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NMOCD ARTESIA

Form C-102

Revised October 15, 2009

Submit one copy to appropriate

District Office

☐ AMENDED REPORT

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-39214		Pool Code 97056		Pool Name Hackberry Bone Spring, North	
Property Code 39219		Property Name WEST SHUGART 32 STATE COM			Well Number 2H
OGRID No. 4378		Operator Name CHI OPERATING, INC.			Elevation 3574.1

¹⁰ Surface Location

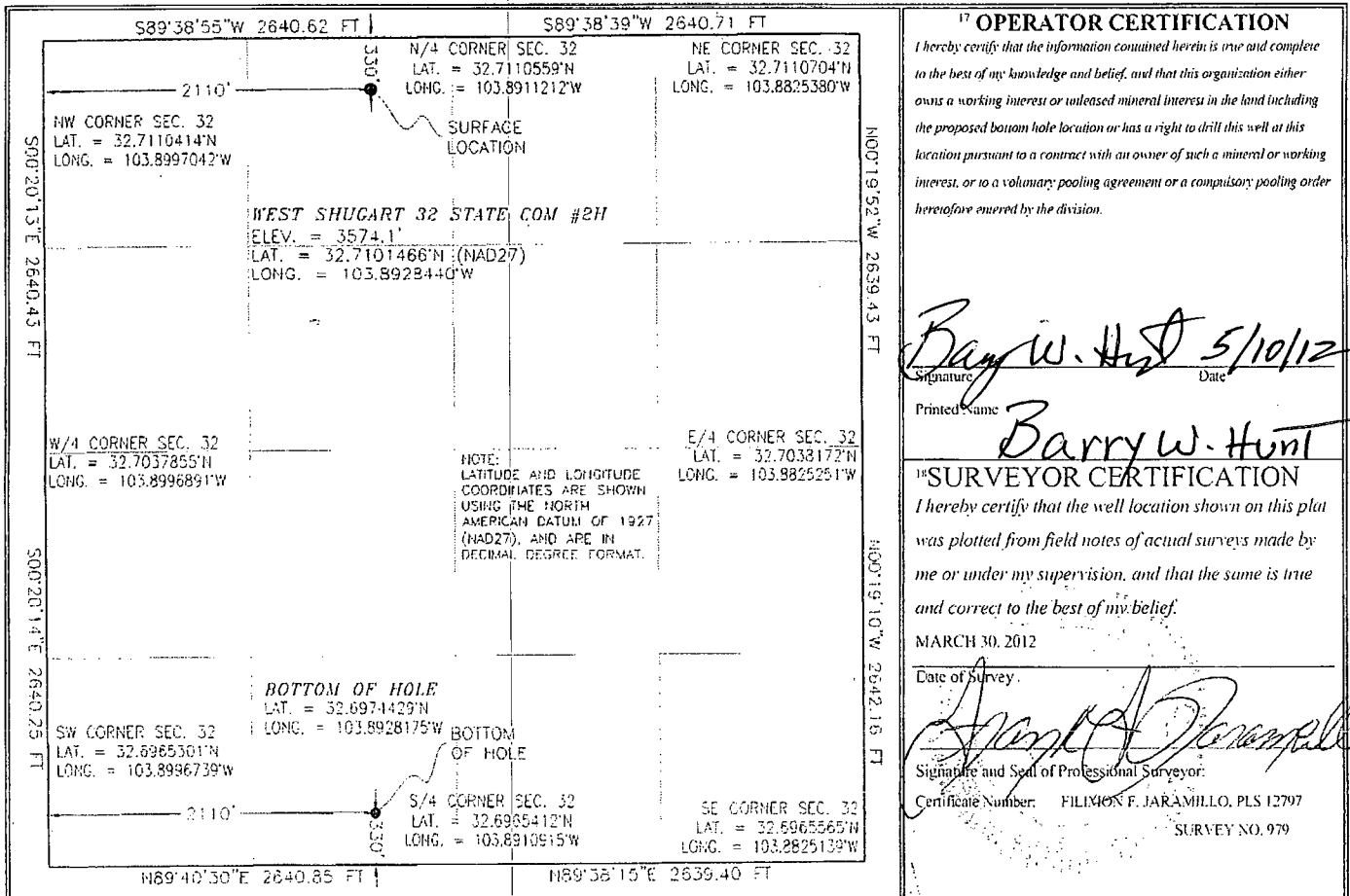
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	32	18 S	31 E		330	NORTH	2110	WEST	EDDY

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
N	32	18 S	31 E		330	SOUTH	2110	WEST	EDDY

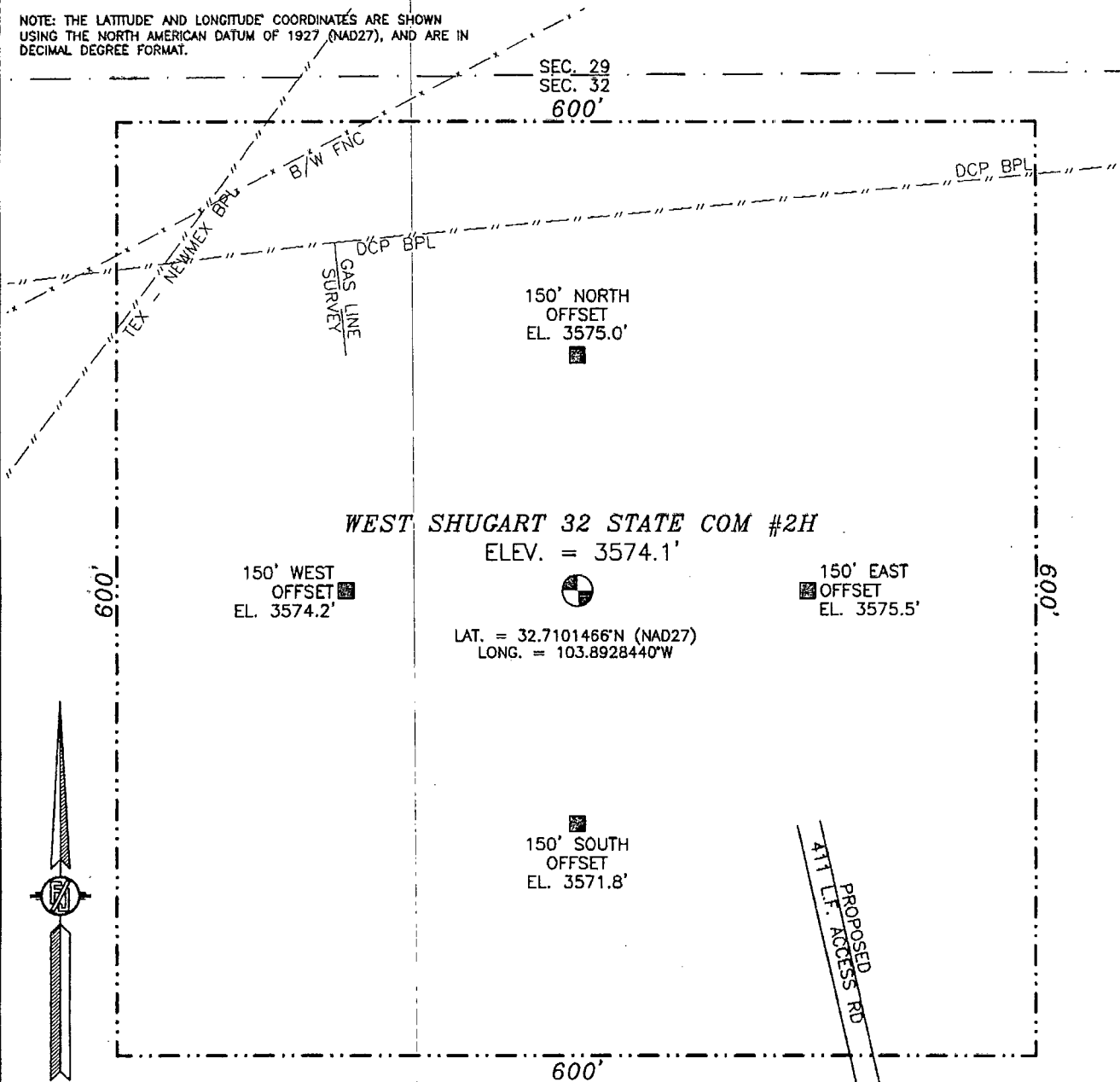
¹² Dedicated Acres 1.60	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



