

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

Form C-103  
 Revised July 18, 2013

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

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.)		WELL API NO. 30-015-45033
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other <input type="checkbox"/> INJECTION/SWD		5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
2. Name of Operator 3BEAR FIELD SERVICES, LLC		6. State Oil & Gas Lease No.
3. Address of Operator 1512 LARIMER ST., SUITE 540, DENVER, CO 80202		7. Lease Name or Unit Agreement Name DARK CANYON SWD (322422)
4. Well Location Unit Letter <u>P</u> : <u>1005</u> feet from the <u>SOUTH</u> line and <u>958</u> feet from the <u>EAST</u> line Section <u>23</u> Township <u>23S</u> Range <u>26E</u> NMPM <u>EDDY</u> County		8. Well Number <u>1</u> <u>300-1781</u>
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3252' GL		9. OGRID Number 372603
		10. Pool name or Wildcat SWD; DEVONIAN-SILURIAN

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P AND A <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
DOWNHOLE COMMINGLE <input type="checkbox"/>			
CLOSED-LOOP SYSTEM <input type="checkbox"/>	ACIDIZE/STEP RATE TEST <input type="checkbox"/>		
OTHER: <input checked="" type="checkbox"/>		OTHER: <input type="checkbox"/>	

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.

02/25/2019-Upon a successful MIT test, 3Bear Field Services, LLC is requesting an Initial Step Rate Test (SRT) to be conducted in the time frame of 03/04/2019-03/06/2019. Acid job will be completed before the Step Rate Test is conducted. Both the Acid Job and Step Rate Test will be completed by CUDD Energy Services. Procedure is attached. 72 hour notification will be given.

Spud Date: 01/13/2019      Rig Release Date: 02/23/2019

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

SIGNATURE Jennifer Elrod TITLE SR. REGULATORY TECH DATE 02/25/2019

Type or print name JENNIFER ELROD E-mail address: jelrod@chisholmenergy.com PHONE: 817-953-3728

**For State Use Only**  
 APPROVED BY: Rusty Klen TITLE Business Ops Sr A DATE 3-1-2019  
 Conditions of Approval (if any)



## **Acid Recommendation**

**3Bear Field Service**

**Dark Canyon SWD 1**

**Stage 1**

**Eddy County, New Mexico**

**2/13/2019**

**Prepared for: Mr. Kevin Burns**

**Proposal ID: 20190213153021glee**

**Version: 1.0**



**Contacts**

Thank you for the opportunity to provide this proposal for your consideration. If you have any questions or require further information please feel free to contact us any time. Cudd Energy Services appreciates the opportunity to provide this information and we look forward to being of service to you in the near future.

<b>Contact Information</b>			
	<b>Salesman</b>	<b>Operations</b>	<b>Service</b>
	Steve Morse	Brooks Connally	Hobbs District
Phone	432-570-5300	575-393-4111	
Cell			
Fax			
Email	smorse@cudd.com	bconnally@cudd.com	

The estimated cost is for the materials and/or services outlined within. The prices in this analysis are based on Cudd Energy Services current published prices and are effective for 30 days from the date of this analysis. Prices will be reviewed if the work is awarded after 30 days of this written analysis. The projected equipment, personnel, and material needs are estimates based on the information presently available to us. At the time the work is actually performed, conditions may require an increase or decrease in the equipment, personnel, and/or material required. Charges will be based upon prices in effect at the time the work is performed and the amount of equipment, personnel, and/or material actually used. Taxes, if any, are not included but will be added to the actual invoice.



**Summary**

Summary					
Treat Via	Max Anticipated Rate (bbls/min)	Estimated STP (psi)	Total Clean Volume (bbls)	Total Proppant (lbs)	Pumping Time (mins)
Tubing	40.0	3,761	2,095.2	0	52

Treatment Totals			
20% HCL	857 bbls		
Gelled 10# Brine	286 bbls		
Fresh Water	952 bbls		
<b>Total Pump Time (mins.)</b>	<b>52.4</b>		
<b>Frac Tanks Required</b>	<b>3 each, Customer Supplied</b>	<b>Acid Frac Tanks Required</b>	<b>2 each, Customer Supplied</b>
<b>Salt Water Required</b>	<b>350 bbls, Customer Supplied</b>	<b>Fresh Water Required</b>	<b>1000 bbls, Customer Supplied</b>
<b>Fresh Water Req'd for Acid Tanks</b>	<b>400 bbls, Customer Supplied</b>		

