

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

Form C-144  
June 1, 2004

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

For drilling and production facilities, submit to appropriate NMOCD District Office.  
For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☐ No ☒

Type of action: Registration of a pit or below-grade tank ☐ Closure of a pit or below-grade tank ☒

Operator: Dugan Production Corp. Telephone: (505)325-1821 e-mail address: martyfoutz@duganproduction.com  
Address: P. O. Box 420, Farmington, NM 87499-0420  
Facility or well name: Big Field #9 API #: 30-045-32258 U/L or Qtr/Qtr L Sec 15 T 30N R 14W  
County: San Juan Latitude 36.81248 Longitude 108.302899 NAD: 1927 ☒ 1983 ☐ Surface Owner Federal ☒ State ☐ Private ☐ Indian ☐

Pit

Type: Drilling ☒ Production ☐ Disposal ☐

Workover ☐ Emergency ☐

Lined ☐ Unlined ☒

Liner type: Synthetic ☒ Thickness      mil Clay ☐

Pit Volume ±4800 bbl

Below-grade tank

Volume:      bbl Type of fluid:     

Construction material:     

Double-walled, with leak detection? Yes ☐ If not, explain why not.     

Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)

Less than 50 feet	(20 points)
50 feet or more, but less than 100 feet	(10 points)
100 feet or more	( 0 points) 0

Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)

Yes	(20 points)
No	( 0 points) 0

Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)

Less than 200 feet	(20 points)
200 feet or more, but less than 1000 feet	(10 points)
1000 feet or more	( 0 points) 20

Ranking Score (Total Points) 20

If this is a pit closure: (1) attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: (check the onsite box if you are burying in place) onsite ☒ offsite ☐ If offsite, name of facility     . (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☒ Yes ☐ If yes, show depth below ground surface      ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

Additional comments: ±150' x 45' x 4' unlined drilling reserve pit, center located 72 feet North 65° East of wellhead. Pit contained drill mud and cuttings, recently pumped of free liquids. Blagg Engineering Inc. collected 5-point composite sample of pit contents for laboratory testing of TPH, BTEX and cations/anions. Blagg's field report and Envirotech's lab reports presenting TPH, BTEX and cation/anion test results are attached. On 4-4-05, the drilling reserve pit was filled in using the material excavated. The pit surface was contoured and although not initially vegetated as a result of being mostly shale, the pit area will be seeded in early spring.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Date: April 5, 2005

Printed Name/Title Marty Foutz, Production Foreman

Signature *Marty Foutz*

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval:

