Submit 1 Copy To Appropriate District Office
District I – (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II – (575) 748-1283
811 S. First St., Artesia, NM 88210
District III – (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV – (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103
Revised July 18, 2013

WELL API NO. 30-045-38272

5. Indicate Type of Lease STATE ☐ FEE ■

6. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name: SJB CarbonSafe Strat Test

1. Type of Well: Oil Well ☐ Gas Well ☐ Other ■ Miscellaneous (Strat Test)

8. Well Number: 1

2. Name of Operator: New Mexico Institute of Mining & Technology

9. OGRID Number: 15847

3. Address of Operator: 801 Leroy Place; Socorro, NM 87801

10. Pool name or Wildcat: SWD; Entrada

4. Well Location
Unit Letter H : 2,236 feet from the NORTH line and 1,021 feet from the EAST line
Section 14 Township 31N Range 12W NMPM County SAN JUAN

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)*
6,207' GR

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	■	COMMENCE DRILLING OPNS.	☐	P AND A	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	CASING/CEMENT JOB	☐		
DOWNHOLE COMMINGLE	☐						
CLOSED-LOOP SYSTEM	☐						
OTHER:	☐			OTHER:			☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

SJB CARBONSAFE STRAT TEST #1 REQUEST TO REVISE CEMENTING DESIGN

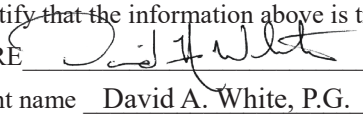
On behalf of the New Mexico Institute of Mining & Technology (New Mexico Tech), we (Geolex, Inc.) are requesting approval for revision to the SJB CarbonSafe Strat Test #1 well (API: 30-045-38272) cementing plan, to assure cement fluid densities and resultant overburden pressures do not compromise the integrity of adjacent geologic strata. Additionally, this request is being submitted to reflect a change in the cement operator, as the originally-planned service provider is unable to provide the necessary services in the San Juan Basin. New Mexico Tech was granted authorization to construct and conduct reservoir testing and evaluation operations, via the SJB CarbonSafe Strat Test #1 well with the issuance of Administrative Order SWD-2462 by the New Mexico Oil Conservation Division (NMOCD).

The requested change of the cementing plan is summarized below, and we are providing the proposed cementing plan, related product information, and a revised well schematic as attachments to this sundry request.

Casing String	Cement Type	No. Sacks	Density (ppg)	Yield (ft^3/sack)	Coverage Interval	Verification Method
Surface (Lead)	ASTM Type I/II	611	12.50	2.23	0' to 1,000'	Circulate to Surface, CBL
Surface (Tail)	ASTM Type I/II	552	14.80	1.33	1,000' to 1,500'	
Intermediate (Lead)	ASTM Type I/II	596	10.00	3.68	0' to 5,000'	Circulate to Surface, CBL
Intermediate (Tail)	Class G	128	12.50	1.98	5,000' to 5,500'	
Production Stage 1 Lead	ASTM Type I/II	216	10.00	3.69	5,000' to 7,250'	Circulate to Surface, CBL
Production Stage 1 Tail	IntegraBond PERM G	289	13.00	2.06	7,250' to 8,800'	
Production Stage 2 Lead	ASTM Type I/II	426	11.80	2.74	0' to 4,474'	Circulate to Surface, CBL
Production Stage 2 Tail	ASTM Type I/II	100	14.60	1.37	4,474' to 5,000'	

Cementing operations will be completed by American Cementing, LLC, and the revised plan will continue to include critical design considerations, such as the use of corrosion resistant cement slurries (specifically IntegraBond™ PERMA) along critical reservoir and caprock intervals. Additionally, the re-designed cement plan will incorporate use of an external casing packer (ECP) and cement diverter tool (DVT) within the production casing interval (at approx. 5,000'), to ensure cement slurry overburden pressure does not damage surrounding geologic strata. All proposed revisions have been thoroughly reviewed to assess the suitability of the materials and the proposed change will not result in inadequate safety and performance standards.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE  TITLE Consultant to New Mexico Tech DATE 11/28/2022

Type or print name David A. White, P.G. E-mail address: dwhite@geolex.com PHONE: 505-842-8000

For State Use Only

APPROVED BY: _____ TITLE _____ DATE _____

Conditions of Approval (if any):

ATTACHMENT 1

AMERICAN CEMENTING, LLC
REVISED SJB CARBONSAFE STRAT WELL
CEMENTING PLAN

Geolex, Inc
CEMENT PROPOSAL #64850

Multi Job Proposal
Surface
Intermediate
Two-Stage/Multi-Stage Cement

SJB CarbonSafe Strat Test #1 30-045-38272
S:14 T:31N R:12W San Juan NM

November 09, 2022

Well Information

Well Name: **SJB CarbonSafe Strat Test #1**
Well API: **30-045-38272**
Latitude: **36.899871**
Longitude: **-108.061716**
Section: **14**
Township: **31N**
Range: **12W**
County: **San Juan, NM**

Job: Surface (Surface) - Well Information

Drilling Fluid Density: **9.00 lb/gal**
Drilling Fluid: **WBM**
Total Measured Depth: **1500 ft**
Total Vertical Depth: **1500 ft**
BHCT: **76 °F**
BHST: **97 °F**
Temperature Gradient: **1.79 °F/100ft**
Surface Temp: **70 °F**

