

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

Ken McQueen
Cabinet Secretary

Matthias Sayer
Deputy Cabinet Secretary

David R. Catanach, Division Director
Oil Conservation Division



New Mexico Oil Conservation Division approval and conditions listed below are made in accordance with OCD Rule 19.15.7.11 and are in addition to the actions approved by BLM on the following 3160-3 APD form.

Operator Signature Date: 9/28/2016

Well information:

Operator Dugan Production Well Name and Number Clay # 001

API# 30-045-35799, Section 27, Township 23 N/S, Range 10 E/W

Conditions of Approval: (See the below checked and handwritten conditions)

- ☒ Notify Aztec OCD 24hrs prior to casing & cement.
- ☐ Hold C-104 for directional survey & "As Drilled" Plat
- ☒ Hold C-104 for NSL, NSP, DHC depending on deviation report
- ☐ Spacing rule violation. Operator must follow up with change of status notification on other well to be shut in or abandoned
- ☐ Regarding the use of a pit, closed loop system or below grade tank, the operator must comply with the following as applicable:
 - A pit requires a complete C-144 be submitted and approved prior to the construction or use of the pit, pursuant to 19.15.17.8.A
 - A closed loop system requires notification prior to use, pursuant to 19.15.17.9.A
 - A below grade tank requires a registration be filed prior to the construction or use of the below grade tank, pursuant to 19.15.17.8.C
- ☒ Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
- ☒ Submit Gas Capture Plan form prior to spudding or initiating recompletion operations
- ☒ Regarding Hydraulic Fracturing, review EPA Underground Injection Control Guidance 84
- ☒ Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.
- ☒ Well-bore communication is regulated under 19.15.29 NMAC. This requires well-bore Communication to be reported in accordance with 19.15.29.8.

Charles L. Sayer
NMOCD Approved by Signature

8-28-2017
Date

RECEIVED

SEP 29 2016

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

Farmington Field Office
Bureau of Land Management

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM-109403
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: <input checked="" type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator Dugan Production Corp.		8. Lease Name and Well No. Clay #1
3a. Address 709 East Murray Drive, Farmington, NM 87401		9. API Well No. 30-045- 35799
3b. Phone No. (include area code) 505-325-1821		10. Field and Pool, or Exploratory Basin Fruitland Coal
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface <u>D</u> 1,102' FNL & 661' FWL, LAT: 36.202163 N; LONG: 107.893415 W NAD 1983 At proposed prod. zone Same as above.		11. Sec., T. R. M. or Blk. and Survey or Area Sect.27, T23N, R10W NMPM
14. Distance in miles and direction from nearest town or post office* 40-miles southeast from Bloomfield, New Mexico		12. County or Parish San Juan
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 661-Feet		13. State NM
16. No of acres in lease 1760.0-acres		17. Spacing Unit dedicated to this well 320.0 Acres - N/2
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. No other wells.		20. BLM/BIA Bond No. in file NZS349071 / NZS348744
21. Elevations (Show whether DF, KDB, RT, GL, etc.) GL-6679'		22. Approximate date work will start* ASAP
23. Estimated duration 7-days		24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be requested by the BLM. |

25. Signature <i>Kurt Fagrelis</i>	Name (Printed/Typed) Kurt Fagrelis	Date September 28, 2016
Title VP Land & Exploration		
Approved by (Signature) <i>[Signature]</i>	Name (Printed/Typed)	Date 8/2/17
Title VP Land & Exploration AFM	Office FFO	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS"

District I
1625 N. French Drive, Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II
811 S. First Street, Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Drive, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

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

AMENDED REPORT
OIL CONS. DIV DIST. 3

AUG 10 2017

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045-35199		*Pool Code 71629	*Pool Name BASIN FRUITLAND COAL
*Property Code 319474	*Property Name CLAY		*Well Number 1
*GRID No. 006515	*Operator Name DUGAN PRODUCTION CORPORATION		*Elevation 6679'