SECTION 32, TOWNSHIP 18 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

NOTE: THE LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1927 (NAD27), AND ARE IN DECIMAL DEGREE FORMAT.



010 50 100 200

SCALE 1" = 100'

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF CO. RD 222 (SHUGART) & CO. RD 250 (GRUBBS) GO SOUTH ON 222 FOR APPROX. 0.3 OF A MILE GO SW FOR APPROX 0.85 MILES. LOCATION IS APPROX. 600' NORTH

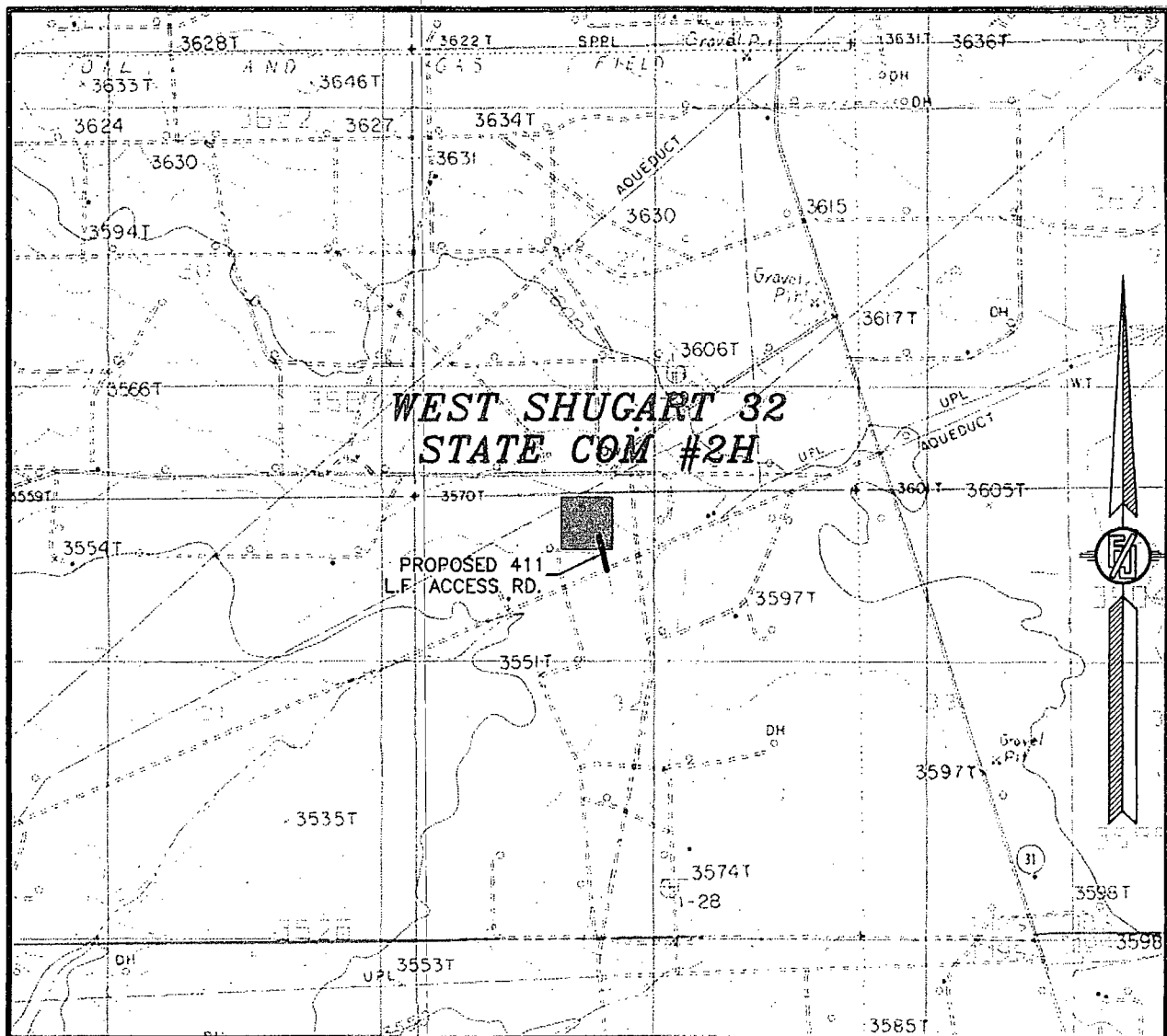
CHI OPERATING, INC.
WEST SHUGART 32 STATE COM #2H
LOCATED 330 FT. FROM THE NORTH LINE
AND 2110 FT. FROM THE WEST LINE OF
SECTION 32, TOWNSHIP 18 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