Geometry

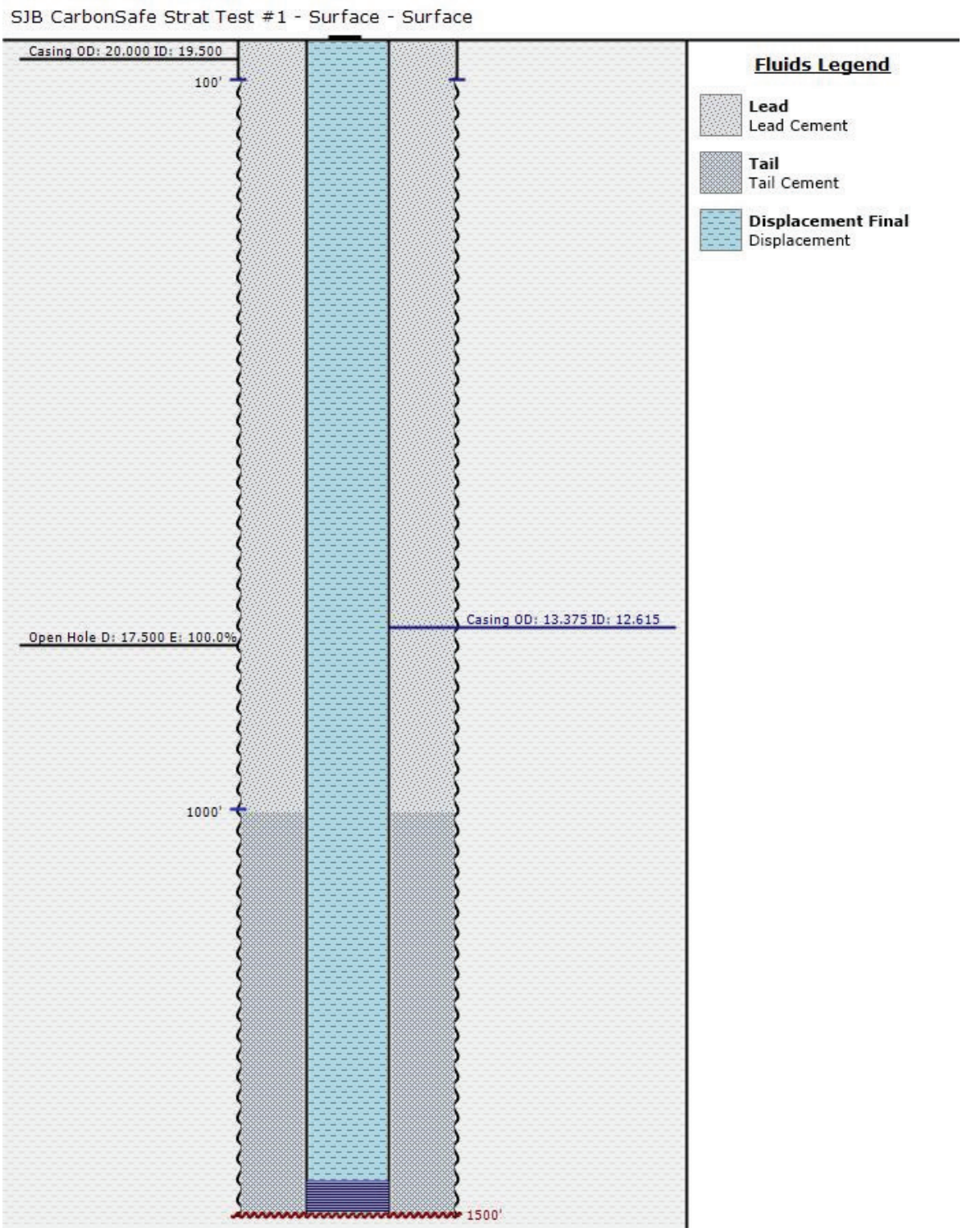
#	Type	Function	OD (in)	ID (in)	Weight (lb/ft)	Grade	Thread	Top	Bottom	Excess (%)
1	Casing	Outer	20.000	19.500	53.00		n/a	0	100	0.0
2	OpenHole	Outer		17.500			n/a	100	1500	100.0
1	Casing	Inner	13.375	12.615	54.50	J-55	Buttress	0	1500	0.0

Capacities

Excess added to Capacity Factor

Type	TopDepth (ft)	Length (ft)	OD (in)	ID (in)	Capacity (bbl/ft)	Capacity ($ft^{3/ft}$)	Fill (ft/bbl)	Fill (ft/ft^{3})
DisplacementFinal	0	1458	12.615	0.000	0.1546	0.8679	6.47	1.15
ShoeJoint	1458	42	12.615	0.000	0.1546	0.8679	6.47	1.15
Casing to OpenHole	100	1400	17.500	13.375	0.2474	1.3892	4.04	0.72
Casing to Casing	0	100	19.500	13.375	0.1956	1.0982	5.11	0.91

Job: Surface (Surface) - Well & Fluid Diagram



Job: Surface (Surface) - Material Information

Pump Order	Type	Fluid	Fluid Top (ft)	Density (lb/gal)	Water Req. (gal/bbl)	Yield ($ft^{3/sk}$)	Proposed Volume (sks)	Proposed Volume (bbl)
1	Flush	Water	0.00	8.34	42.0	n/a		60.00

Pump Order	Type	Fluid	Fluid Top (ft)	Density (lb/gal)	Water Req. (gal/sk)	Yield ($ft^{3/sk}$)	Proposed Volume (sks)	Proposed Volume (bbl)
2	Lead	Lead Cement	0.00	12.50	12.6	2.23	611	242.25
CEMENT, ASTM TYPE I/II - Cement - 100.000 %								
CEMENT EXTENDER, GYPSUM, A-10 - Accelerator - 5.000 %BWOB								
Cement Additive, Sodium Metasilicate A-2 - Accelerator - 2.000 lb/sk								
ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS - Accelerator - 2.000 lb/sk								
FOAM PREVENTER, FP-24 - Defoamer - 0.300 %BWOB								
IntegraSeal POLI - LostCirculation - 0.250 lb/sk								
ANTI STATIC ADDITIVE, STATIC FREE - Other - 0.010 lb/sk								