¹⁰ Surface Location

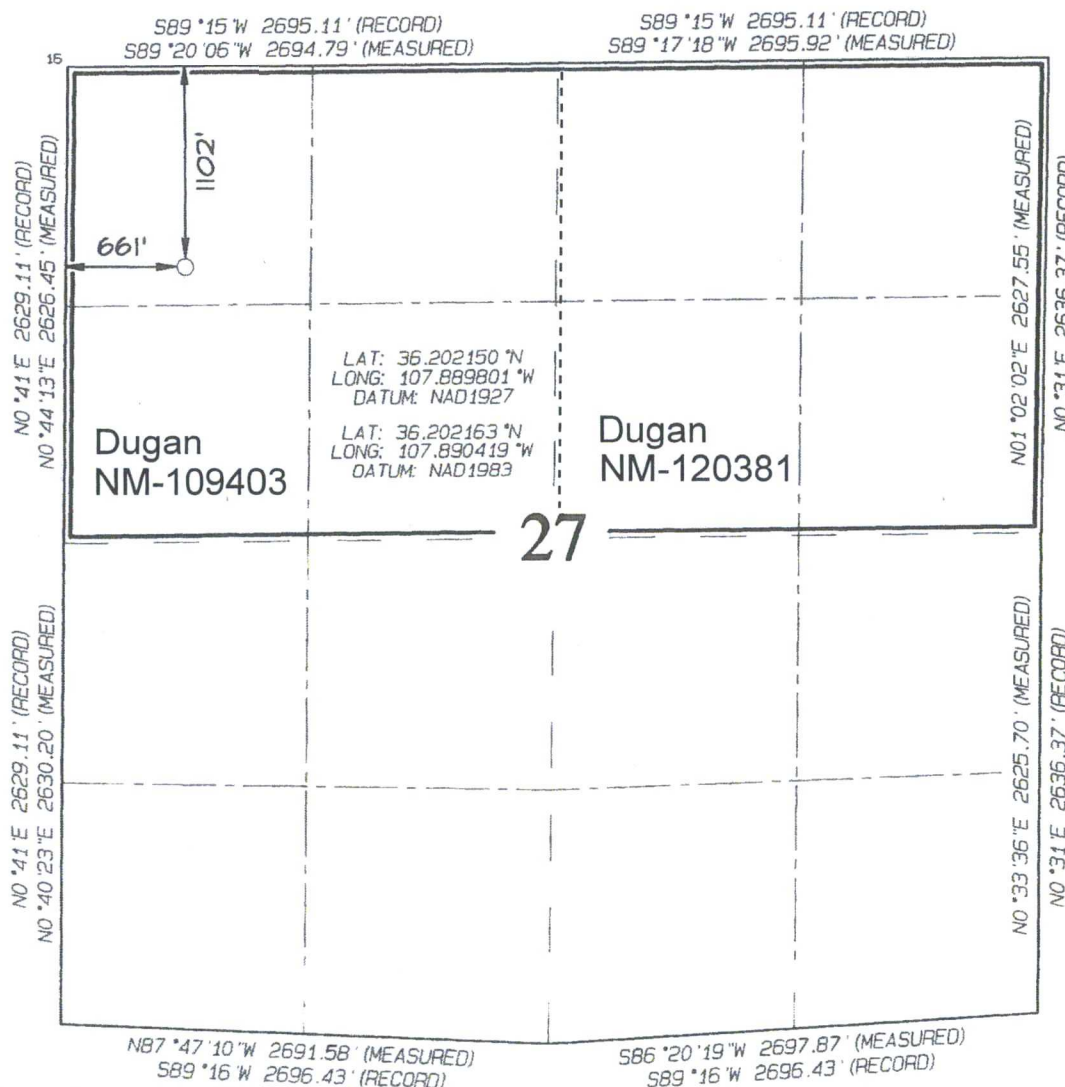
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	1669	East/West line	County
D	27	23N	10W		1102	NORTH	661	WEST	SAN JUAN

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

¹² Dedicated Acres 320.0 Acres - N/2	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



¹⁷ OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom-hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Kurt Fagrellius 9/28/2016
Signature Date
Kurt Fagrellius
Printed Name
kfagrellius@duganproduction.com
E-mail Address

¹⁸ SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date Revised: SEPTEMBER 6, 2016
Date of Survey: JULY 10, 2016

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

EXHIBIT B.

Operations Plan

Clay #1

Lease #NM-109403

NWNW of Section 27, T23N, R10W

1,102' FNL and 661' FWL

San Juan County, New Mexico

1. APPROXIMATE FORMATION TOPS:

Kirtland	Surface
Fruitland	565'
Pictured Cliffs	850'
Total Depth	1000'

Catch samples every 10 feet from 750-feet to total depth.