MARCH 30, 2012

SURVEY NO. 979

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SECTION 32, TOWNSHIP 18 SOUTH, RANGE 31 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 LOCATION VERIFICATION MAP



USGS QUAD MAP:
 HACKBERRY LAKE

NOT TO SCALE

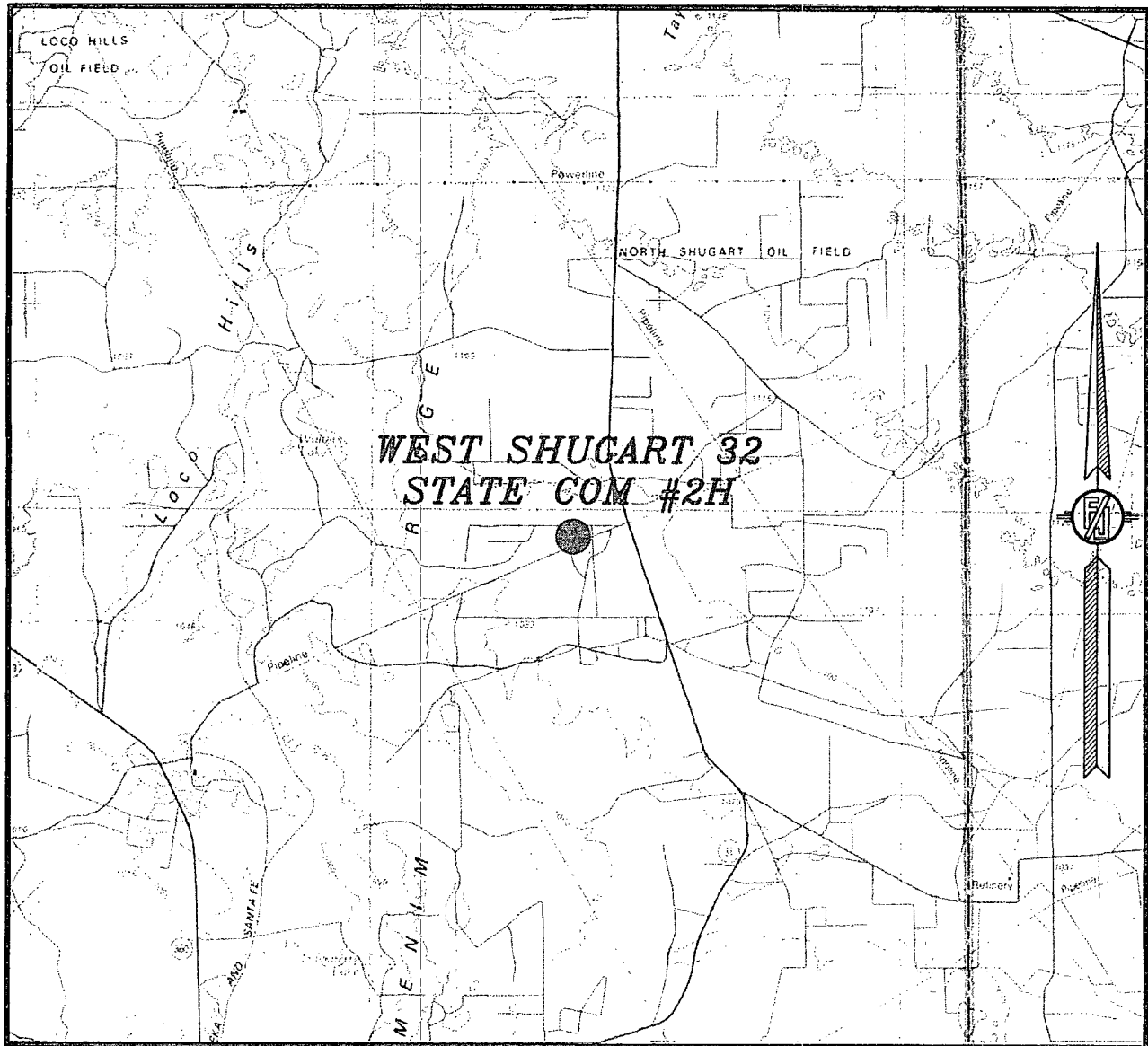
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 EDDY COUNTY, STATE OF NEW MEXICO

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 (575) 234-3341

SECTION 32, TOWNSHIP 18 SOUTH, RANGE 31 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 VICINITY MAP



NOT TO SCALE

CHI OPERATING, INC.
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MARCH 30, 2012

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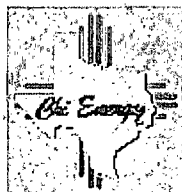
MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO
 (575) 234-3341



