storage Assessment Unit (SAU):	Sussex and S	hannon Sand	stone Memb	ers Deep	Number:	C50350112
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 f	t	
				> 13,000 ft		Х
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	16,000	maximum:	20,000
(2) Area of the SAU (acres):	minimum:	859,000	most likely:	954,000	maximum:	1,049,000
(3) Mean total SAU thickness (ft):	minimum:	1,800	most likely:	2,700	maximum:	3,500
(4) SAU water quality (check one):						
Most of the water in the SAU is salin Water in this SAU is both saline and	_	10,000 mg/L T	DS).			
Most of the water in the SAU is fresh		00 mg/L TDS)				X
Most of the water in the create in the	1 (1000 than 10,0	00 mg/L 100/.				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	0.00	most likely:	0.60	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	150	most likely:	200	maximum:	250
(7) Mean porosity net porous interval (fraction):	minimum:	0.08	most likely:	0.10	maximum:	0.12
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(2) 2						
(8) Buoyant trapping pore volume (MMbbl):	minimum:	240	most likely:	250	maximum:	25,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	0.50	maximum:	2
·	•		•			

C50350112

#### Allocations of the SAU to States

(1)	Wyoming	contains	100 % of mean SAU area
(2)		contains	% of mean SAU area
(3)		contains	% of mean SAU area
(4)		contains	% of mean SAU area
(5)		contains	% of mean SAU area
(6)		contains	% of mean SAU area
(7)		contains	% of mean SAU area
(8)		contains	% of mean SAU area
	Allocations of the S	SAU to General Land-Ownership C	ategories
(1)	Federal lands	contain	51 % of mean SAU area
(2)	State lands	contain	7.6 % of mean SAU area
(3)	Tribal lands	contain	8.1 % of mean SAU area
(4)	Private and other lands	contain	34 % of mean SAU area
(5)	Offshore areas	contain	0 % of mean SAU area

Assessment geologist:	S. Brennan				Date:	11/18/2010
Assessment region:	Rocky Mount	ains and Nortl	hern Great P	lains		
Province:	Wind River B	asin			Number:	C5035
Basin:	Wind River B	asin			Number:	C503501
Storage Assessment Unit (SAU):	Fort Union an	d Lance Form	ations		Number:	C50350113
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (c	heck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	6,000	maximum:	11,000
(2) Area of the SAU (acres):	minimum:	998,000	most likely:	1,109,000	maximum:	1,220,000
(3) Mean total SAU thickness (ft):	minimum:	4,500	most likely:	5,500	maximum:	6,500
(4) SAU water quality (check one):  Most of the water in the SAU is salin	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					Х
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, t	he area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	0.10	most likely:	0.35	maximum:	0.60
(6) Mean thickness net porous interval (ft):	minimum:	1600	most likely:	1900	maximum:	2300
(7) Mean porosity net porous interval (fraction):	minimum:	0.14	most likely:	0.17	maximum:	0.21
Buoyant Tra	apping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	872	most likely:	885	maximum:	135,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	10.00	maximum:	500

Offshore areas

0 % of mean SAU area

## Allocations of the SAU to States

Wyoming	contains	100 % of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
		0/ 6 0011
	contains	% of mean SAU a
	AU to General Land-Ownership Ca	-
	AU to General Land-Ownership Ca	ategories
Federal lands	AU to General Land-Ownership Ca	ategories  56 % of mean SAU a

Assessment geologist:	M. Buursink, E. Slucher				Date:	2/9/2011
Assessment region:	Rocky Moun	tains and Nort	hern Great Pl	ains		
Province:	Wyoming-Ida	aho-Utah Thru	st Belt		Number:	C5036
Basin:	Wyoming-Ida	aho-Utah Thru	st Belt		Number:	C503601
Storage Assessment Unit (SAU):	Paleozoic Co	omposite			Number:	C50360101
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteris	stics of the	Storage A	ssessment	Unit		
Lines 1-9 concern data for the SAU at depths of (ch	neck one):			3,000-13,000 ft > 13,000 ft		X
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	8,300	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	2,961,000	most likely:	3,290,000	maximum:	3,619,000
(3) Mean total SAU thickness (ft):	minimum:	3,000	most likely:	4,000	maximum:	5,000
(4) SAU water quality (check one):  Most of the water in the SAU is saline	e (greater thai	n 10,000 mg/L T	DS).			
Water in this SAU is both saline and f	resh.					Х
Most of the water in the SAU is fresh	(less than 10,	000 mg/L TDS).				
(5) Area fraction available for storage (generally, the	ne area where	e SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	-	most likely:	0.80	maximum:	0.99
(6) Mean thickness net porous interval (ft):	minimum:	1000	most likely:	1400	maximum:	1700
(7) Mean porosity net porous interval (fraction):	minimum:	0.05	most likely:	0.08	maximum:	0.13
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	3,100	most likely:	3,200	maximum:	57,000
Residual Tra	pping Prol	oabilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	2.00	maximum:	300