**Well Data**

**Stage 1**

Casing				
TopMD	BottomMD	OD	Weight	ID
0	8,400	9.625	40.000	8.835
8,400	12,515	7.625	39.000	6.625

Tubing				
TopMD	BottomMD	OD	Weight	ID
0	12,500	5.500	17.000	4.892

Perfs					
Top MD	Top TVD	Bottom MD	Bottom TVD	Hole Diameter	Hole Count

Well Data			
Injection Down	Tubing	Formation	Devonian
Frac Gradient (psi/ft)	0.540	BHFP (psi)	7,290
Open Hole Diameter (in)	6.250	Open Hole MD (ft)	13,500
Open Hole TVD (ft):	13,500		



**Pump Schedule**

**Stage 1**

Treatment Schedule											
Step #	Fluid	Stg. Type	Cln. Vol. (bbls)	Cln. Vol. (gals)	Ttl. Rate (bpm)	Proppant	Cum. Prop. (lbs)	Conc. (lb/gal)	Stg. Time (mins)	Cum. Time (mins)	Time Remaining (mins)
1	20% HCL	Acid	95.2	4,000	40.0		0	0.00	2.4	2.4	52.4
2	Gelled 10# Brine	Divert with 1,500 lbs Rock Salt	35.7	1,500	40.0		0	0.00	0.9	3.3	50.0
3	20% HCL	Acid	95.2	4,000	40.0		0	0.00	2.4	5.7	49.1
4	Gelled 10# Brine	Divert with 1,500 lbs Rock Salt	35.7	1,500	40.0		0	0.00	0.9	6.5	46.7
5	20% HCL	Acid	95.2	4,000	40.0		0	0.00	2.4	8.9	45.8
6	Gelled 10# Brine	Divert with 1,500 lbs Rock Salt	35.7	1,500	40.0		0	0.00	0.9	9.8	43.5
7	20% HCL	Acid	95.2	4,000	40.0		0	0.00	2.4	12.2	42.6
8	Gelled 10# Brine	Divert with 1,500 lbs Rock Salt	35.7	1,500	40.0		0	0.00	0.9	13.1	40.2
9	20% HCL	Acid	95.2	4,000	40.0		0	0.00	2.4	15.5	39.3
10	Gelled 10# Brine	Divert with 1,500 lbs Rock Salt	35.7	1,500	40.0		0	0.00	0.9	16.4	36.9
11	20% HCL	Acid	95.2	4,000	40.0		0	0.00	2.4	18.8	36.0
12	Gelled 10# Brine	Divert with 1,500 lbs Rock Salt	35.7	1,500	40.0		0	0.00	0.9	19.6	33.6
13	20% HCL	Acid	95.2	4,000	40.0		0	0.00	2.4	22.0	32.7
14	Gelled 10# Brine	Divert with 1,500 lbs Rock Salt	35.7	1,500	40.0		0	0.00	0.9	22.9	30.4
15	20% HCL	Acid	95.2	4,000	40.0		0	0.00	2.4	25.3	29.5
16	Gelled 10# Brine	Divert with 1,500 lbs Rock Salt	35.7	1,500	40.0		0	0.00	0.9	26.2	27.1
17	20% HCL	Acid	95.2	4,000	40.0		0	0.00	2.4	28.6	26.2
18	Fresh Water	Displace/Overflush	952.4	40,000	40.0		0	0.00	23.8	52.4	23.8