Pump Order	Type	Fluid	Fluid Top (ft)	Density (lb/gal)	Water Req. (gal/sk)	Yield ($ft^{3/sk}$)	Proposed Volume (sks)	Proposed Volume (bbl)
3	Tail	Tail Cement	1000.00	14.80	6.3	1.33	552	130.34
CEMENT, ASTM TYPE I/II - Cement - 100.000 %								
ANTI STATIC ADDITIVE, STATIC FREE - Other - 0.010 lb/sk								

Pump Order	Type	Fluid	Fluid Top (ft)	Density (lb/gal)	Water Req. (gal/bbl)	Yield ($ft^{3/sk}$)	Proposed Volume (sks)	Proposed Volume (bbl)
4	DisplacementFinal	Displacement	0.00	8.34	42.0	n/a		226.00

Job: Surface (Surface) - Pump Schedule

Sequence	Type	Fluid	Density (lb/gal)	Pump Rate (bpm)	Volume (bbls)	Volume (sks)	Cum. Vol. (bbls)	Stage Time (min)	Cum. Time (min)
1	Flush	Water	8.34	5.00	60.00		60.00	12.00	12.00
2	Lead	Lead Cement	12.50	5.00	242.25	611	302.25	48.45	60.45
3	Tail	Tail Cement	14.80	5.00	130.34	552	432.59	26.07	86.52
4	DisplacementFinal	Displacement	8.34	5.00	226.00		658.59	45.20	131.72

Job: Intermediate (Intermediate) - Well Information

Drilling Fluid Density: **9.00 lb/gal**
Drilling Fluid: **WBM**
Total Measured Depth: **5500 ft**
Total Vertical Depth: **5500 ft**
BHCT: **108 °F**
BHST: **168 °F**
Temperature Gradient: **1.79 °F/100ft**
Surface Temp: **70 °F**

Geometry

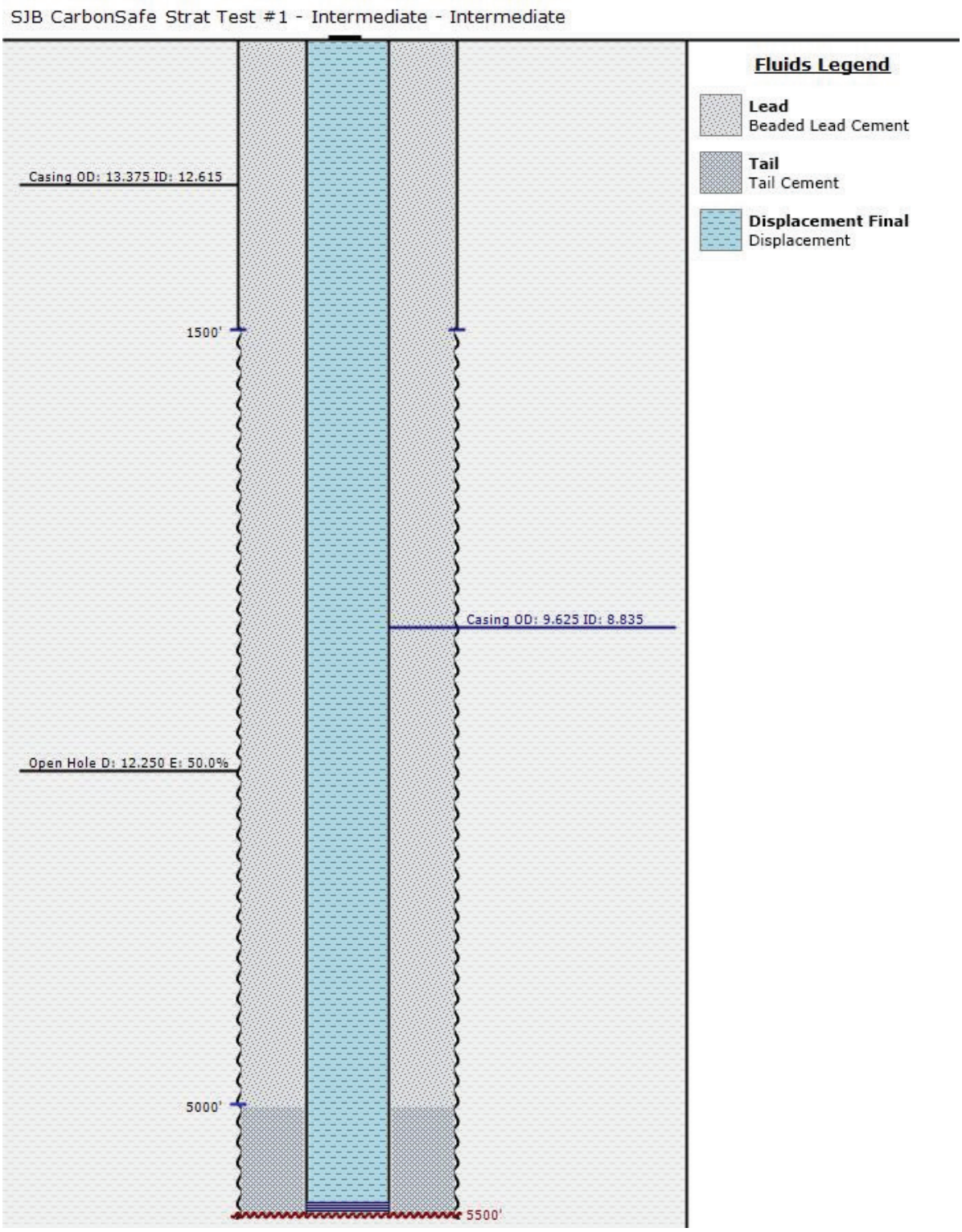
#	Type	Function	OD (in)	ID (in)	Weight (lb/ft)	Grade	Thread	Top	Bottom	Excess (%)
1	Casing	Outer	13.375	12.615	54.50	J-55	n/a	0	1500	0.0
2	OpenHole	Outer		12.250			n/a	1500	5500	50.0
1	Casing	Inner	9.625	8.835	40.00	L-80	Buttress	0	5500	0.0