Storage Asse	essment Unit (SAU):	Paleozoic Composite		Number:	C50360101
		Allocations of the SAU to States			
(1)	Idaho	contains	34	% of mean S	SAU area
(2)	Utah	contains	15	% of mean S	SAU area
(3)	Wyoming	contains	51	% of mean S	SAU area
(4)		contains		% of mean S	SAU area
(5)		contains		% of mean S	SAU area
(6)		contains		% of mean S	SAU area
(7)		contains		% of mean S	SAU area
(8)		contains		% of mean S	SAU area
	Allocations of t	he SAU to General Land-Ownershi	p Categorie	s	
(1)	Federal lands	contain	54	% of mean S	SAU area

contain

contain

contain

contain

(2)

(3)

(4)

(5)

State lands

Tribal lands

Offshore areas

Private and other lands

5.5 % of mean SAU area

2.8 % of mean SAU area

38 % of mean SAU area

0 % of mean SAU area

Assessment geologist:	M. Buursink, E. Slucher				Date:	2/9/2011
Assessment region:	Rocky Mount	ains and Nort	hern Great P	lains		
Province:	Wyoming-Idaho-Utah Thrust Belt				Number:	C5036
Basin:	Wyoming-Idaho-Utah Thrust Belt				Number:	C503601
Storage Assessment Unit (SAU):	Paleozoic Co	mposite Deep			Number:	C50360102
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft	t	
				> 13,000 ft		Х
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	20,000	maximum:	29,000
(2) Area of the SAU (acres):	minimum:	4,599,000	most likely:	5,110,000	maximum:	5,621,000
(3) Mean total SAU thickness (ft):	minimum:	2,500	most likely:	3,500	maximum:	4,500
(4) SAU water quality (check one):  Most of the water in the SAU is saline	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					
Most of the water in the SAU is fresh	(less than 10,0	000 mg/L TDS).				X
(5) Area fraction available for storage (generally, t	ne area where	SAU pore wa	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:	0.25	most likely:	0.80	maximum:	0.99
(6) Mean thickness net porous interval (ft):	minimum:	900	most likely:	1200	maximum:	1600
(7) Mean porosity net porous interval (fraction):	minimum:	0.02	most likely:	0.06	maximum:	0.09
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
, , , , , ,	minimum:	2,300	most likely:	2,400	maximum:	22,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	0.80	maximum:	10

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Idaho

Utah

Wyoming

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Dologgia	Composite	Daan
raieuzuic	Composite	Deen

## Number: C50360102 Allocations of the SAU to States 18 % of mean SAU area contains 21 % of mean SAU area contains contains 62 % of mean SAU area % of mean SAU area contains % of mean SAU area contains % of mean SAU area contains \_\_\_\_\_ % of mean SAU area contains % of mean SAU area contains

#### Allocations of the SAU to General Land-Ownership Categories

(1)	Federal lands	contain	56	% of mean SAU area
(2)	State lands	contain	5.0	% of mean SAU area
(3)	Tribal lands	contain	< 1.0	% of mean SAU area
(4)	Private and other lands	contain	40	% of mean SAU area
(5)	Offshore areas	contain	0	% of mean SAU area