**Pump Schedule**

**Stage 1**

Blender Schedule											
Step #	Clean Rate (bpm)	Stg. Clean. (bbbls)	Cum. Clean (bbbls)	Blender Conc. (lb/gal)	Slurry Rate (bpm)	Stg. Slurry (bbbls)	Cum. Slurry (bbbls)	Prop Rate (lb/m)	Stg. Prop (lbs)	Cum. Prop (lbs)	Stg. Time (mins)
1	40.00	95.2	95.2	0.00	40.00	95.2	95.2	0	0	0	2.4
2	40.00	35.7	131.0	0.00	40.00	35.7	131.0	0	0	0	0.9
3	40.00	95.2	226.2	0.00	40.00	95.2	226.2	0	0	0	2.4
4	40.00	35.7	261.9	0.00	40.00	35.7	261.9	0	0	0	0.9
5	40.00	95.2	357.1	0.00	40.00	95.2	357.1	0	0	0	2.4
6	40.00	35.7	392.9	0.00	40.00	35.7	392.9	0	0	0	0.9
7	40.00	95.2	488.1	0.00	40.00	95.2	488.1	0	0	0	2.4
8	40.00	35.7	523.8	0.00	40.00	35.7	523.8	0	0	0	0.9
9	40.00	95.2	619.0	0.00	40.00	95.2	619.0	0	0	0	2.4
10	40.00	35.7	654.8	0.00	40.00	35.7	654.8	0	0	0	0.9
11	40.00	95.2	750.0	0.00	40.00	95.2	750.0	0	0	0	2.4
12	40.00	35.7	785.7	0.00	40.00	35.7	785.7	0	0	0	0.9
13	40.00	95.2	881.0	0.00	40.00	95.2	881.0	0	0	0	2.4
14	40.00	35.7	916.7	0.00	40.00	35.7	916.7	0	0	0	0.9
15	40.00	95.2	1,011.9	0.00	40.00	95.2	1,011.9	0	0	0	2.4
16	40.00	35.7	1,047.6	0.00	40.00	35.7	1,047.6	0	0	0	0.9
17	40.00	95.2	1,142.9	0.00	40.00	95.2	1,142.9	0	0	0	2.4
18	40.00	952.4	2,095.2	0.00	40.00	952.4	2,095.2	0	0	0	23.8



**Treatment Requirements**

**Treatment Requirements - All Stages**

**Fluids**

**36,000 gals 20% HCL**

**Additives per 1000 Gallons:**

- 1,000.00 gal 20% HCL Acid
- 2.00 gal I-117
- 0.50 gal MCS-376
- 3.00 gal FE-6

**12,000 gals Gelled 10# Brine**

**Additives per 1000 Gallons:**

- 4.00 gal SG-15G
- 1,000.00 lb Coarse rock salt

**40,000 gals Fresh Water**

**Additives per 1000 Gallons:**



**Pricing**

Price Estimate (Entire Job)							
Code	Description	Quantity	Units	Price	Discount %	Gross	Net Price
<b>Equipment</b>							
7158	Acid transport delivery charge	1.00	day	1,425.00	77%	1,425.00	327.75
7136	Flatbed trailer	1.00	day	1,425.00	77%	1,425.00	327.75
9130	Iron Truck, 1st 4 Hours	1.00	min	3,750.00	77%	3,750.00	862.50
<b>Materials</b>							
7808	20% HCL Acid	36,000.00	gal	6.25	77%	225,000.00	51,750.00
7453	I-117	72.00	gal	217.60	77%	15,667.20	3,603.46
4364	MCS-376	18.00	gal	100.00	77%	1,800.00	414.00
7644	FE-6	108.00	gal	43.50	77%	4,698.00	1,080.54
9485	SG-15G	48.00	gal	180.80	77%	8,678.40	1,996.03
7975	Coarse rock salt	12,000.00	lb	1.25	77%	15,000.00	3,450.00
<b>Mileage and Delivery</b>							
9180	Heavy Equipment Mileage	800.00	mi	9.10	77%	7,280.00	1,674.40
9186	Light Equipment Mileage	200.00	mi	8.84	77%	1,768.00	406.64
<b>Services</b>							
9129	Tank Blending prior to job	3.00	ea	750.00	77%	2,250.00	517.50
9066	31-40 BPM Computer Blender	1.00	ea	7,050.00	77%	7,050.00	1,621.50
7155	Acid Monitoring Equipment	1.00	job	1,500.00	77%	1,500.00	345.00
5246	1300 Hp, 0-5K, 1st 4hr	2.00	min	6,165.00	77%	12,330.00	2,835.90
5234	2200 Hp, 0-10K, 1st 4hr	4.00	min	18,750.00	77%	75,000.00	17,250.00
4200	Shower Trailer	1.00	day	750.00	0%	750.00	750.00
<b>Sub Totals</b>							
						Total:	\$385,371.60
						Discount:	(\$296,158.63)
						Net Price:	\$89,212.97

<b>Product Descriptions</b>
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**I-117:**

Acid corrosion inhibitor for use at temperatures from 200° F to 350° F.