Capacities

Excess added to Capacity Factor

Type	TopDepth (ft)	Length (ft)	OD (in)	ID (in)	Capacity (bbl/ft)	Capacity ($ft^{3/ft}$)	Fill (ft/bbl)	Fill (ft/ft^{3})
DisplacementFinal	0	5458	8.835	0.000	0.0758	0.4257	13.19	2.35
ShoeJoint	5458	42	8.835	0.000	0.0758	0.4257	13.19	2.35
Casing to OpenHole	1500	4000	12.250	9.625	0.0837	0.4698	11.95	2.13
Casing to Casing	0	1500	12.615	9.625	0.0646	0.3627	15.48	2.76

Job: Intermediate (Intermediate) - Well & Fluid Diagram



Job: Intermediate (Intermediate) - Material Information

Pump Order	Type	Fluid	Fluid Top (ft)	Density (lb/gal)	Water Req. (gal/bbl)	Yield ($ft^{3/sk}$)	Proposed Volume (sks)	Proposed Volume (bbl)
1	Spacer	IntegraGuard EZ LCM	0.00	10.00	37.2	n/a		60.00
WEIGHTING ADDITIVE, BARITE - Heavyweight - 76.825 lb/bbl								
Spacer Viscosifier, AVIS-616 - Viscosifier - 13.000 lb/bbl								
FOAM PREVENTER, FP-24 - Defoamer - 0.500 lb/bbl								
IntegraGuard STAR PLUS 3K - LostCirculation - 15.000 lb/bbl								
SPACER SURFACTANT, SS-201 - Surfactant - 0.500 gal/bbl								

Pump Order	Type	Fluid	Fluid Top (ft)	Density (lb/gal)	Water Req. (gal/sk)	Yield ($ft^{3/sk}$)	Proposed Volume (sks)	Proposed Volume (bbl)
2	Lead	Beaded Lead Cement	0.00	10.00	15.8	3.68	596	390.25
CEMENT, ASTM TYPE I/II - Cement - 100.000 %								
CEMENT EXTENDER, GYPSUM, A-10 - Accelerator - 5.000 %BWOB								
Cement Additive, Sodium Metasilicate A-2 - Accelerator - 1.000 lb/sk								
BONDING AGENT, BA-90 - BondEnhancer - 5.000 lb/sk								
DISPERSANT, CD-32A - Dispersant - 0.300 %BWOB								
FLUID LOSS, FL-66 - FluidLoss - 0.500 %BWOB								
FOAM PREVENTER, FP-24 - Defoamer - 0.300 %BWOB								
IntegraSeal PHENO - LostCirculation - 6.000 lb/sk								
EXTENDER, LW-5E - Lightweight - 33.000 %BWOB								
RETARDER, R-7C - Retarder - 0.200 %BWOB								

Pump Order	Type	Fluid	Fluid Top (ft)	Density (lb/gal)	Water Req. (gal/sk)	Yield ($ft^{3/sk}$)	Proposed Volume (sks)	Proposed Volume (bbl)
3	Tail	Tail Cement	5000.00	12.50	10.7	1.98	128	45.21
CEMENT, CLASS G - Cement - 70.000 %								
CEMENT, FLY ASH (POZZOLAN) - Extender - 30.000 %								
Cement Additive, Sodium Metasilicate A-2 - Accelerator - 0.400 %BWOB								
BONDING AGENT, BA-90 - BondEnhancer - 5.000 lb/sk								
FLUID LOSS, FL-66 - FluidLoss - 0.400 %BWOB								
FOAM PREVENTER, FP-24 - Defoamer - 0.300 %BWOB								
IntegraGuard GW-86 - Viscosifier - 0.100 %BWOB								
IntegraSeal PHENO - LostCirculation - 2.000 lb/sk								
IntegraSeal POLI - LostCirculation - 0.250 lb/sk								

Pump Order	Type	Fluid	Fluid Top (ft)	Density (lb/gal)	Water Req. (gal/bbl)	Yield ($ft^{3/sk}$)	Proposed Volume (sks)	Proposed Volume (bbl)
4	DisplacementFinal	Displacement	0.00	8.34	42.0	n/a		414.00

Job: Intermediate (Intermediate) - Pump Schedule

Sequence	Type	Fluid	Density (lb/gal)	Pump Rate (bpm)	Volume (bbls)	Volume (sks)	Cum. Vol. (bbls)	Stage Time (min)	Cum. Time (min)
1	Spacer	IntegraGuard EZ LCM	10.00	5.00	60.00		60.00	12.00	12.00

2	Lead	Beaded Lead Cement	10.00	5.00	390.25	596	450.25	78.05	90.05
3	Tail	Tail Cement	12.50	5.00	45.21	128	495.46	9.04	99.09
4	DisplacementFinal	Displacement	8.34	5.00	414.00		909.46	82.80	181.89