Assessment geologist:	M. Merrill, C. Doolan				Date:	2/9/2011
Assessment region:	Rocky Mount	ains and Nortl	hern Great P	lains		
Province:	Wyoming-Idaho-Utah Thrust Belt				Number:	C5036
Basin:	Wyoming-Idaho-Utah Thrust Belt				Number:	C503601
Storage Assessment Unit (SAU):	Nugget Sand	stone			Number:	C50360103
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft	t	x
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	9,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	3,735,000	most likely:		maximum:	4,565,000
(3) Mean total SAU thickness (ft):	minimum:	850	most likely:	950	maximum:	1,100
(4) SAU water quality (check one):	<i>(</i> , , , , )	40.000 // T	:D0)			
Most of the water in the SAU is saling Water in this SAU is both saline and	_	10,000 mg/L 1	DS).			
Most of the water in the SAU is fresh		00 mg/L TDS).				X
ITA A confirmation and light for above and account to the		CALL		4h 10 000	// TDC\	
(5) Area fraction available for storage (generally, the	minimum:	· ·	ter nas more most likely:	0.80	maximum:	0.95
(6) Mean thickness net porous interval (ft):	minimum:	300	most likely:	500	maximum:	650
(7) Mean porosity net porous interval (fraction):	minimum:	0.09	most likely:	0.13	maximum:	0.16
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
to baoyant trapping pore volume (wildibil).	minimum:	3,376	most likely:	3,389	maximum:	13,070
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.050	most likely:	20.00	maximum:	600

Offshore areas

#### Nugget Sandstone

#### Number:

0 % of mean SAU area

C50360103

711004110	ns of the SAU to States	
Idaho	contains	42 % of mean SAU are
Utah	contains	16 % of mean SAU are
Wyoming	contains	42 % of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
Allocations of the SAU t	to General Land-Ownership Ca	atenories
	·	atogorioo
Federal lands	contain	50 % of mean SAU are
		-
Federal lands	contain	50 % of mean SAU are

Assessment geologist:	M. Merrill, C. Doolan				Date:	2/9/2011
Assessment region:	Rocky Mount	ains and Nortl	hern Great P	lains		
Province:	Wyoming-Idaho-Utah Thrust Belt				Number:	C5036
Basin:	Wyoming-Idaho-Utah Thrust Belt				Number:	C503601
Storage Assessment Unit (SAU):	Nugget Sand	stone Deep			Number:	C50360104
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	i	x
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:	18,000	maximum:	26,000
(2) Area of the SAU (acres):	minimum:	3,605,000	-	4,006,000	maximum:	4,407,000
(3) Mean total SAU thickness (ft):	minimum:	850	-	950	maximum:	1,100
(4) SAU water quality (check one):						
Most of the water in the SAU is saline	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and t	resh.					X
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				
(5) Area fraction available for storage (generally, the	ne area where	SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	0.25	most likely:	0.80	maximum:	0.95
(6) Mean thickness net porous interval (ft):	minimum:	300	most likely:	500	maximum:	650
(7) Mean porosity net porous interval (fraction):	minimum:	0.04	most likely:	0.08	maximum:	0.10
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(1), 2 - 2 , 2 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	minimum:	83	most likely:	102	maximum:	1,523
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.050	most likely:	10.00	maximum:	65

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Storage	Assessment	Unit	ISAU	"

Offshore areas

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#### Number:

0 % of mean SAU area

C50360104

	ations of the SAU to States	
Idaho	contains	2.8 % of mean SAU a
Utah	contains	32 % of mean SAU a
Wyoming	contains	65 % of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
Allocations of the SA	AU to General Land-Ownership C	ategories
F 1 11 1	AU to General Land-Ownership Ca	ategories  48 % of mean SAU a
F 1 11 1		-
Federal lands	contain	48 % of mean SAU a

Assessment geologist:	R. Drake, M. Merrill				Date:	2/9/2011
Assessment region:	Rocky Mount	ains and Nortl	hern Great P	lains		
Province:	Wyoming-Idaho-Utah Thrust Belt				Number:	C5036
Basin:	Wyoming-Idaho-Utah Thrust Belt				Number:	C503601
Storage Assessment Unit (SAU):	Bear River Fo	rmation			Number:	C50360105
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteris	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (ch	neck one):			3,000-13,000 ft	t	X
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	6,700	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	1,661,000	most likely:	1,846,000	maximum:	2,031,000
(3) Mean total SAU thickness (ft):	minimum:	750	most likely:	1,000	maximum:	1,200
(4) SAU water quality (check one):						
Most of the water in the SAU is saline	e (greater than	10,000 mg/L T	DS).			
Water in this SAU is both saline and f	resh.					Х
Most of the water in the SAU is fresh	(less than 10,0	000 mg/L TDS).				
(5) Area fraction available for storage (generally, the	ne area where	SAU pore wat	ter has more	than 10,000 mg	ı/L TDS):	
	minimum:		most likely:	0.80	maximum:	1.00
(6) Mean thickness net porous interval (ft):	minimum:	170	most likely:	220	maximum:	260
(7) Mean porosity net porous interval (fraction):	minimum:	0.07	most likely:	0.11	maximum:	0.16
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
()	minimum:	0	most likely:	1,000	maximum:	5,000
Residual Tra	pping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	0.20	maximum:	50