Weatherford®

Drilling Services

Proposal



WEST SHUGART 32 STATE COM #2H

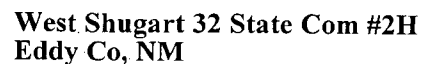
EDDY COUNTY, NEW MEXICO

WELL FILE: **PLAN 2**

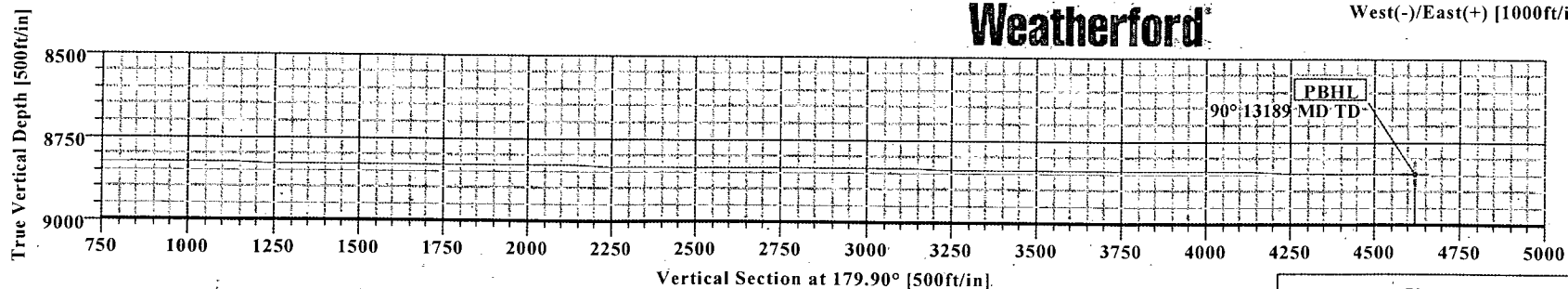
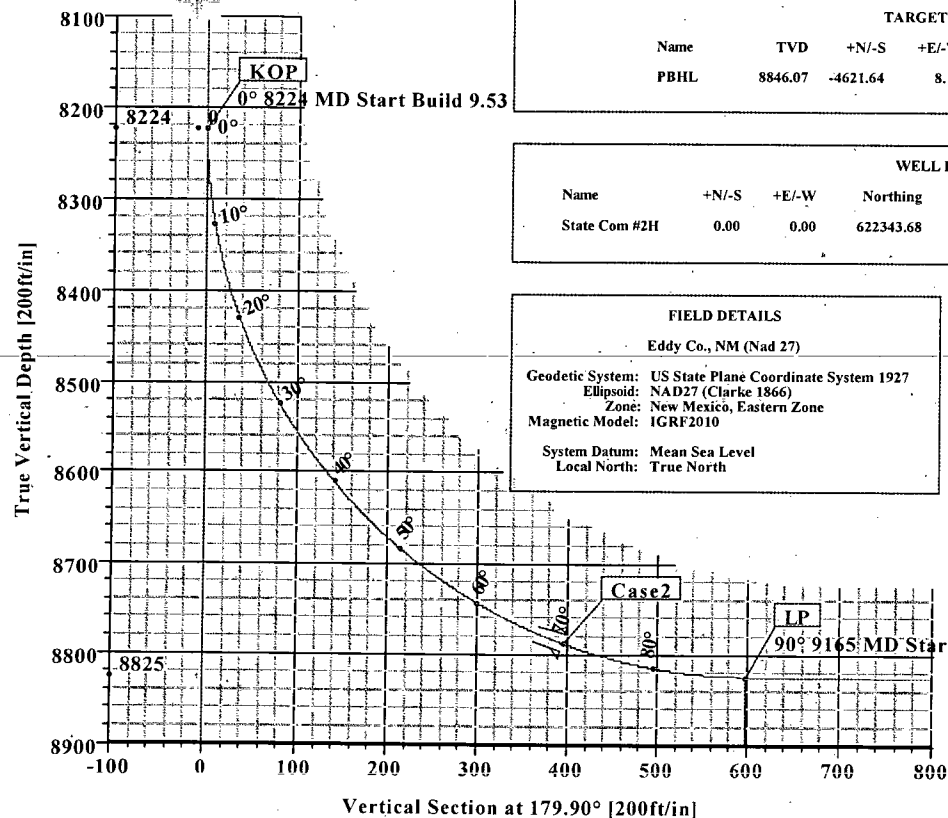
OCTOBER 9, 2012

Weatherford International, Ltd.

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Midland, TX 79711 USA
+1.432.561.8892 Main
+1.432.561.8895 Fax
www.weatherford.com



KB ELEV: 3592
GL ELEV: 3574



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	DLeg	TFace	VSec	Target
1	0.00	0.00	179.90	0.00	0.00	0.00	0.00	0.00	0.00	
2	8223.80	0.00	179.90	8223.80	0.00	0.00	0.00	0.00	0.00	
3	9165.03	89.70	179.90	8825.00	-598.07	1.05	9.53	179.90	598.07	
4	13188.67	89.70	179.90	8846.07	-4621.64	8.11	0.00	0.00	4621.64	PBHL

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL	8846.07	-4621.64	8.11	617722.12	635514.39	Point

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
State Com #2H	0.00	0.00	622343.68	635487.07	32°42'36.527N	103°53'34.238W	N/A

FIELD DETAILS

Eddy Co., NM (Nad 27)

Geodetic System: US State Plane Coordinate System 1927
Ellipsoid: NAD27 (Clarke 1866)
Zone: New Mexico, Eastern Zone
Magnetic Model: IGRF2010

System Datum: Mean Sea Level
Local North: True North

CASING DETAILS

No.	TVD	MD	Name	Size
1	8788.75	8958.32	Case2	0.000



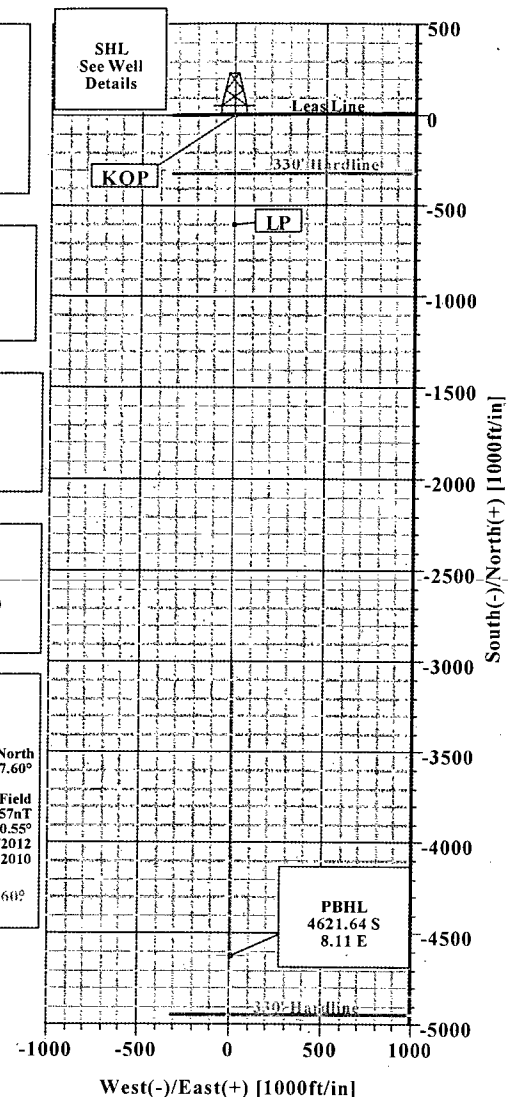
Azimuths to True North
Magnetic North: 7.60°

**Magnetic Field
Strength: 48757nT
Dip Angle: 60.55°
Date: 11/15/2012
Model: IGRF2010**

Total Correction To True North 7.60°



Weatherford



Plan: Plan #2 (State Com #2H/1)