Job: 2-Stage Production (Two-Stage/Multi-Stage Cement) - Well Information

Drilling Fluid Density: **9.50 lb/gal**
Drilling Fluid: **Brine**
Total Measured Depth: **8800 ft**
Total Vertical Depth: **8800 ft**
BHCT: **157 °F**
BHST: **228 °F**
Temperature Gradient: **1.79 °F/100ft**
Surface Temp: **70 °F**

Geometry

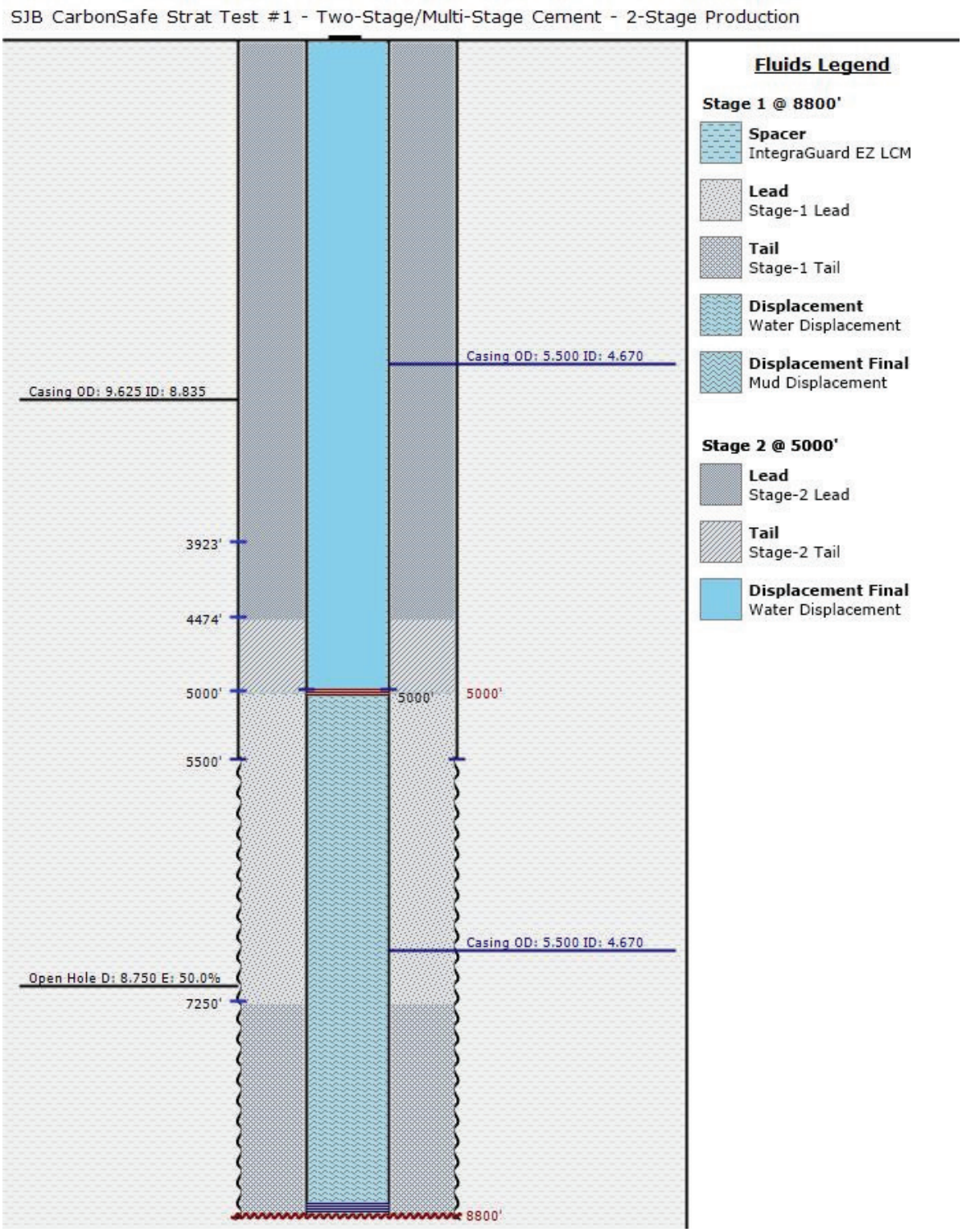
#	Type	Function	OD (in)	ID (in)	Weight (lb/ft)	Grade	Thread	Top	Bottom	Excess (%)
1	Casing	Outer	9.625	8.835	40.00	L-80	Buttress	0	5500	0.0
2	OpenHole	Outer		8.750			n/a	5500	8800	50.0
1	Casing	Inner	5.500	4.670	23.00	L-80	Buttress	0	5000	0.0
2	Casing	Inner	5.500	4.670	23.00	P-110	Buttress	5000	8800	0.0

Capacities

Excess added to Capacity Factor

Type	TopDepth (ft)	Length (ft)	OD (in)	ID (in)	Capacity (bbl/ft)	Capacity ($ft^{3/ft}$)	Fill (ft/bbl)	Fill (ft/ft^{3})
DisplacementFinal	0	5000	4.670	0.000	0.0212	0.1189	47.20	8.41
DisplacementFinal	5000	3758	4.670	0.000	0.0212	0.1189	47.20	8.41
ShoeJoint	8758	42	4.670	0.000	0.0212	0.1189	47.20	8.41
Casing to OpenHole	5500	3300	8.750	5.500	0.0675	0.3789	14.82	2.64
Casing to Casing	5000	500	8.835	5.500	0.0464	0.2607	21.53	3.84
Casing to Casing	0	5000	8.835	5.500	0.0464	0.2607	21.53	3.84