**MCS-376:**

Low surface tension, non-emulsifying, micellar surfactant used to prevent water blockages, enhance formation wetting and to prevent emulsion of crude oils.

**FE-6:**

Organic acid that acts as iron reducing agent.

**SG-15G:**

Suspension of high yield guar in mineral oil. The hydrated polymer solution is crosslinkable



**STP Calculations**

Pipe Friction					
ID_Outer	OD_Inner	ID_Inner	Length	Fric. Gradient	Fric. PSI
4.892	0.000	0.000	12,500	180.000	2,250
6.625	0.000	0.000	15	40.719	1
6.250	0.000	0.000	985	54.569	54

Calculations	
Rate: 40.00	Perfs Top: TVD: 0.00, MD: 0.00
Perfs Bottom: TVD: 0.00, MD: 0.00	Frac Gradient: 0.540
Fluid Gradient: 0.432	BHFP: 7,290
HH: 5,834	Total Perf Friction Pressure: 0
Total Restriction Friction Pressure: 0	Total Pipe Friction Pressure: 2,304
Surface Line Friction Pressure: 0	STP: 3,761
Hydraulic Horsepower: 3,687	Average Friction Gradient: 170.693

**Notes**

**Shower Trailer**

A safety shower trailer is required by OSHA regulations. If one is not provided, CES will provide one at a charge of \$ 750.00 per day.



**STEP RATE  
PROPOSAL**

**3Bear Field Service  
Dark Canyon SWD 1  
Stage 1**

**Eddy County, New Mexico**

**2/13/2019**

**Prepared for: Mr. Kevin Burns**

**Proposal ID: 20190123110215glee**

**Version: 2.0 Rev 2-13-2019**



**Contacts**

Thank you for the opportunity to provide this proposal for your consideration. If you have any questions or require further information please feel free to contact us any time. Cudd Energy Services appreciates the opportunity to provide this information and we look forward to being of service to you in the near future.

<b>Contact Information</b>			
	<b>Salesman</b>	<b>Operations</b>	<b>Service</b>
	Steve Morse	Brooks Connally	Hobbs District
Phone	432-570-5300	575-393-4111	
Cell			
Fax			
Email	smorse@cudd.com	bconnally@cudd.com	

The estimated cost is for the materials and/or services outlined within. The prices in this analysis are based on Cudd Energy Services current published prices and are effective for 30 days from the date of this analysis. Prices will be reviewed if the work is awarded after 30 days of this written analysis. The projected equipment, personnel, and material needs are estimates based on the information presently available to us. At the time the work is actually performed, conditions may require an increase or decrease in the equipment, personnel, and/or material required. Charges will be based upon prices in effect at the time the work is performed and the amount of equipment, personnel, and/or material actually used. Taxes, if any, are not included but will be added to the actual invoice.



**Summary**

Summary					
Treat Via	Max Anticipated Rate (bbls/min)	Estimated STP (psi)	Total Clean Volume (bbls)	Total Proppant (lbs)	Pumping Time (mins)
Tubing	30.0	2,091	4,200.0	0	210

Treatment Totals	
Produced Water	4,200 bbls
Total Pump Time (mins.)	210.0



**Well Data**

**Stage 1**

<b>Casing</b>				
TopMD	BottomMD	OD	Weight	ID
0	8,400	9.625	40.000	8.835
8,400	12,515	7.625	39.000	6.625

<b>Tubing</b>				
TopMD	BottomMD	OD	Weight	ID
0	12,500	5.500	17.000	4.892

<b>Perfs</b>					
Top MD	Top TVD	Bottom MD	Bottom TVD	Hole Diameter	Hole Count

<b>Well Data</b>			
Injection Down	Tubing	Formation	Devonian
Frac Gradient (psi/ft)	0.540	BHFP (psi)	7,290
Open Hole Diameter (in)	6.250	Open Hole MD (ft)	13,500
Open Hole TVD (ft):	13,500		