Storage Asse	essment Unit (SAU): Bear River Formation			Number:	C50360105
	Allocations of the SAU to	) States			
(1)	Idaho	contains	5.1	% of mean	SAU area
(2)	Utah	contains	23	% of mean	SAU area
(3)	Wyoming	contains	72	% of mean	SAU area
(4)		contains		% of mean 3	SAU area
(5)		contains		% of mean 3	SAU area
(6)		contains		% of mean 3	SAU area
(7)		contains		% of mean 3	SAU area
(8)		contains		% of mean 3	SAU area
	Allocations of the SAU to General Land-	Ownership Cate	egorie	s	
(1)	Federal lands	contain	56	% of mean	SAU area

contain

contain

contain

contain

3.5 % of mean SAU area

0 % of mean SAU area

40 % of mean SAU area

0 % of mean SAU area

(2)

(3)

(4)

(5)

State lands

Tribal lands

Offshore areas

Private and other lands

Assessment geologist:	R. Drake, M. Merrill				Date:	2/9/2011
Assessment region:	Rocky Mount	ains and Nortl	hern Great P	lains		
Province:	Wyoming-Idaho-Utah Thrust Belt				Number:	C5036
Basin:	Wyoming-Idaho-Utah Thrust Belt				Number:	C503601
Storage Assessment Unit (SAU):	Bear River Fo	rmation Deep			Number:	C50360106
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft > 13,000 ft	i	x
(1) SAU depth from surface (ft):	minimum:	13,000	most likely:		maximum:	18,430
(2) Area of the SAU (acres):	minimum:	1,467,000	-	1,630,000	maximum:	1,793,000
(3) Mean total SAU thickness (ft):	minimum:	700	-	1,000	maximum:	1,200
(4) SAU water quality (check one):  Most of the water in the SAU is saline Water in this SAU is both saline and f		10,000 mg/L T	DS).			
Most of the water in the SAU is fresh	(less than 10,0	00 mg/L TDS).				Х
(5) Area fraction available for storage (generally, the	ne area where	SAU pore wat	ter has more	than 10,000 mg	/L TDS):	
	minimum:	-	most likely:	0.80	maximum:	0.95
(6) Mean thickness net porous interval (ft):	minimum:	150	most likely:	220	maximum:	260
(7) Mean porosity net porous interval (fraction):	minimum:	0.05	most likely:	0.08	maximum:	0.10
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	0	most likely:	50	maximum:	2,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.001	most likely:	0.10	maximum:	30

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Storage	Assessment	Unit	(SAU):

Offshore areas

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0 % of mean SAU area

C50360106

Utah	contains	22 % of mean	SAU
Wyoming	contains	78 % of mean	SAU
	contains	% of mean	SAU
	contains	% of mean	SAU
	contains	% of mean	SAU
	contains	% of mean	SAU
	contains	% of mean	SAU a
	contains	% of mean	SAU
	AU to General Land-Ownership C	ategories	SAU :
	AU to General Land-Ownership C		SAU
		ategories	
Federal lands	contain	ategories  49 % of mean	SAU