Created By: Russell W. Joyner

Date: 10/9/2012



Company: Chi Energy Field: Eddy Co., NM (Nad 27) Site: West Shugart 32 State Com #2H Well: State Com #2H Wellpath: 1				Date: 10/9/2012 Co-ordinate(NE) Reference: Well: State Com #2H, True North Vertical (TVD) Reference: SITE 3592.0 Section (VS) Reference: Well (0.00N,0.00E,179.90Azi) Survey Calculation Method: Minimum Curvature Db: Sybase						
Plan: Plan #2 Principal: Yes				Date Composed: 10/9/2012 Version: 1 Tied-to: From Surface						
Field: Eddy Co., NM (Nad 27)										
Map System:US State Plane Coordinate System 1927 Geo Datum:NAD27 (Clarke 1866) Sys Datum:Mean Sea Level				Map Zone: New Mexico, Eastern Zone Coordinate System: Well Centre Geomagnetic Model: IGRF2010						
Site: West Shugart 32 State Com #2H										
Site Position: From: Geographic Position Uncertainty: 0.00 ft Ground Level: 3574.00 ft				Northing: 622343.68 ft Easting: 635487.07 ft Latitude: 32 42 36.527 N Longitude: 103 53 34.238 W North Reference: True Grid Convergence: 0.24 deg						
Well: State Com #2H				Slot Name:						
Well Position: +N/-S 0.00 ft +E/-W 0.00 ft Position Uncertainty: 0.00 ft				Northing: 622343.68 ft Easting: 635487.07 ft Latitude: 32 42 36.527 N Longitude: 103 53 34.238 W						
Wellpath: 1				Drilled From: Surface Tie-on Depth: 0.00 ft Above System Datum: Mean Sea Level Declination: 7.60 deg Mag Dip Angle: 60.55 deg						
Current Datum: SITE Magnetic Data: 11/15/2012 Field Strength: 48757 nT Vertical Section: Depth From (TVD) ft				Height: 3592.00 ft +N/-S ft +E/-W ft Direction deg						
0.00				0.00 0.00 179.90						
Plan Section Information										
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	179.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8223.80	0.00	179.90	8223.80	0.00	0.00	0.00	0.00	0.00	0.00	
9165.03	89.70	179.90	8825.00	-598.07	1.05	9.53	9.53	0.00	179.90	
13188.67	89.70	179.90	8846.07	-4621.64	8.11	0.00	0.00	0.00	0.00	PBHL
Survey										
MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	Map N ft	Map E ft	Comments
8200.00	0.00	179.90	8200.00	0.00	0.00	0.00	0.00	622343.68	635487.07	
8223.80	0.00	179.90	8223.80	0.00	0.00	0.00	0.00	622343.68	635487.07	
8250.00	2.50	179.90	8249.99	-0.57	0.00	0.57	9.53	622343.11	635487.08	
8300.00	7.26	179.90	8299.80	-4.82	0.01	4.82	9.53	622338.86	635487.10	
8350.00	12.03	179.90	8349.08	-13.20	0.02	13.20	9.53	622330.49	635487.15	
8400.00	16.79	179.90	8397.49	-25.64	0.05	25.64	9.53	622318.05	635487.22	
8450.00	21.56	179.90	8444.70	-42.05	0.07	42.05	9.53	622301.63	635487.32	
8500.00	26.32	179.90	8490.39	-62.34	0.11	62.34	9.53	622281.35	635487.44	
8550.00	31.09	179.90	8534.23	-86.35	0.15	86.35	9.53	622257.34	635487.58	
8600.00	35.85	179.90	8575.93	-113.91	0.20	113.91	9.53	622229.77	635487.75	
8650.00	40.62	179.90	8615.19	-144.85	0.25	144.85	9.53	622198.84	635487.93	
8700.00	45.38	179.90	8651.75	-178.94	0.31	178.94	9.53	622164.75	635488.13	
8750.00	50.15	179.90	8685.34	-215.95	0.38	215.95	9.53	622127.74	635488.35	
8800.00	54.91	179.90	8715.75	-255.62	0.45	255.62	9.53	622088.07	635488.58	
8850.00	59.68	179.90	8742.76	-297.68	0.52	297.68	9.53	622046.01	635488.83	
8900.00	64.44	179.90	8766.18	-341.84	0.60	341.84	9.53	622001.85	635489.09	
8950.00	69.21	179.90	8785.85	-387.79	0.68	387.79	9.53	621955.90	635489.36	