**Pump Schedule**

**Stage 1**

Treatment Schedule											
Step #	Fluid	Stg. Type	Cin. Vol. (bbls)	Cin. Vol. (gals)	Ttd. Rate (bpm)	Proppant	Cum. Prop. (lbs)	Conc. (lb/gal)	Stg. Time (mins)	Cum. Time (mins)	Time Remaining (mins)
1	Produced Water	Step 1	300.0	12,600	10.0		0	0.00	30.0	30.0	210.0
2	Produced Water	Step 2	450.0	18,900	15.0		0	0.00	30.0	60.0	180.0
3	Produced Water	Step 3	540.0	22,680	18.0		0	0.00	30.0	90.0	150.0
4	Produced Water	Step 4	600.0	25,200	20.0		0	0.00	30.0	120.0	120.0
5	Produced Water	Step 5	660.0	27,720	22.0		0	0.00	30.0	150.0	90.0
6	Produced Water	Step 6	750.0	31,500	25.0		0	0.00	30.0	180.0	60.0
7	Produced Water	Step 7	900.0	37,800	30.0		0	0.00	30.0	210.0	30.0

Blender Schedule											
Step #	Clean Rate (bpm)	Stg. Clean. (bbls)	Cum. Clean (bbls)	Blender Conc. (lb/gal)	Slurry Rate (bpm)	Stg. Slurry (bbls)	Cum. Slurry (bbls)	Prop Rate (lb/m)	Stg. Prop (lbs)	Cum. Prop (lbs)	Stg. Time (mins)
1	10.00	300.0	300.0	0.00	10.00	300.0	300.0	0	0	0	30.0
2	15.00	450.0	750.0	0.00	15.00	450.0	750.0	0	0	0	30.0
3	18.00	540.0	1,290.0	0.00	18.00	540.0	1,290.0	0	0	0	30.0
4	20.00	600.0	1,890.0	0.00	20.00	600.0	1,890.0	0	0	0	30.0
5	22.00	660.0	2,550.0	0.00	22.00	660.0	2,550.0	0	0	0	30.0
6	25.00	750.0	3,300.0	0.00	25.00	750.0	3,300.0	0	0	0	30.0
7	30.00	900.0	4,200.0	0.00	30.00	900.0	4,200.0	0	0	0	30.0



**Treatment Requirements**

**Treatment Requirements - All Stages**

**Fluids**

**176,400 gals Produced Water**

**Additives per 1000 Gallons:**



**Pricing**

Price Estimate (Entire Job)							
Code	Description	Quantity	Units	Price	Discount %	Gross	Net Price
<b>Equipment</b>							
9130	Iron Truck, 1st 4 Hours	1.00	min	3,750.00	75%	3,750.00	937.50
<b>Mileage and Delivery</b>							
9180	Heavy Equipment Mileage	800.00	mi	9.10	75%	7,280.00	1,820.00
9186	Light Equipment Mileage	200.00	mi	8.84	75%	1,768.00	442.00
<b>Services</b>							
7155	Acid Monitoring Equipment	1.00	job	1,500.00	75%	1,500.00	375.00
9030	Combo Unit, 4 hr. Min	1.00	ea	8,250.00	75%	8,250.00	2,062.50
5246	1300 Hp, 0-5K, 1st 4hr	2.00	min	6,165.00	75%	12,330.00	3,082.50
5234	2200 Hp, 0-10K, 1st 4hr	2.00	min	18,750.00	75%	37,500.00	9,375.00
4200	Shower Trailer	1.00	day	750.00	0%	750.00	750.00
<b>Sub Totals</b>							
						Total:	\$73,128.00
						Discount:	(\$54,283.50)
						Net Price:	\$18,844.50



**STP Calculations**

Pipe Friction					
ID_Outer	OD_Inner	ID_Inner	Length	Fric. Gradient	Fric. PSI
4.892	0.000	0.000	12,500	49.625	620
6.625	0.000	0.000	15	10.950	0
6.250	0.000	0.000	985	14.623	14

Calculations	
Rate: 30.00	Perfs Top: TVD: 0.00, MD: 0.00
Perfs Bottom: TVD: 0.00, MD: 0.00	Frac Gradient: 0.540
Fluid Gradient: 0.432	BHFP: 7,290
HH: 5,834	Total Perf Friction Pressure: 0
Total Restriction Friction Pressure: 0	Total Pipe Friction Pressure: 635
Surface Line Friction Pressure: 0	STP: 2,091
Hydraulic Horsepower: 1,538	Average Friction Gradient: 47.028



**Notes**

**Shower Trailer**

A safety shower trailer is required by OSHA regulations. If one is not provided, CES will provide one at a charge of \$ 750.00 per day.