2. LOGGING PROGRAM:

Run cased hole GR-CCL-CNL from total depth to surface.

3. CASING PROGRAM:

Hole Size	Casing Size	Wt./ft.	Setting Depth	Grade and Condition
12-1/4"	8-5/8"	24#	120'	J-55
7-7/8"	5-1/2"	15.5#	1000'	J-55

Plan to drill a 12-1/4" hole and set 120' of 8-5/8" OD, 24#, J-55 surface casing. Then plan to drill a 7-7/8" hole to total depth with gel-water mud program to test the Fruitland Coal. 5-1/2", 15.5#, J-55 production casing will be run and cemented. Cased hole GR-CCL-CNL log will be run. Productive zone will be perforated and fractured. After frac, the well will be cleaned out and production equipment will be installed.

4. CEMENTING PROGRAM:

Surface: Cement to surface with 85 sks (100 Cu.ft) Haliburton Halcem cement system (Class G cement) (15.8 lbs/gal, 1.174 Cu.ft/sk). Circulate cement to surface.

Production: Cement w/ 93 sks, 182.3 Cu.ft, Haliburton Varicem Cement blend, (12.4#/gal, 1.96 cu.ft/sk) (Class G w/ 35% Poz, 6% bwoc bentonite, 5 lb/sk Kol-seal, 1/8 lb/sk Pol-E-Flake & 1 % CaCl₂) tail w/100 sks, 137 Cu.ft, Halliburton HalCem cement blend, (13.5 #/gal, 1.37 cu.ft/sk, 5.79 gals/sk mix water) (Class G w/ 50% poz, 1% bwoc bentonite, 5 lb/sk Kol-seal, 0.125 lb/sk Pol-E-Flake, 0.1% bwoc CFR3 and 2% CaCl₂). Total Cement volume: 319.3 Cu.ft, 57 bbls. Circulate cement to surface.

An adequate spacer will be pumped ahead of the cement slurry to help prevent mud contamination of the cement. An adequate number of casing centralizers will be run through useable water zones to ensure that casing is centralized through these zones. The adequate number of centralizers will be determined based on API standards. Centralizers to impart a swirling action around the casing will be used just below and into the base of the lowest usable water zone. These devices will assist mud displacement, increase cement bonding potential and create an effective hydraulic seal. A chronological log will be kept which records the pump rate, pressure, slurry density and slurry volume for the cement job. The log will be sent to the BLM after completion of the job.

5. **Maximum Anticipated Bottom Hole Pressure** - 300 psi.
6. **Drilling Fluid** - will be fresh water with bentonite 8.9#/gal.
7. **WELLHEAD EQUIPMENT:**
 - Huber 8-5/8"x5-1/2" casing head, 1000# WP, tested to 2000#.
 - Huber 5-1/2"x2-7/8" tubing head, 1000# WP, tested to 2000#.
8. **Blow-Out Preventer Equipment (BOPE): Exhibit 8.**
 - Annular preventer, double ram, or 2 rams with one being blind and one being a pipe ram.
 - Kill line (2" minimum)
 - 1 kill line valve (2" minimum)
 - 1 choke line valve
 - 2 adjustable chokes
 - Upper kelly cock valve with handle available.
 - Safety valve and subs to fit all drill string connections in use.
 - Pressure gauge on choke manifold.
 - 2" minimum choke line.
 - Fill-up line.

Working pressure for all BOPE will be 2,000 psi or greater. Will test BOPE (blind rams, pipe rams, choke manifold and surface casing) separately. Each test will include a low pressure test to 250-psig held for five minutes and a high pressure test to 800-psig held for thirty minutes (with no more than a 10-percent pressure drop during the duration of the tests). If a 10-percent or greater pressure drop occurs; a packer will be run to

construction site with trucks over existing roads in the area.

✓ 7. Methods for Handling Wastes –

A. Closed loop drilling system will be used to contain all liquids and solids waste associated with drilling operations is shown in **Exhibit 6**.