Job: 2-Stage Production (Two-Stage/Multi-Stage Cement) - Well & Fluid Diagram



Job: 2-Stage Production (Two-Stage/Multi-Stage Cement) - Material Information

Stage	Pump Order	Type	Fluid	Fluid Top (ft)	Density (lb/gal)	Water Req. (gal/bbl)	Yield ($ft^{3/sk}$)	Proposed Volume (sks)	Proposed Volume (bbl)
1	1	Spacer	IntegraGuard EZ LCM	3923.00	10.00	37.2	n/a		50.00
WEIGHTING ADDITIVE, BARITE - Heavyweight - 76.584 lb/bbl									
Spacer Viscosifier, AVIS-616 - Viscosifier - 13.400 lb/bbl									
FOAM PREVENTER, FP-24 - Defoamer - 0.500 lb/bbl									
IntegraGuard STAR PLUS 3K - LostCirculation - 15.000 lb/bbl									
SPACER SURFACTANT, SS-201 - Surfactant - 0.500 gal/bbl									

Stage	Pump Order	Type	Fluid	Fluid Top (ft)	Density (lb/gal)	Water Req. (gal/sk)	Yield ($ft^{3/sk}$)	Proposed Volume (sks)	Proposed Volume (bbl)
1	2	Lead	Stage-1 Lead	5000.00	10.00	15.9	3.69	216	141.89
CEMENT, ASTM TYPE I/II - Cement - 100.000 %									
CEMENT EXTENDER, GYPSUM, A-10 - Accelerator - 5.000 %BWOB									
Cement Additive, Sodium Metasilicate A-2 - Accelerator - 1.000 lb/sk									
BONDING AGENT, BA-90 - BondEnhancer - 5.000 lb/sk									
DISPERSANT, CD-32A - Dispersant - 0.300 %BWOB									
FLUID LOSS, FL-66 - FluidLoss - 0.500 %BWOB									
FOAM PREVENTER, FP-24 - Defoamer - 0.300 %BWOB									
IntegraSeal PHENO - LostCirculation - 6.000 lb/sk									
IntegraSeal POLI - LostCirculation - 0.250 lb/sk									
EXTENDER, LW-5E - Lightweight - 33.000 %BWOB									
RETARDER, R-7C - Retarder - 0.400 %BWOB									

Stage	Pump Order	Type	Fluid	Fluid Top (ft)	Density (lb/gal)	Water Req. (gal/sk)	Yield ($ft^{3/sk}$)	Proposed Volume (sks)	Proposed Volume (bbl)
1	3	Tail	Stage-1 Tail	7250.00	13.00	10.2	2.06	289	105.85
IntegraBond PermG - Cement - 100.000 %									
BONDING AGENT, BA-90 - BondEnhancer - 6.000 lb/sk									
EXTENDER, BENTONITE - Viscosifier - 6.000 %BWOB									
FLUID LOSS, FL-66 - FluidLoss - 0.600 %BWOB									
FOAM PREVENTER, FP-24 - Defoamer - 0.300 %BWOB									
IntegraGuard GW-86 - Viscosifier - 0.100 %BWOB									
IntegraSeal PHENO - LostCirculation - 2.000 lb/sk									
IntegraSeal POLI - LostCirculation - 0.250 lb/sk									
RETARDER, R-3 - Retarder - 0.200 %BWOB									
SAND, S-8, Silica Flour, 200 Mesh - StrengthRetrogression - 20.000 %BWOB									

Stage	Pump Order	Type	Fluid	Fluid Top (ft)	Density (lb/gal)	Water Req. (gal/bbl)	Yield ($ft^{3/sk}$)	Proposed Volume (sks)	Proposed Volume (bbl)
1	4	Displacement	Water Displacement	5000.00	8.34	42.0	n/a		80.00

Stage	Pump Order	Type	Fluid	Fluid Top (ft)	Density (lb/gal)	Water Req. (gal/bbl)	Yield ($ft^{3/sk}$)	Proposed Volume (sks)	Proposed Volume (bbl)
1	5	DisplacementFinal	Mud Displacement	0.00	8.34	42.0	n/a		106.00

Stage	Pump Order	Type	Fluid	Fluid Top (ft)	Density (lb/gal)	Water Req. (gal/bbl)	Yield ($ft^{3/sk}$)	Proposed Volume (sks)	Proposed Volume (bbl)
2	1	Spacer	IntegraGuard EZ	0.00	10.00	38.8	n/a		50.00
WEIGHTING ADDITIVE, BARITE - Heavyweight - 90.746 lb/bbl									
FOAM PREVENTER, FP-24 - Defoamer - 0.500 lb/bbl									
IntegraGuard GW-86 - Viscosifier - 1.200 lb/bbl									
SPACER SURFACTANT, SS-201 - Surfactant - 0.500 gal/bbl									

Stage	Pump Order	Type	Fluid	Fluid Top (ft)	Density (lb/gal)	Water Req. (gal/sk)	Yield ($ft^{3/sk}$)	Proposed Volume (sks)	Proposed Volume (bbl)
2	2	Lead	Stage-2 Lead	0.00	11.80	15.9	2.74	426	207.92
CEMENT, ASTM TYPE I/II - Cement - 65.000 %									
CEMENT, FLY ASH (POZZOLAN) - Extender - 35.000 %									
CEMENT EXTENDER, GYPSUM, A-10 - Accelerator - 2.000 lb/sk									
Cement Additive, Sodium Metasilicate A-2 - Accelerator - 0.500 %BWOB									
SALT,SODIUM CHLORIDE, A-5 - Accelerator - 5.000 %BWOW									
BONDING AGENT, BA-90 - BondEnhancer - 5.000 lb/sk									
EXTENDER, BENTONITE - Viscosifier - 8.000 %BWOB									
BONDING AGENT, EC-1 - BondEnhancer - 1.000 %BWOB									
FLUID LOSS, FL-24 - FluidLoss - 0.500 %BWOB									
FOAM PREVENTER, FP-24 - Defoamer - 0.300 %BWOB									
IntegraGuard GW-86 - Viscosifier - 0.100 %BWOB									