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WFT Plan Report - X & Y's

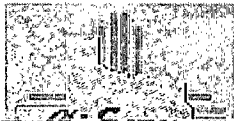


Weatherford

Company: Chi Energy Date: 10/9/2012 Time: 10:45:09 Page: 2
 Field: Eddy Co. NM (Nad 27) Co-ordinate(NE) Reference: Well: State Com #2H, True North
 Site: West Shugart 32 State Com #2H Vertical (TVD) Reference: SITE 3592.0
 Well: State Com #2H Section (VS) Reference: Well (0.00N, 0.00E, 179.90Azi)
 Wellpath: 1 Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment
8958.32	70.00	179.90	8788.75	-395.59	0.69	395.59	9.53	621948.10	635489.41	Case2
9000.00	73.97	179.90	8801.64	-435.22	0.76	435.22	9.53	621908.47	635489.64	
9050.00	78.74	179.90	8813.43	-483.79	0.85	483.79	9.53	621859.90	635489.93	
9100.00	83.50	179.90	8821.15	-533.18	0.94	533.18	9.53	621810.51	635490.22	
9150.00	88.27	179.90	8824.74	-583.03	1.02	583.04	9.53	621760.66	635490.52	
9165.03	89.70	179.90	8825.00	-598.07	1.05	598.07	9.53	621745.63	635490.61	LP
9200.00	89.70	179.90	8825.19	-633.03	1.11	633.03	0.00	621710.66	635490.81	
9300.00	89.70	179.90	8825.71	-733.03	1.29	733.03	0.00	621610.67	635491.40	
9400.00	89.70	179.90	8826.23	-833.03	1.46	833.03	0.00	621510.67	635492.00	
9500.00	89.70	179.90	8826.76	-933.03	1.64	933.03	0.00	621410.67	635492.59	
9600.00	89.70	179.90	8827.28	-1033.03	1.81	1033.03	0.00	621310.67	635493.18	
9700.00	89.70	179.90	8827.80	-1133.02	1.99	1133.03	0.00	621210.68	635493.77	
9800.00	89.70	179.90	8828.33	-1233.02	2.16	1233.02	0.00	621110.68	635494.36	
9900.00	89.70	179.90	8828.85	-1333.02	2.34	1333.02	0.00	621010.68	635494.95	
10000.00	89.70	179.90	8829.37	-1433.02	2.52	1433.02	0.00	620910.69	635495.54	
10100.00	89.70	179.90	8829.90	-1533.02	2.69	1533.02	0.00	620810.69	635496.13	
10200.00	89.70	179.90	8830.42	-1633.02	2.87	1633.02	0.00	620710.69	635496.72	
10300.00	89.70	179.90	8830.95	-1733.01	3.04	1733.02	0.00	620610.70	635497.32	
10400.00	89.70	179.90	8831.47	-1833.01	3.22	1833.02	0.00	620510.70	635497.91	
10500.00	89.70	179.90	8831.99	-1933.01	3.39	1933.01	0.00	620410.70	635498.50	
10600.00	89.70	179.90	8832.52	-2033.01	3.57	2033.01	0.00	620310.71	635499.09	
10700.00	89.70	179.90	8833.04	-2133.01	3.74	2133.01	0.00	620210.71	635499.68	
10800.00	89.70	179.90	8833.56	-2233.01	3.92	2233.01	0.00	620110.71	635500.27	
10900.00	89.70	179.90	8834.09	-2333.01	4.10	2333.01	0.00	620010.72	635500.86	
11000.00	89.70	179.90	8834.61	-2433.00	4.27	2433.01	0.00	619910.72	635501.45	
11100.00	89.70	179.90	8835.13	-2533.00	4.45	2533.01	0.00	619810.72	635502.04	
11200.00	89.70	179.90	8835.66	-2633.00	4.62	2633.01	0.00	619710.72	635502.63	
11300.00	89.70	179.90	8836.18	-2733.00	4.80	2733.00	0.00	619610.73	635503.23	
11400.00	89.70	179.90	8836.70	-2833.00	4.97	2833.00	0.00	619510.73	635503.82	
11500.00	89.70	179.90	8837.23	-2933.00	5.15	2933.00	0.00	619410.73	635504.41	
11600.00	89.70	179.90	8837.75	-3033.00	5.32	3033.00	0.00	619310.74	635505.00	
11700.00	89.70	179.90	8838.28	-3132.99	5.50	3133.00	0.00	619210.74	635505.59	
11800.00	89.70	179.90	8838.80	-3232.99	5.68	3233.00	0.00	619110.74	635506.18	
11900.00	89.70	179.90	8839.32	-3332.99	5.85	3333.00	0.00	619010.75	635506.77	
12000.00	89.70	179.90	8839.85	-3432.99	6.03	3432.99	0.00	618910.75	635507.36	
12100.00	89.70	179.90	8840.37	-3532.99	6.20	3532.99	0.00	618810.75	635507.95	
12200.00	89.70	179.90	8840.89	-3632.99	6.38	3632.99	0.00	618710.76	635508.54	
12300.00	89.70	179.90	8841.42	-3732.98	6.55	3732.99	0.00	618610.76	635509.14	
12400.00	89.70	179.90	8841.94	-3832.98	6.73	3832.99	0.00	618510.76	635509.73	
12500.00	89.70	179.90	8842.46	-3932.98	6.90	3932.99	0.00	618410.76	635510.32	
12600.00	89.70	179.90	8842.99	-4032.98	7.08	4032.99	0.00	618310.77	635510.91	
12700.00	89.70	179.90	8843.51	-4132.98	7.26	4132.98	0.00	618210.77	635511.50	
12800.00	89.70	179.90	8844.03	-4232.98	7.43	4232.98	0.00	618110.77	635512.09	
12900.00	89.70	179.90	8844.56	-4332.98	7.61	4332.98	0.00	618010.78	635512.68	
13000.00	89.70	179.90	8845.08	-4432.97	7.78	4432.98	0.00	617910.78	635513.27	
13100.00	89.70	179.90	8845.61	-4532.97	7.96	4532.98	0.00	617810.78	635513.86	
13188.67	89.70	179.90	8846.07	-4621.64	8.11	4621.64	0.00	617722.12	635514.39	PBHL



Weatherford

WFT Plan Report - X & Y's



Weatherford

Company: Chi Energy	Date: 10/9/2012	Time: 10:45:09	Page: 3
Field: Eddy Co. NM (Nad 27)	Co-ordinate(NE) Reference: Well: State Com #2H True North		
Site: West Shugart 32 State Com #2H	Vertical (TVD) Reference: SITE 3592.0		
Well: State Com #2H	Section (VS) Reference: Well (0.00N;0.00E;179.90Azi)		
Wellpath: 1	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Targets

Name	Description		TVD ft	+N-S ft	+E-W ft	Map		<--- Latitude --->			<--- Longitude --->		
	Dip:	Dir				Northing ft	Easting ft	Deg	Min	Sec	Deg	Min	Sec
PBHL			8846.07	-4621.64	8.11	617722.12	635514.39	32	41	50.794 N	103	53	34.143 W

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
8958.32	8788.75	0.000	0.000	Case2

Annotation

MD ft	TVD ft	
8223.80	8223.80	KOP
9165.03	8825.00	LP
13188.66	8846.07	PBHL

Formations

MD	TVD	Formations	Lithology	Dip Angle	Dip Direction

**Weatherford****Weatherford Drilling Services**

GeoDec v5.03

Report Date: October 09, 2012
Job Number: _____
Customer: Chi Energy
Well Name: West Shugart 32 State Com #2H
API Number: _____
Rig Name: _____
Location: Eddy Co., NM (Nad 27)
Block: _____
Engineer: RWJ

Geodetic Latitude / Longitude	Geodetic Latitude / Longitude
System: Latitude / Longitude	System: Latitude / Longitude
Projection: Geodetic Latitude and Longitude	Projection: Geodetic Latitude and Longitude
Datum: NAD 1927 (NADCON CONUS)	Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866	Ellipsoid: Clarke 1866
Latitude 32.7101466 DEG	Latitude 32.7101466 DEG
Longitude -103.8928440 DEG	Longitude -103.8928440 DEG

Geodetic Location WGS84	Elevation =	0.0 Meters
Latitude =	32.71015° N	32° 42 min 36.528 sec
Longitude =	103.89284° W	103° 53 min 34.238 sec

Magnetic Declination =	7.60°	[True North Offset]	
Local Gravity =	.9989 g	Checksum =	6618
Local Field Strength =	48753 nT	Magnetic Vector X =	23763 nT
Magnetic Dip =	60.55°	Magnetic Vector Y =	3170 nT
Magnetic Model =	IGRF-2010g11	Magnetic Vector Z =	42452 nT
Spud Date =	Nov 15, 2012	Magnetic Vector H =	23973 nT

Signed: _____

Date: _____

Application to Drill
West Shugart 32 State Com No. 2H
Sec. 32, T18S, R31E
Eddy County, New Mexico

In response to questions asked under Section IIB of Bulletin NTL-6, the following information is provided for your consideration:

1. Location: SHL 330' FNL & 2110' FWL
BHL 330' FSL & 2110' FWL
2. Elevation above sea level: 3574'
3. Geologic name of surface formation: Quaternary Alluvium Deposits
4. Drilling tools and associated equipment: Conventional rotary drilling rig using fluid as a circulating medium for solids removal.
5. Proposed drilling depth: 13219' MD / 8832' TVD
6. Estimated tops of geological markers:

Yates	2235'	Bone Spring	6130'
Queen	3100'	1 st Bone Spring	7600'
Delaware	4050'	2 nd Bone Spring	8530'
7. Possible mineral bearing formation:

Delaware	Oil
Bone Spring	Oil
8. Proposed Mud Circulating System:

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 515'	8.4 – 8.6	28	NC	FW
515' to 2050'	10.0	30-32	NC	Brine water
2050' to 8832'	8.4-9.5	30-32	NC	FW, Brine
8260' to 8832'	8.4	28-32	NC	2% KCl

Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks. In order to run DSTs, open hole logs, and casing, the viscosity and water loss may have to be adjusted in order to meet these needs.