1. System will be designed and maintained to prevent contamination of fresh water and protect wildlife, public health and the environment.
2. Stockpile top-soil prior to leveling well pad and digging pit. The top-soil will be kept separate from sub-soil and used as a final cover for interim reclamation of the pit and well pad.
3. A pit approximately 45-feet long by 12-feet wide and 3-feet deep with vertical sidewalls will be constructed. The pit will be constructed with a firm foundation and interior slopes, smooth and free of rocks or sharp edges.
4. An open-top steel tank approximately 40-feet long by 10-feet wide and 4-feet deep with internal baffles will be set in the pit and used to separate solids from the drilling fluids.
5. An upright, 400-bbl tank will be set adjacent to the open top steel tank and used for circulation and storage of drilling fluids.
6. An upright, 400-bbl tank will be set adjacent to the circulation/storage tank and used for storage of fresh water.
7. Diversionary berms, ditches or sloping will be constructed to prevent surface run-off from flowing into pit.
8. Sub-surface soil will be used to construct a 1-foot tall berm around the perimeter of the pit to prevent surface run-off water from entering the pit.

B. Solids – all accumulated solids (cuttings) in the open-top steel tank and circulating tank will be removed by a vacuum truck and hauled daily to the Industrial Ecosystem Inc. (IEI) land farm for disposal.

C. Liquids – all liquids (drilling fluids) from the closed loop system will be transferred to the next well in the drilling program for re-use or hauled to Basin Disposal for disposal. All flow back water recovered during completion operations will be collected in a steel storage tank and disposed of at either Basin Disposal or IEI waste disposal facilities.

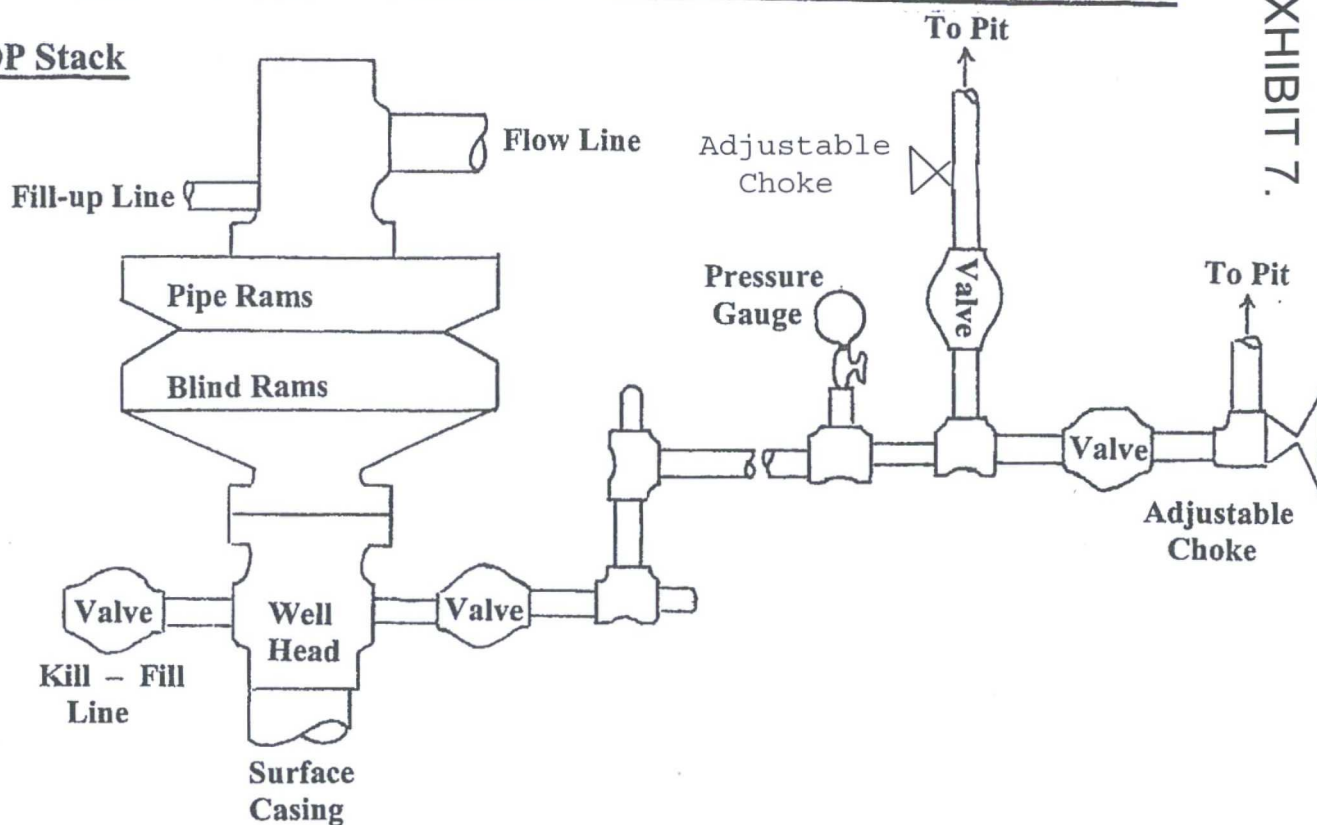
D. Spills – any spills of non-freshwater liquid will be reported to the Farmington Field Office of the BLM and the New Mexico Oil Conservation District office within 48-hours. The spill will be cleaned up immediately and transferred to either Basin Disposal or the IEI waste disposal facilities.