Stage	Pump Order	Type	Fluid	Fluid Top (ft)	Density (lb/gal)	Water Req. (gal/sk)	Yield ($ft^{3/sk}$)	Proposed Volume (sks)	Proposed Volume (bbl)
2	3	Tail	Stage-2 Tail	4474.00	14.60	6.6	1.37	100	24.43
CEMENT, ASTM TYPE I/II - Cement - 100.000 %									
DISPERSANT, CD-32A - Dispersant - 0.100 %BWOB									
FLUID LOSS, FL-66 - FluidLoss - 0.400 %BWOB									
RETARDER, R-3 - Retarder - 0.100 %BWOB									

Stage	Pump Order	Type	Fluid	Fluid Top (ft)	Density (lb/gal)	Water Req. (gal/bbl)	Yield ($ft^{3/sk}$)	Proposed Volume (sks)	Proposed Volume (bbl)
2	4	DisplacementFinal	Water Displacement	0.00	8.34	42.0	n/a		106.00

Job: 2-Stage Production (Two-Stage/Multi-Stage Cement) - Pump Schedule

Sequence	Type	Fluid	Density (lb/gal)	Pump Rate (bpm)	Volume (bbls)	Volume (sks)	Cum. Vol. (bbls)	Stage Time (min)	Cum. Time (min)

1	Spacer	IntegraGuard EZ LCM	10.00	5.00	50.00		50.00	10.00	10.00
2	Lead	Stage-1 Lead	10.00	5.00	141.89	216	191.89	28.38	38.38
3	Tail	Stage-1 Tail	13.00	5.00	105.85	289	297.73	21.17	59.55
4	Displacement	Water Displacement	8.34	5.00	80.00		377.73	16.00	75.55
5	DisplacementFinal	Mud Displacement	8.34	5.00	106.00		483.73	21.20	96.75
1	Spacer	IntegraGuard EZ	10.00	5.00	50.00		533.73	10.00	106.75
2	Lead	Stage-2 Lead	11.80	5.00	207.92	426	741.66	41.58	148.33
3	Tail	Stage-2 Tail	14.60	5.00	24.43	100	766.09	4.89	153.22
4	DisplacementFinal	Water Displacement	8.34	5.00	106.00		872.09	21.20	174.42

ATTACHMENT 2

INTEGRABOND PERM CLASS G
INFORMATION AND SPECIFICATIONS

IntegraBond™ PERMA

CEMENT SYSTEM

A cement system resistant to corrosion in acidic environments caused by CO_2 and H_2S.

APPLICATIONS

- Formations producing CO_2 or H_2S
- CO_2 sequestration projects
- CO_2 EOR projects
- Wide range of temperatures
- Wide Range of slurry densities
- Primary and remedial cementing operations

FEATURES & BENEFITS

- Improves the cement's resistance to attacks from CO2 and H2S
- Provides minimal permeability and improved mechanical properties
- Allows fit-for-purpose designs for specific applications
- Zero Portlandite content reduces carbonation
- Lower heat evolution during setting (less shrinkage and cracking)
- Compatible with virually all API and ASTM cements and most American Cementing additives

OVERVIEW

IntegraBond™ PERMA are corrosion resistant cement systems designed specifically to maintain integrity and hydraulic sealing capacity in acidic environments caused by carbon dioxide (CO_2) and hydrogen sulfide (H_2S).

Whether in CO_2 sequestration projects, CO_2 EOR projects or from formations producing CO_2 or H_2S, these gases will attack and degrade normal cement systems. The degradation of typical Portland cements by CO_2 occurs due to carbonation of cementitious phases and subsequent leaching leaving a porous and weakened cement matrix. IntegraBond™ PERMA cement systems are designed to reduce carbonation by limiting cement permeability and portlandite phases and thus stop the degradation process and ensure long-term well integrity.

TYPICAL PROPERTIES

TYPICAL TEMPERATURE RANGE	Up To 450°F BHST
TYPICAL SLURRY DENSITY RANGE	12 To 20 lb/gal

API CLASS G COMPARISON

	SLURRY DENSITY	WATER PERMEABILITY	PORTLANDITE CONTENT	COMPRESSIVE STRENGTH	TENSILE STRENGTH
	ppg	microdarcy	%	psi	psi
API Class G	15.8	2.1	9.5	4,870	378
IntegraBond PERMA system	15.8	0.002	Not detectable	4,674	459
Class G with 4% BWOC bentonite	14	10.8	9.2	1,633	170
IntegraBond PERMA system	14	0.15	Not detectable	2,529	272

Notes

- Cement slurries were prepared according to API specification 10B using fresh water. Cement specimens were cured at 200°F and 3,000 psi for 72 hrs.
- Water permeabilities were measured under a confining pressure of 4,500 psi with a water injection pressure of 3,000 psi at 200°F .
- Quantities were determined by X-ray powder diffraction using the reference intensity ratio method.