Application to Drill
 West Shugart 32 State Com No. 2H
 Sec. 32, T18S, R31E
 Eddy County, New Mexico

Proposed drilling Plan

After drilling and setting surface casing, drill to vertical TD 8832' and log. Set 7" casing to 8260' and cross over to 2 7/8" 2000psi II fiberglass tubing underneath to 8832' and cement in place. Drill out of the bottom of the 7" with a 6 1/8" bit and through cement and fiberglass tubing to KOP @ 8346' and kick off to drill the lateral.

9. Casing & Cementing Program:

String	Hole size	Depth	Casing OD	Weight	Collar	Grade
Surface	17 1/2"	0' to 515'	New 13 3/8"	68#	STC	H-40
Intermediate	12 1/4"	0' to 2050'	New 9 5/8"	40#	LTC	J/K-55
Production	8 3/4"	0' to 8832'	New 7"	26#	LTC	P-110
Lateral Pt. 1	6 1/8"	8346 to 13219'	New 4 1/2"	11.6#	LTC	P-110

10. Cementing:

Surface 600sx Premium Plus + 3% Salt + 25 CaCl₂(wt 14.8, yld 1.34)
 TOC Surface

Intermediate Lead: 360sx EconoCem + 3% Salt + 2% CaCl₂ + 3 lbm/sk Gilsonite(wt 11.7, yld 2.06)
Tail: 650sx Premium Plus + 1% CaCl₂(wt 14.8, yld 1.34)
 TOC Surface

Production Lead: 360sx EconoCem + 3% Salt + 5 lbm/sk gilsonite(wt 13.0, yld 1.71)
Tail: 365sx Halcem(wt14.8, yld 1.34)
 TOC Surface

Lateral No cement needed. Open hole completion assembly.

Fresh water zones will be protected by setting 13 3/4" casing at 515' and cementing to surface. Hydrocarbon zones will be protected by setting 9 3/8" casing at 4000' and cementing to surface, and by setting 7" casing at 8260'.

Collapse Factor
 1.125

Burst Factor
 1.125

Tension Factor
 1.6

Application to Drill
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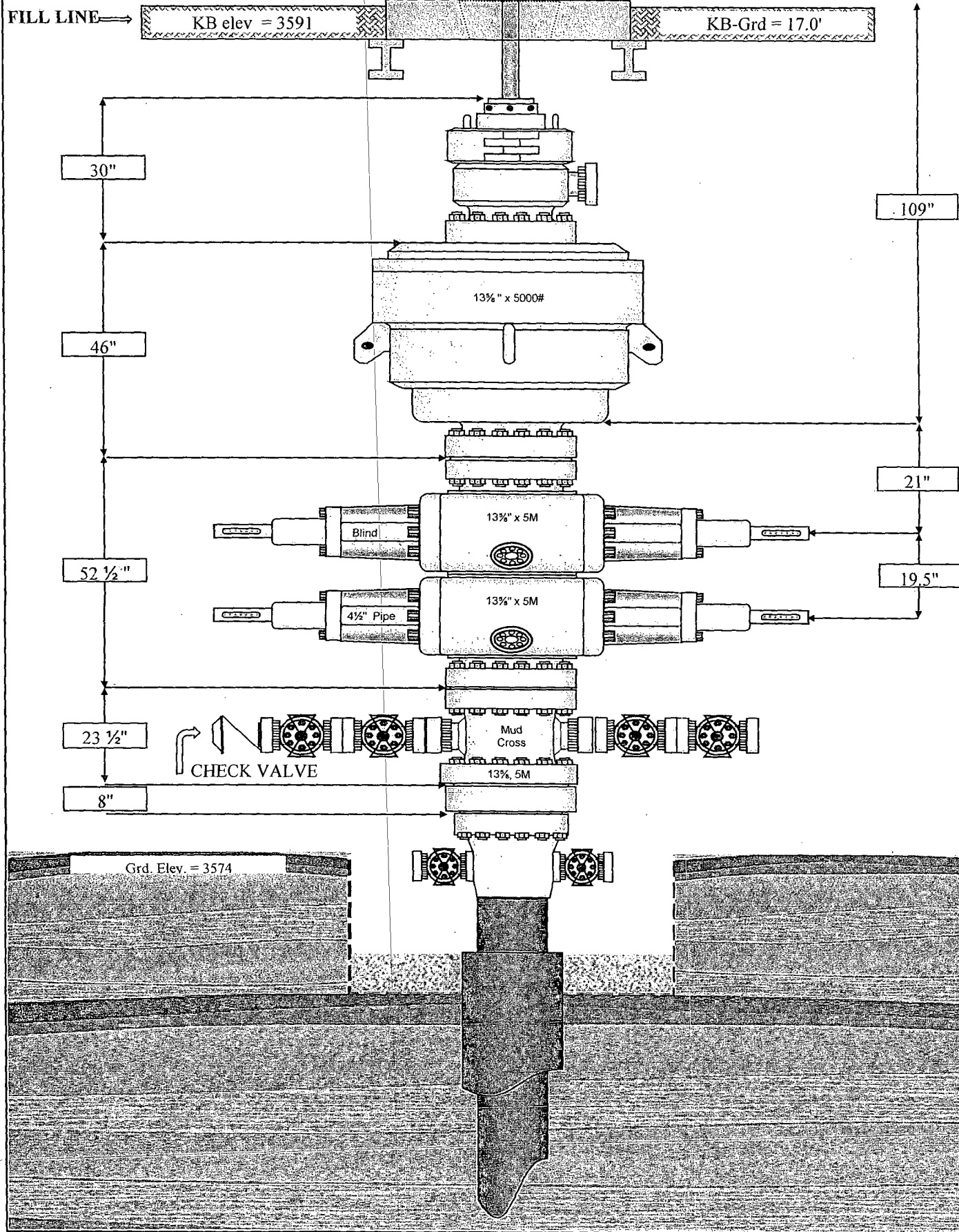
11. Pressure control Equipment:

Exhibit "E". A 13 5/8" 5000psi working pressure BOP tested to 3000psi consisting of one set of blind rams and One set of pipe rams and a 5000# annular type preventer. A choke manifold and 120 gallon accumulator with Floor and remote operating stations and auxiliary power system. Rotating head as needed. A kelly cock will be Installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.