Printed Name/Title DEPUTY OIL & GAS INSPECTOR, DIST. #8

Signature *Denny Foutz*

Date: APR - 5 2005

CLIENT: <u>DUGAN</u>	<b>BLAGG ENGINEERING, INC.</b> <b>P.O. BOX 87, BLOOMFIELD, NM 87413</b> <b>(505) 632-1199</b>	LOCATION NO: _____ COCR NO: _____																																											
<b>FIELD REPORT: PIT CLOSURE VERIFICATION</b>		PAGE No: <u>1</u> of <u>1</u>																																											
LOCATION: NAME: <u>BIG FIELD SWD</u> WELL#: <u>9</u> TYPE: <u>DRUG RESERVE</u> QUAD/UNIT: <u>L SEC: 15 TWP: 30N RING: 14W PM: NM CNTY: SJ ST: NM</u> QTR/FOOTAGE: <u>1960 FSL x 660 FWL</u> CONTRACTOR: _____		DATE STARTED: <u>3-18-05</u> DATE FINISHED: <u>3-18-05</u> ENVIRONMENTAL SPECIALIST: <u>JCB</u>																																											
EXCAVATION APPROX. <u>NA</u> FT. x <u>NA</u> FT. x <u>NA</u> FT. DEEP. CUBIC YARDAGE: <u>—</u>																																													
DISPOSAL FACILITY: _____ REMEDIATION METHOD: _____																																													
LAND USE: <u>BLM</u> LEASE: <u>NM-10561</u> FORMATION: <u>ENTRADA</u>																																													
FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY <u>72</u> FT. <u>N65E</u> FROM WELLHEAD.																																													
DEPTH TO GROUNDWATER: <u>&gt;100</u> NEAREST WATER SOURCE: <u>&gt;1000</u> NEAREST SURFACE WATER: <u>&lt; 200</u>																																													
NMOCB RANKING SCORE: <u>20</u> NMOCB TPH CLOSURE STD: <u>100</u> PPM																																													
SOIL AND EXCAVATION DESCRIPTION: <div style="float: right; border: 1px solid black; padding: 2px; margin-top: 5px;">           OVM CALIB. READ. = _____ ppm            OVM CALIB. GAS = _____ ppm RF = 0.52            TIME: _____ am/pm DATE: _____         </div>																																													
SOIL TYPE: SAND / SILTY SAND / SILT / SILTY CLAY / CLAY / GRAVEL / OTHER <u>CUTTINGS + MUD</u> SOIL COLOR: _____ COHESION (ALL OTHERS) <u>NON COHESIVE</u> / SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE CONSISTENCY (NON COHESIVE SOILS): <u>LOOSE</u> / FIRM / DENSE / VERY DENSE PLASTICITY (CLAYS): NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC DENSITY (COHESIVE CLAYS & SILTS): SOFT / FIRM / STIFF / VERY STIFF / HARD MOISTURE: DRY / SLIGHTLY MOIST / MOIST / WET <u>SATURATED</u> / SUPER SATURATED DISCOLORATION/STAINING OBSERVED: YES / <u>NO</u> EXPLANATION: <u>NO SHREEN</u> HC ODOR DETECTED: YES / <u>NO</u> EXPLANATION: _____ SAMPLE TYPE: GRAB / COMPOSITE - # OF PTS. _____ ADDITIONAL COMMENTS: <u>150' x 45' x 4' ± DEEP EARTHEN DRILLING RESERVE</u> <u>PIT. PER NMOCB REQUIREMENT, COLLECT 5-POINT COMPOSITE FOR LAB ANALYSIS.</u>																																													
FIELD 418.1 CALCULATIONS																																													
SCALE	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>SAMP. TIME</th> <th>SAMP. ID</th> <th>LAB NO.</th> <th>WEIGHT (g)</th> <th>mL FREON</th> <th>DILUTION</th> <th>READING</th> <th>CALC. (ppm)</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>		SAMP. TIME	SAMP. ID	LAB NO.	WEIGHT (g)	mL FREON	DILUTION	READING	CALC. (ppm)																																			
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0 FT ↑ N 1	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <b>PIT PERIMETER</b>  </div> <div style="width: 45%;"> <b>OVM READING</b>  <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>SAMPLE ID</th> <th>FIELD HEADSPACE (ppm)</th> </tr> </thead> <tbody> <tr><td>1 @</td><td> </td></tr> <tr><td>2 @</td><td> </td></tr> <tr><td>3 @</td><td> </td></tr> <tr><td>4 @</td><td> </td></tr> <tr><td>5 @</td><td> </td></tr> <tr><td>5-POINT</td><td>—</td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>   <b>LAB SAMPLES</b>  <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>SAMPLE ID</th> <th>ANALYSIS</th> <th>TIME</th> </tr> </thead> <tbody> <tr> <td>5-POINT</td> <td>TPH</td> <td>1106</td> </tr> <tr> <td> </td> <td>BTEX</td> <td> </td> </tr> <tr> <td> </td> <td>CATION/ANION</td> <td> </td> </tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table> </div> </div>		SAMPLE ID	FIELD HEADSPACE (ppm)	1 @		2 @		3 @		4 @		5 @		5-POINT	—									SAMPLE ID	ANALYSIS	TIME	5-POINT	TPH	1106		BTEX			CATION/ANION										
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<b>PIT PROFILE</b> <div style="height: 150px; border: 1px solid black;"></div>																																													
P.D. = PIT DEPRESSION; B.G. = BELOW GRADE; B = BELOW T.H. = TEST HOLE; ~ = APPROX.; T.B. = TANK BOTTOM																																													
TRAVEL NOTES: CALLOUT: <u>3/17/05</u> ONSITE: <u>3/18/05 1045</u>																																													

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

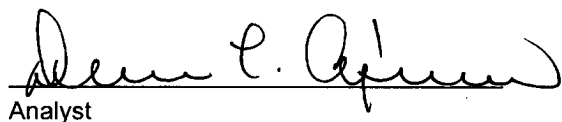
Client:	Blagg / Dugan	Project #:	94034-010
Sample ID:	5-Pt. Composite	Date Reported:	03-21-05
Laboratory Number:	32409	Date Sampled:	03-18-05
Chain of Custody No:	13697	Date Received:	03-18-05
Sample Matrix:	Soil	Date Extracted:	03-18-05
Preservative:	Cool	Date Analyzed:	03-21-05
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

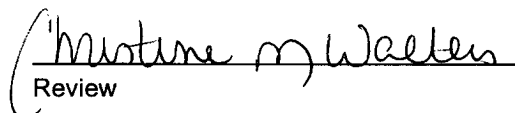
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	1.0	0.1
Total Petroleum Hydrocarbons	1.0	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Big Field SWD #9 Reserve Pit.**

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / Dugan	Project #:	94034-010
Sample ID:	5-Pt. Composite	Date Reported:	03-21-05
Laboratory Number:	32409	Date Sampled:	03-18-05
Chain of Custody:	13697	Date Received:	03-18-05
Sample Matrix:	Soil	Date Analyzed:	03-21-05
Preservative:	Cool	Date Extracted:	03-18-05
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	4.5	2.1
Toluene	4.2	1.8
Ethylbenzene	4.1	1.7
p,m-Xylene	35.3	1.5
o-Xylene	10.9	2.2
Total BTEX	59.0	


ND - Parameter not detected at the stated detection limit.