E. Sewage – portable, toilets will be used to collect and contain human sewage. Toilets will be onsite during drilling and completion activity. The toilet holding tanks will be pumped as needed and the contents will be disposed at an approved sewage disposal facility.

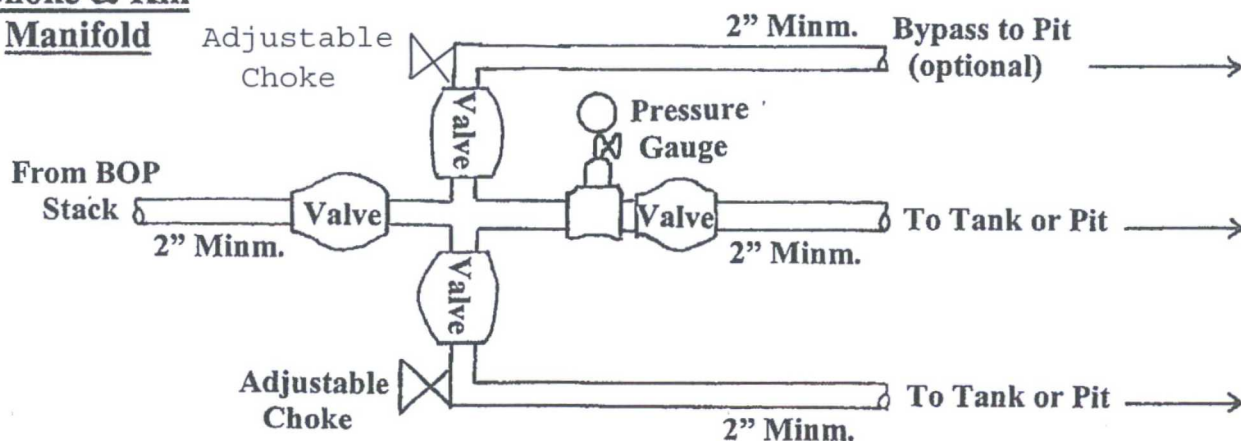
Well Control Equipment Schematic for 2,000 psi BOP

EXHIBIT 7.

BOP Stack



Choke & Kill Manifold



Working Pressure for all equipment is 2,000 psi or greater

DUGAN PRODUCTION CORP.

Clay #1

Directions from the Intersection of US Hwy 550 & US Hwy 64
in Bloomfield, NM to Dugan Production Corporation Clay #1

1102' FNL & 661' FWL, Section 27, T23N, R10W, N.M.P.M., San Juan County, NM

Latitude: 36.202163°N Longitude: 107.890419°W Datum: NAD1983

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Southerly on US Hwy 550 for 27.9 miles to State Hwy #57 @ Mile Marker 123.4;

Go Right (South-westerly) on State Hwy #57 for 3.1 miles to fork in roadway;

Go Left (South-westerly) remaining on State Hwy #57 for 2.6 miles to fork in roadway;

Go Left (Southerly) which is straight remaining on State Hwy #57 for 4.2 miles to fork in roadway;

Go Left (Southerly) which is straight remaining on State Hwy #57 for 2.1 miles to fork in roadway;

Go Right (South-easterly) which is straight remaining on State Hwy #57 for 0.1 miles to begin proposed access on right-hand side of State Hwy #57 which continues for 3627.5' to staked Dugan Clay #1 location.