Assessment geologist:	S. Brennan			Date:	2/10/2011	
Assessment region:	Rocky Mount	tains and Nortl	hern Great P	lains		
Province:	Wyoming-Idaho-Utah Thrust Belt				Number:	C5036
Basin:		aho-Utah Thru:	st Belt		Number:	C503601
Storage Assessment Unit (SAU):	Frontier Sand	dstone			Number:	C50360107
SAU relationship to NOGA AU:						
Notes from assessor:						
Characteri	stics of the	Storage As	ssessment	t Unit		
Lines 1-9 concern data for the SAU at depths of (cl	neck one):			3,000-13,000 ft	İ	X
(1) SAU depth from surface (ft):	minimum:	3,000	most likely:	7,000	maximum:	13,000
(2) Area of the SAU (acres):	minimum:	680,000	most likely:	755,000	maximum:	831,000
(3) Mean total SAU thickness (ft):	minimum:	600	most likely:	1,200	maximum:	1,400
(4) SAU water quality (check one):  Most of the water in the SAU is saline	e (greater thar	n 10,000 mg/L T	DS).			
Water in this SAU is both saline and f	fresh.					Х
Most of the water in the SAU is fresh	(less than 10,0	000 mg/L TDS).				
(5) Area fraction available for storage (generally, the	ne area where	SAU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	0.05	most likely:	0.10	maximum:	0.80
(6) Mean thickness net porous interval (ft):	minimum:	250	most likely:	300	maximum:	400
(7) Mean porosity net porous interval (fraction):	minimum:	0.12	most likely:	0.15	maximum:	0.17
Buoyant Tra	pping Prob	abilistic Ca	lculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
	minimum:	70	most likely:	75	maximum:	30,000
Residual Tra	apping Prob	abilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.100	most likely:	1.00	maximum:	100

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Storage	Assessment	Unit	(SA)	U	ı.

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Frn	ntier	Sand	stone

Number:

C50360107

Allocations o	f the	SAU	to	States
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Allo	cations of the SAU to States	
Wyoming	contains	100 % of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	contains	% of mean SAU are
	SAU to General Land-Ownership Ca	ntegories 71 % of mean SAU are
State lands	contain	3.8 % of mean SAU are
Tribal lands	contain	0 % of mean SAU are
Private and other lands	contain	26 % of mean SAU are

Assessment geologist:	S. Brennan				Date:	2/10/2011
Assessment region:	Rocky Mountain	ns and Nort	hern Great P	lains		
Province:	Wyoming-Idaho	o-Utah Thru:	st Belt		Number:	C5036
Basin:	Wyoming-Idaho	o-Utah Thru	st Belt		Number:	C503601
Storage Assessment Unit (SAU):	Frontier Sandst	one Deep			Number:	C50360108
SAU relationship to NOGA AU:						
Notes from assessor:						
Character	istics of the S	torage As	ssessmen	t Unit		
Lines 1-9 concern data for the SAU at depths of (o	check one):			3,000-13,000 f	t	
				> 13,000 ft		Х
(1) SAU depth from surface (ft):	minimum:		most likely:		maximum:	17,000
(2) Area of the SAU (acres):	minimum:			846,000	maximum:	931,000
(3) Mean total SAU thickness (ft):	minimum:	800	most likely:	1,200	maximum:	1,600
(4) SAU water quality (check one):						
Most of the water in the SAU is salin	ne (greater than 10	0,000 mg/L T	DS).			
Water in this SAU is both saline and	fresh.					X
Most of the water in the SAU is fres	h (less than 10,000	) mg/L TDS).				
(5) Area fraction available for storage (generally,	the area where S	AU pore wa	ter has more	than 10,000 mg	/L TDS):	
	minimum:	0.10	most likely:	0.40	maximum:	0.90
(6) Mean thickness net porous interval (ft):	minimum:	300	most likely:	350	maximum:	400
(7) Mean porosity net porous interval (fraction):	minimum:	0.05	most likely:	0.07	maximum:	0.09
Buoyant Tr	apping Probal	bilistic Ca	alculation	Inputs		
(8) Buoyant trapping pore volume (MMbbl):						
(o) Buoyant dapping pore volume (www.bb/).	minimum:	0	most likely:	1	maximum:	5
Residual Tr	apping Proba	bilistic Ca	alculation	Inputs		
(9) Permeability of the net porous interval (mD):	minimum:	0.010	most likely:	0.10	maximum:	10

C+	A	11:4	IC A I	ı١	
Storage	Assessment	Unit	ISAL	IJ	:

Offshore areas

	0 1 .	_
Frontier	Sandstone	Deep

#### Number:

0 % of mean SAU area

C50360108

Utah	contains	11 % of mean SAU a
Wyoming	contains	89 % of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
	contains	% of mean SAU a
Allocations	s of the SAU to General Land-Ownership (	Categories 41 % of mean SAU a
Federal lands		
Federal lands State lands	contain	5.0 % of mean SAU a