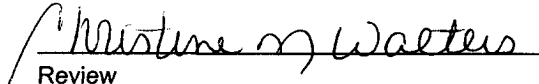
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	98.0 %
	1,4-difluorobenzene	98.0 %
	Bromochlorobenzene	98.0 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Big Field SWD #9 Reserve Pit.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

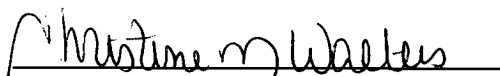
## CATION / ANION ANALYSIS

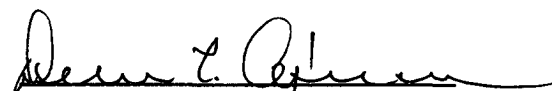
Client:	Blagg / Dugan	Project #:	94034-010
Sample ID:	5-Pt. Composite	Date Reported:	03-22-05
Laboratory Number:	32409	Date Sampled:	03-18-05
Chain of Custody:	13697	Date Received:	03-18-05
Sample Matrix:	Solid Extract	Date Extracted:	03-21-05
Preservative:	Cool	Date Analyzed:	03-22-05
Condition:	Cool & Intact		

Parameter	Analytical Result	Units	Units
pH	10.23	s.u.	
Conductivity @ 25° C	2,480	umhos/cm	
Total Dissolved Solids @ 180C	1,340	mg/L	
Total Dissolved Solids (Calc)	1,360	mg/L	
SAR	22.0	ratio	
Total Alkalinity as CaCO3	51.4	mg/L	
Total Hardness as CaCO3	81.0	mg/L	
Bicarbonate as HCO3	51.4	mg/L	0.84 meq/L
Carbonate as CO3	<0.1	mg/L	0.00 meq/L
Hydroxide as OH	<0.1	mg/L	0.00 meq/L
Nitrate Nitrogen	0.2	mg/L	0.00 meq/L
Nitrite Nitrogen	0.002	mg/L	0.00 meq/L
Chloride	438	mg/L	12.36 meq/L
Fluoride	0.7	mg/L	0.04 meq/L
Phosphate	0.90	mg/L	0.03 meq/L
Sulfate	395	mg/L	8.22 meq/L
Iron	0.013	mg/L	0.00 meq/L
Calcium	32.4	mg/L	1.62 meq/L
Magnesium	<0.01	mg/L	0.00 meq/L
Potassium	3.04	mg/L	0.08 meq/L
Sodium	455	mg/L	19.79 meq/L
Cations			21.49 meq/L
Anions			21.49 meq/L
Cation/Anion Difference			0.01%

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.  
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Big Field SWD #9 Reserve Pit.**

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## CATION / ANION ANALYSIS

Client: Blagg / Dugan  
Sample ID: Background  
Laboratory Number: 32451  
Chain of Custody: 13755  
Sample Matrix: Soil Extract  
Preservative: Cool  
Condition: Cool & Intact

Project #: 94034-010  
Date Reported: 03-29-05  
Date Sampled: 03-28-05  
Date Received: 03-28-05  
Date Extracted: 03-28-05  
Date Analyzed: 03-29-05

Parameter	Analytical Result	Units		
pH	6.22	s.u.		
Conductivity @ 25° C	410	umhos/cm		
Total Dissolved Solids @ 180C	162	mg/L		
Total Dissolved Solids (Calc)	150	mg/L		
SAR	2.8	ratio		
Total Alkalinity as CaCO3	58.8	mg/L		
Total Hardness as CaCO3	32.7	mg/L		
Bicarbonate as HCO3	58.8	mg/L	0.96	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	1.4	mg/L	0.02	meq/L
Nitrite Nitrogen	0.002	mg/L	0.00	meq/L
Chloride	15.6	mg/L	0.44	meq/L
Fluoride	0.34	mg/L	0.02	meq/L
Phosphate	7.50	mg/L	0.24	meq/L
Sulfate	36.5	mg/L	0.76	meq/L
Iron	0.073	mg/L	0.00	meq/L
Calcium	12.5	mg/L	0.62	meq/L
Magnesium	1.47	mg/L	0.12	meq/L
Potassium	0.23	mg/L	0.01	meq/L
Sodium	38.8	mg/L	1.69	meq/L
Cations			2.44	meq/L
Anions			2.44	meq/L
Cation/Anion Difference			0.05%	

Reference: U.S.E.P.A., 800/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.  
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: Big Field SWD #9 5-Point Composite. - to present background of  
Soil adjacent to reservoir pit.

Christine M. Walker  
Analyst

Debra C. Agnew  
Review

3/28/05

DUGAN

BIG FIELD SWD #9

BACK Ground SMOOTH

Collect 5 pc. composite from Ground  
Surface off well head, as follows:  
(00-00 AM)

52 YARDS S82W

90 YARDS S20W

71 YARDS S24E

71 YARDS N67E

86 YARDS N18W

Submit to Bureau for Carbon/Am-14