BOP unit will be hydraulically operated. BOP will be nipped up and operated at least once a day while drilling And the blind rams will be operated when out of hole during trips. No abnormal pressure or temperature is Expected while drilling. From the base of the surface pipe through the running of production casing, the well Will be equipped with a 5000psi BOP system tested to 3000psi.

BOPs will be tested by an independent service company to 250psi low and 3000ps high. Hydrill will be tested to 250psi low and 1500psi high.

WEST SHUGART ST. COM 2H



CHI OPERATING, INC.

WEST SHUGART 32 STATE COM #2H HYDROGEN SULFIDE (H₂S) CONTINGENCY DRILLING PLAN

Assumed 100 ppm ROE = 3000'

100 ppm H₂S concentration shall trigger activation of this plan.

This is an open drilling site. H₂S monitoring equipment and emergency response equipment will be rigged up and in use when the company drills out from under surface casing. H₂S monitors, warning signs, wind indicators and flags will be in use.

EMERGENCY PROCEDURES

Escape

Crews shall escape upwind of escaping gas in the event of an emergency release of gas, or if monitors indicate H₂S is present. Escape will take place via the entry road away from the flare stack, or a foot path marked and designated before the well is spud by on site personnel. Once crews and other personnel are a safe distance, the crews will move to evacuate any persons in the Radius of Exposure, followed by blocking access to the Radius of Exposure.

There are no homes or buildings within the Radius of Exposure ("ROE"), so efforts will be concentrated on evacuating any third parties within the ROE. Immediate response will include evacuation of any persons potentially affected by toxic or flammable gasses. Once evacuation is under way, perimeter monitoring and control of access will be executed to ensure safe areas and stage areas.

In the event of a release of gas containing H₂S, the first responder(s) must

- Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm ROE.
- Be equipped with H₂S monitors and air packs in order to control the release.
- Use the "buddy system" to ensure no injuries occur during the response
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- Have received training in the
 - o Detection of H₂S, and
 - o Measures for protection against the gas,
 - o Equipment used for protection and emergency response.

H2S CONTINGENCY DRILLING PLAN EMERGENCY CONTACTS

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO₂). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever this is an ignition of the gas.

Characteristics of H₂S and SO₂

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H ₂ S	1.189 Air= 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO ₂	2.21 Air= 1	2ppm	N/A	1000 ppm

Contacting Authorities

CHI Operating personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential responders has been prepared for use during a release. Lime Rock Resources response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER) and BLM Onshore Order #6.

H₂S Operations

Though no H₂S is anticipated during the drilling operation, this contingency plan will provide for methods to ensure the well is kept under control in the event an H₂S reading of 100 ppm or more are encountered. Once personnel are safe and the proper protective gear is in place and on personnel, the operator and rig crew essential personnel will ensure the well is under control, suspend drilling operations and shut-in the well (unless pressure build up or other operational situations dictate suspending operations will prevent well control), increase the mud weight and circulate all gas from the hole utilizing the mud/gas separator downstream of the choke, the choke manifold and the emergency flare system located 150' from the well. Bring the mud system into compliance and the H₂S level below 10 ppm, then notify all emergency officers that drilling ahead is practical and safe.

Proceed with drilling ahead only after all provisions of Onshore Order 6, Section III.C. have been satisfied.

H2S CONTINGENCY DRILLING PLAN EMERGENCY CONTACTS

Company Offices - CHI Operating Office

432-634-8958

KEY PERSONNEL					
Name	Title	Location	Phone #		
GARY WOMACK	PRODUCTION ENGINEER	MIDLAND	432-634-8958		
RONNIE ROGERS	FIELD FOREMAN	MIDLAND	432-631-2717		

Agency Call List			
City	Agency or Office		Telephone Number
Artesia		Ambulance	911
Artesia		State Police	575-746-2703
Artesia		Sheriff's Office	575-746-9888
Artesia		City Police	575-746-2703
Artesia		Fire Department	575-746-2701
Artesia		Local Emergency Planning Committee	575-746-2122
Artesia		New Mexico OCD District II	575-748-1283
Carlsbad		Ambulance	911
Carlsbad		State Police	575-885-3137
Carlsbad		Sheriff's Office	575-887-7551
Carlsbad		City Police	575-885-2111
Carlsbad		Fire Department	575-885-2111
Carlsbad		Local Emergency Planning Committee	575-887-3798
Carlsbad		US DOI Bureau of Land Management	575-887-6544
State Wide		New Mexico Emergency Response Commission ("NMERC")	505-476-9600
State Wide		NMERC 24 hour Number	505-827-9126
State Wide		New Mexico State Emergency Operations Center	505-476-9635
National		National Emergency Response Center (Washington, D.C.)	800-424-8802

H2S CONTINGENCY DRILLING PLAN EMERGENCY CONTACTS

Emergency Services					
Name	Service		Location	Telephone Number	Alternate Number
Boots & Coots International Well Control	Well Control		Houston / Odessa	1-800-256-9688	281-931-8884
Cudd Pressure Control	Well Control & Pumping		Odessa	915-699-0139	915-563-3356
Baker Hughes Inc.	Pumping Service		Artesia, Hobbs and Odessa	575-746-2757	SAME
Total Safety	Safety Equipment and Personnel		Artesia	575-746-2847	SAME
Cutter Oilfield Services	Drilling Systems Equipment		Midland	432-488-6707	SAME
Assurance Fire & Safety	Safety Equipment and Personnel		Artesia	575-396-9702	575-441-2224
Flight for Life	Emergency Helicopter Evacuation		Lubbock	806-743-9911	SAME
Aerocare	Emergency Helicopter Evacuation		Lubbock	806-747-8923	SAME
Med Flight Air Ambulance	Emergency Helicopter Evacuation		Albuquerque	505-842-4433	SAME
Artesia General Hospital	Emergency Medical Care		Artesia	575-748-3333	702 North 13 Street