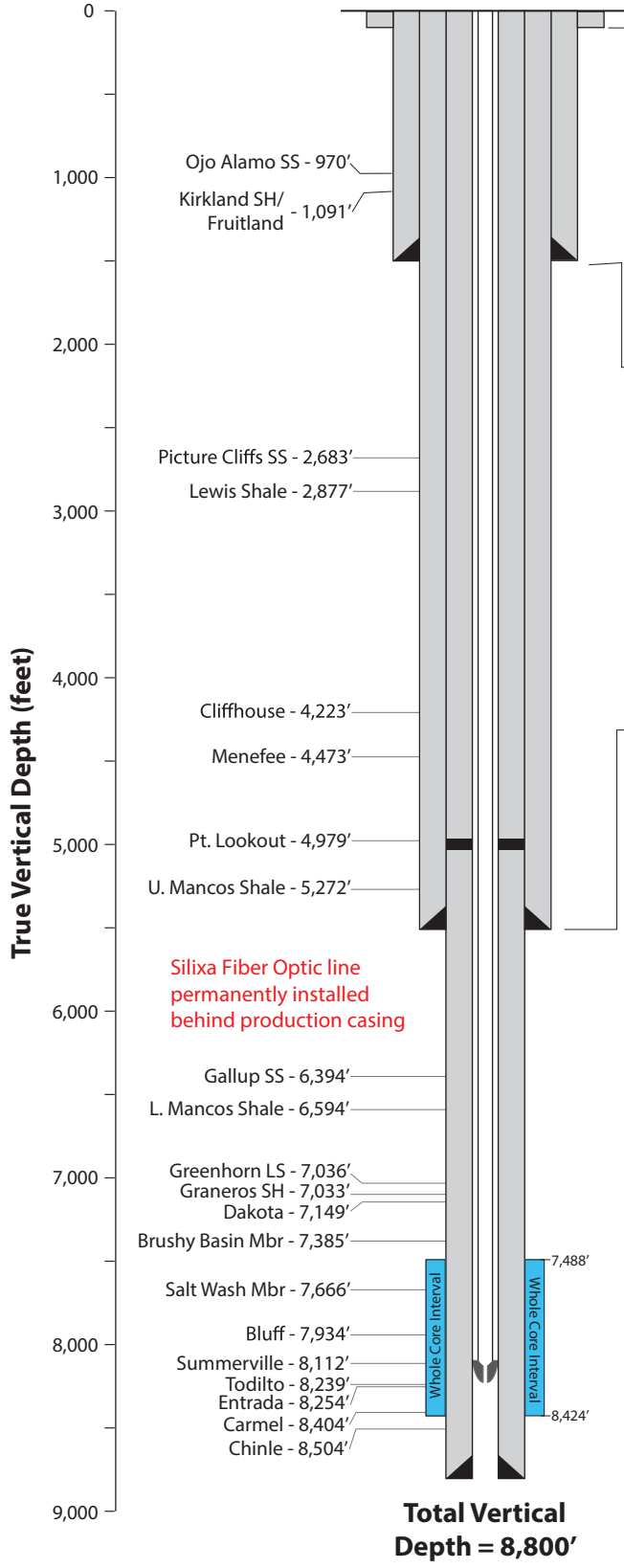
ATTACHMENT 3

SJB CARBONSAFE STRAT WELL #1
REVISED WELL SCHEMATIC

NEW MEXICO TECH
SCIENCE • ENGINEERING • RESEARCH UNIVERSITY

PROPOSED WELL SCHEMATIC
SJB Carbon Safe Well #1
SHL 36.8999, -108.0617 (NAD83)
API# 30-045-38272

GEOLEX INCORPORATED



20" CONDUCTOR PIPE TO 100' - Hole size: 30"

SURFACE CASING - Hole size: 17.25"
13.375", 54.5 #/ft., J-55, BTC from 0' to 1,500'

CEMENT
LEAD: 611 sks - ASTM Type I/II (2.23 yield) 12.5 ppg
TAIL: 552 sks - ASTM Type I/II (1.33 yield) 14.8 ppg

Circulate cement to surface

INTERMEDIATE CASING - Hole size: 12.25"
9.625", 40 #/ft., L80, BTC from 0' to 5,500'

CEMENT
LEAD: 596 sks - ATSM Type I/II (3.68 yield) 10.0 ppg
TAIL: 128 sks - Class G, 50:50 POZ (1.98 yield) 12.5 ppg

Circulate cement to surface

PRODUCTION CASING - Hole Size: 8.75"
5.5", 23 #/ft., L80, BTC from 0' to 5,000'
5.5", 23 #/ft., HP1-13CR, JFE Bear from 5,000' to 8,800'

CEMENT

Stage 1:
LEAD: 216 sks - ASTM Type I/II Cement 10.0 ppg
TAIL: 289 sks - IntegraBond Perm Class G 13.0 ppg

DVT/ECP @ 5,000'

Stage 2:
LEAD: 426 sks - ASTM Type I/II Cement 11.8 ppg
TAIL: 100 sks - ASTM Type I/II Cement 14.6 ppg

TUBING AND EQUIPMENT
2.875", 6.5 #/ft., L-80 from 0' to 8,200'

Packer set at approx. 8,150'

Inert annular fluid (diesel) with corrosion and biological inhibitors

Perforations in 5.5" Casing from Approximately 8,254' to 8,404'

All depths are approximate and subject to change based on drilling and geology encountered

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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

COMMENTS

Action 161750

COMMENTS

Operator: NEW MEXICO INSTITUTE OF MINING & TECHNOLOGY 801 Leroy Pl Socorro, NM 87801	OGRID: 15847
	Action Number: 161750
	Action Type: [C-103] NOI Change of Plans (C-103A)

COMMENTS

Created By	Comment	Comment Date
kpickford	Reviewed by PG	12/9/2022

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CONDITIONS

Created By	Condition	Condition Date
kpickford	Adhere to previous NMOCD Conditions of Approval	12/9/2022